



**International Conference
on Nanotechnology for Safe and Sustainable Development
&
Consultative Meeting
on proposed Nanosafety Networking Platform**

2-4 May 2017
Putrajaya, Malaysia

Organized by
Asian and Pacific Centre for Transfer of Technology (APCTT)
of the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP),
New Delhi, India

In cooperation with and hosted by
National Nanotechnology Centre (NNC), Ministry of Science, Technology and Innovation
(MOSTI), Malaysia

This International Conference is a follow-up event of the National Workshop on Nanosafety and Regulatory Aspects of Nanotechnology organized by APCTT in partnership with National Nanotechnology Directorate (NND) of the Ministry of Science, Technology and Innovation (MOSTI) Malaysia held on 29-30 October 2014 in Shah Alam, Malaysia. This Conference is envisaged to facilitate knowledge sharing between key stakeholders (e.g. policy makers, R&D institutions, technology promotion agencies and the private sector) involved in the innovation, commercialization and application of nanotechnologies in countries in the Asia-Pacific region. Deliberations during the conference will focus on key aspects of nanotechnology development such as enabling policy mechanisms, regulatory frameworks, R&D and innovation, research commercialization, technology transfer and safety issues. The Conference would facilitate regional cooperation with an objective to harness nanotechnology for sustainable development in member countries.

In conjunction with the International Conference, a Consultative Meeting will be held among the participating representatives, technical experts and Malaysian policymakers to assess the availability of testing laboratories and facilities for nanomaterials across the region. In this consultative meeting, APCTT will facilitate sharing of experiences and best practices across several countries to address the key challenges involved in testing and standardization of nanomaterial such as: identifying accredited (or GLP certified) testing laboratories in the region capable of doing the physical-chemical, mammalian toxicity, ecotoxicity and environmental fate studies; sharing of testing facilities among member countries; compilation of primary data for nano-based products, and establishing a Nanosafety Networking Platform. The Consultative Meeting would discuss and recommend relevant action plans and strategies for achieving the above objectives.

Programme

International Conference on Nanotechnology for Safe and Sustainable Development		
2 May 2017 (Tuesday)		
08:30-09:00	Registration and light breakfast	
OPENING SESSION:		
09:00-09:30	Welcome Address Opening Remarks Background to the Programme Group Photo	Dr. Abdul Kadir Masrom Undersecretary, NNC-MOSTI Ms. Michiko Enomoto, Head, APCTT-ESCAP Senior Official NNC-MOSTI
09:30-10:00	Tea / Coffee	
<p>SESSION I: Facilitating nanotechnology innovation for sustainable development – policy issue and strategies</p> <p><i>Nanotechnology-enabled innovation is transforming the industry landscape, creating novel greener products and presenting exciting opportunities for entrepreneurs. Nanotechnology has emerged as a versatile technology that could provide efficient, cost-effective, and environmentally acceptable solutions to the global sustainability challenges facing the society. Therefore, member countries need to develop appropriate policies for facilitating nanotechnology innovations which could address their sustainable development challenges. This session examines how policies, strategies, regulations, standards and incentives are creating enabling environment to facilitate nanotechnology innovations for sustainable development.</i></p> <p>Moderator: Mr Kamarulzaman Kamaruddin, NNC-MOSTI</p>		
10:00-10:20	Nanotechnology for sustainable development – global challenges and opportunities	Ms. Michiko Enomoto, Head, APCTT-ESCAP
10:20-10:50	Policy initiatives and strategies for promoting nanotechnology innovation - International perspectives	Prof. Ki-Bum Kim President, Korea Nano Technology Research Society, and Professor, Seoul National University, Republic of Korea
10:50-11:20	Current scenario of nanotechnology development in Pakistan	Mr. Fazal Abbas Maken Federal Secretary. Ministry of Science and Technology (MOST), Pakistan
11:20-11:50	Fostering innovation and commercialization of green nanotechnology for market leadership and competitiveness	Dr. G. Louis Hornyak Director, Center of Excellence in Nanotechnology (COEN) Asian Institute of Technology (AIT), Thailand
11:50-12:10	Role of standardization in support of	Ms Nor Faezah Mohamad Arif

	responsible nanotechnology development and commercialization	Principal Assistant Director, Standardization Division, Department of Standards Malaysia, Malaysia
12:10-12:30	South-South cooperation for strengthening nanotechnology R&D management – an overview of APCTT's programme	Dr. Satyabrata Sahu, Coordinator – Technology Intelligence, APCTT-ESCAP
12:30-13:00	Q & A	
13:00-14:30	Lunch	
<p>SESSION II: Fostering nanotechnology innovation, research commercialization and technology transfer</p> <p><i>Nanotechnology is seen as a breakthrough technology which will play a vital role in the future industrial dynamics. Towards this endeavor, countries need to adopt appropriate strategies, business models and practices for promoting sustainable nanotechnology innovations, commercialization of research results, technology transfer and enterprise creation. This session discusses challenges, opportunities and best practices in innovation, research commercialization, technology transfer and business incubation in the field of nanotechnology.</i></p> <p>Moderator: Mr. Fazal Abbas Maken, Federal Secretary, MOST Pakistan</p>		
14:30-14:50	New and emerging strategies for R&D and innovation management in nanotechnology	Prof. Ki-Bum Kim President, Korea Nano Technology Research Society, and Professor, Seoul National University, Republic of Korea
14:50-15:10	Nanotechnology business incubation for commercial products – strategies and best practices	Dr. Agus Haryono Director, Research Center for Chemistry, Indonesian Institute of Sciences (LIPI), Indonesia
15:10-15:30	IPR protection, technology transfer and competitive intelligence for nanotechnology-based businesses	Dr. G. Louis Hornyak Director, Center of Excellence in Nanotechnology (COEN) Asian Institute of Technology (AIT), Thailand
15:30-15:50	Promoting technology-based business cooperation in nanotechnology – The Role of APCTT-ESCAP	Dr. Krishnan Srinivasaraghavan Coordinator – Technology Transfer, APCTT-ESCAP
15:50-16:10	Q & A	
16:10-16:30	Tea / Coffee	

SESSION III: Nanotechnology safety and risk governance

Nanotechnology is an emerging technology dealing with nanoparticles and nanomaterials with novel properties and functions to manufacture improved and efficient products and solutions. However, there are also safety concerns associated with the development and use of nanotechnology-based products. For the development and sustainable use of nanotechnology, countries need to consider a range of regulatory, health, safety, environmental and economic aspects while formulating appropriate policy frameworks and institutional support mechanisms. This session deliberates on the critical issues, challenges and strategies related to nanotechnology safety and risk management.

**Moderator: Prof. Ki-Bum Kim, President, Korea Nano Technology Research Society
Republic of Korea**

16:30-16:50	Environmentally safe nanotechnologies – from innovation to commercialization	Dr. Michael Riediker Director of Operations, SAFENANO, IOM Singapore
16:50-17:10	Policy frameworks for nanotechnology to address health and safety concerns - risk assessment and safety compliance	Dr. Rawiwan Maniratanachote Head of Nano Safety and Risk Assessment Laboratory Nanometrology and Characterizations and Engineering Unit, National Nanotechnology Center (NANOTEC), Thailand
17:10-17:30	Green nanotechnology – R&D and innovation strategies for low-cost and affordable solutions	Dr. Blessie Basilia Chief Science Research Specialist and Chief, Materials Science Division, Industrial Technology Development Institute (ITDI), Department of Science and Technology (DOST), Philippines
17:30-18:00	Q & A	

3 May 2017 (Wednesday)

SESSION III: Nanotechnology safety and risk governance (Cont'd)

SESSION IV: Nanotechnology-based consumer products - safety issues and risk management

Moderator: Dr. G. Louis Hornyak, Director, Center of Excellence in Nanotechnology Asian Institute of Technology, Thailand

09:00-09:20	Current status of nanotechnology development in Vietnam	Dr. Tran Dai Lam Vietnam Academy of Science and Technology (VAST), Viet Nam
09:20-09:40	Managing occupational safety and health risks of nanotechnology	Dr. Michael Riediker Director of Operations, SAFENANO, IOM Singapore
09:40-10:00	Risk assessment and safety compliance of nanotechnology-based products – Regulatory mechanisms, guidelines and good practices	Dr. Rawiwan Maniratanachote Head of Nano Safety and Risk Assessment Laboratory Nanometrology and Characterizations and Engineering Unit, National Nanotechnology Center (NANOTEC), Thailand
10:00-10:20	Development of national nanotechnology standards for safe consumer products	Dr. Agus Haryono Director, Research Center for Chemistry, Indonesian Institute of Sciences (LIPI), Indonesia
10:20-10:50	Q & A	
10:50-11:10	Tea/Coffee	

SESSION IV: Nanotechnology-based consumer products - safety issues and risk management (Cont'd)

Moderator: Dr Jahangir Kamaldin, Advanced Medical and Dental Institute, Universiti Sains Malaysia

11:10-11.30	Strategy for nanotechnology-related environmental, health, and safety research	Dr Leo Bey Fen Senior lecturer, Faculty of Medicine, University of Malaya, Malaysia
11:30-11:50	Malaysia's national project to gather primary safety data for nano-based products in the local market	Mr Mohd Helme Helan Principal Assistant Secretary, NNC-MOSTI, Malaysia
11:50-12:10	Characterization, testing and quality control of nanotechnology-based products	Dr. Blessie Basilia Chief Science Research Specialist and Chief, Materials Science Division, Industrial Technology Development Institute (ITDI), Department of Science and Technology (DOST), Philippines
12:10-12:30	Environmental risk assessment of nanomaterials and nanotech-based	Ms Isnazunita Ismail General Manager, Environmental Technology

	products	Research Centre, SIRIM Berhad, Malaysia
12:30-13:00	Q & A	
13:00-14:30	Lunch	
SESSION V: Policy recommendations on promoting nanotechnology innovation for sustainable development Moderator: Mr Kamarulzaman Kamaruddin, NNC-MOSTI		
14:30-15:30	Panel discussion and policy recommendations	All experts
15:30-16:00	Closing Remarks	APCTT-ESCAP NNC-MOSTI
20:00-22:00	Networking Dinner	

Consultative Meeting on proposed Nanosafety Networking Platform		
4 May 2017 (Thursday)		
SESSION I: Introduction		
09:30-10:00	<ul style="list-style-type: none"> • Structure & objectives of the meeting • Items to be discussed • Q & A 	
10:00-10:30	Short presentation by APCTT on Regional cooperation in nanosafety	
10:30-11:00	Short presentation by NNC-MOSTI, Malaysia	
11:00-11:15	Tea/Coffee	
SESSION II:		
<p><i>This session will provide an overview of the challenges faced by stakeholders in addressing challenges related to testing of nanomaterials such as identifying accredited (or GLP certified) testing laboratories in the region capable of doing the physical-chemical, mammalian toxicity, ecotoxicity and environmental fate studies; sharing of testing facilities among member countries; compilation of primary data for nano-based products, and fostering inter-agency coordination and linkages. The session would also explore the resources in the region and highlight the opportunities for establishing cross-border partnerships among stakeholders.</i></p>		
Moderator: APCTT		
11:15-12:45	Roundtable discussion (10-20 Minutes for each participant)	Country representatives / resource persons
12:45-13:00	Q & A	
13:00-14:00	Lunch	
SESSION II: Summary & Conclusions		
14:00-16:00	<ul style="list-style-type: none"> • Summary and Conclusions of the Consultative Meeting • Next Steps - Action plans and strategies for establishing Nanosafety Networking Platform • Closing remarks by APCTT and NNC-MOSTI 	