
Editorial

Cher Ming Tan and Beng Kang Tay

School of Electrical and Electronic Engineering,
Nanyang Technological University,
Block S2, Nanyang Avenue, 639798, Singapore
Fax: +65-67933318
E-mail: ecmtan@ntu.edu.sg
E-mail: ebktay@ntu.edu.sg

Biographical notes: Cher Ming Tan is a Faculty Staff in the Nanyang Technological University, Singapore. He received his PhD in Quantum electronics from the University of Toronto, Canada in 1992. He is the founding Chair of IEEE International Conference on Nanoelectronics and the IEEE Nanotechnology Chapter in Singapore. He is also an IEEE Distinguished Lecturer of the Electronics Device Society. He is a Fellow of Singapore Quality Institute, Senior Scientist of Singapore Institute of Manufacturing Technology and Faculty Associate of Institute of Microelectronics, Singapore. His current researches are semiconductor materials and device reliability, nano-materials and devices.

Beng Kang Tay is a Professor in Nanyang Technological University, Singapore. He obtained his PhD Degree in Nanyang Technological University in 1996. His research topics include fabrication and application of carbon nanotube, nanodiamond, filtered cathodic vacuum arc, diamond-like carbon and polymer plasma modification.

This is a special issue of the *International Journal of Nanotechnology* dedicated to the 2nd IEEE International Nanoelectronics Conference held in Shanghai, China, March 24–27 2008, in conjunction with the Shanghai Nanophotonics and Electronics Forum. After discussion and agreement by the Editor-in-Chief, Dr. Lionel Vayssieres, it was decided to create this special issue to enable the best selected papers presented at this conference to be featured in the Journal.

The extensive research on nano-materials has unveiled many interesting and promising material properties for novel applications in electronics and photonics. In order to benefit mankind for such discoveries, it is necessary to cross the chasm between nano-materials and nano-devices and their applications. This effort will require a multi-disciplinary approach combining research in material design, processing, modelling, characterisation and metrology. The aim of this conference was to identify the paths between fundamental research and potential electronic and photonic applications, and provide a platform for international academics, researchers, practitioners and students working in the nanoelectronics and nanophotonics areas to discuss new developments, concepts and practices, and to identify future research needs so that we can bring nanoelectronics research closer to realise its immense potential.

The topics covered in this conference are broadly categorised into the following:

- Nanomaterials and Nanostructures
- Nanowires and Nanotubes
- Nanomagnetism & Spintronics
- Nanoscale Modelling & Simulation
- Nanophotonics
- Nano-devices/Nano-systems and reliability
- Nanometrology/Nanomanipulation/Nanofabrication
- Carbon Nanotubes
- Molecular Electronics
- Nano-Bio Systems.

There were a total of 641 papers presented at the conference from 30 different countries, including Austria, Bangladesh, Canada, China, Denmark, Finland, Germany, India, Indonesia, Iran, Israel, Italy, Japan, Korea, Malaysia, Mexico, New Zealand, Norway, Russia, Singapore, Sri Lanka, Taiwan, Thailand, Turkey, UK, USA, and Vietnam. After several months of strict and thorough selection and review processes, 16 papers were selected and the authors were asked to write full papers of their work for this special issue dedicated to an important topic of nanotechnology, that is nanoelectronics.