
Guest Editorial

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Biographical notes: You-Lin Wu received the MS degree in Electrical Engineering from National Tsing Hua University, Taiwan, and the PhD degree in Electrical Engineering from National Taiwan University. From 1995 to 1998, he worked for the Thin Film Department, Powerchip Semiconductor Corporation, where he was the department manager in charge of the development and fabrication of 16M DRAM. In 1998, he joined the faculty of the Department of Electrical Engineering at National Chi Nan University, Taiwan, where he is currently a Professor. Since 2014 he has been appointed as Distinguished Professor of the Institute of Science and Technology, National Chi Nan University, Taiwan. His research interests focus on nanoscale characterization of electronic devices using atomic force microscopy and development of ultra-sensitive biomedical solid-state sensors.

In 1996, Chao Sung Lai joined National Nano Device Laboratories, Hsinchu, where he was engaged in the research of silicon-on-insulator devices. He then joined Chang Gung University, Taoyuan, Taiwan, as an Assistant Professor. He was promoted to Full Professor in 2006 where he has been engaged in the research of the characterization and reliability of MOSFETs, Flash memory, high-k dielectrics, metal gates, and biosensors. In 2001, he visited the Department of Electrical Engineering, University of California, Berkeley, for sabbatical research on fin-shaped FETs. Since 2007 to 2013, he has been the Chairman of the Department of Electronic Engineering and the Director of the Biosensor Group of the Biomedical Research Center, Chang Gung University, for the research-related biotransistor application on ions, proteins, DNA, and biomarker analysis. He holds 9 US patents and 27 Taiwan patents, and he is the author of more than 150 SCI journal papers, 200 conference papers, 12 international invited talks, 6 IEEE IEDM papers, and 2 book chapters. He is the Guest Editor of the SCI journals, including *Microelectronics Reliability* (2010), *Nano-Scaled Research Letters* (2011), and *Solid-State Electronics* (2012), and *Nano-Scaled Research Letters* (2014). From 2012, he is the Dean of Engineering College of Chang Gung University. He won Lam Research Award in 1997 and Distinguished Award from EDMA in 2011.

The International Electron Devices and Materials Symposium (IEDMS) is the premier conference regularly held in Taiwan. The IEDMS plays an extremely important role as a platform for exchanges of research results, new concepts, new ideas and new developments between researchers, between academia and industries, between corporations, and between colleagues in the field of semiconductor materials and devices. Held in National Chi Nan University, Pui, Nantou, Taiwan, the 2013 IEDMS was the 38th year of the IEDMS in its series. In addition to attracting more than 300 attendees, the 2013 IEDMS had accepted a record high 250 papers for both oral and poster presentations with wide scope of topics covering: 1. sustainable energy devices and materials, 2. integrated circuits and packaging technologies, 3. compound semiconductor materials, 4. nanodevices and materials, 5. photonic devices and materials, as well as 6. sensors and displays, from which, only 11 papers were selected to appear in this special issue after being subjected to an additional peer review.

The Guest Editors of this issue of *Internal Journal of Nanotechnology* wish to express their thanks to the Editor-in-Chief, Lionel Vayssieres, for agreeing to publish this special issue. They would also like to appreciate the authors who worked hard on top of their already overloaded schedules to produce the extended papers. The Guest Editors also wish to thank the many reviewers who volunteered their time to provide feedback to the authors and whose suggestions contributed significantly to fine-tuning this special issue.