
Editorial

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Biographical notes: Chao-Sung Lai received the BS and PhD from National Chiao Tung University, Hsinchu, Taiwan, in 1991 and 1996, respectively. In 1996, he joined National Nano Device Laboratories, Hsinchu, where was engaged in the research of silicon-on-insulator devices. He then, in 1997, joined Chang Gung University, Taoyuan, Taiwan, as an Assistant Professor. He was promoted to Associate and Full Professor in 2001 and 2006, respectively. He has been engaged in the research of the characterisation and reliability of MOSFETs, flash memory, high-k dielectrics, metal gates, and biosensors. From 2001 to 2002, he visited the Department of Electrical Engineering, University of California, Berkeley, for visiting research on fin-shaped FETs. Since 2007 to 2013, he had 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 bio-transistor application on ions, proteins, DNA, and biomarker analysis. From 2012, he is the Dean of Engineering College of Chang Gung University. He holds 11 US patents and 41 Taiwan patents, and he is the author of more than 237 SCI journal papers, 200 conference papers, 20 international invited talks, and two book chapters. He won Lam Research Award in 1997 and distinguished award from Electron Devices and Materials Association in 2011.

Chia-Ming Yang received his BS in Electric Engineering from Chang Gung University, Tao-Yuan, Taiwan, in 1999, an MS in Electronic Engineering from National Chiao Tung University, Hsin-Chu, Taiwan, in 2001 and a PhD in Electronic Engineering from Chang Gung University in 2006. He was a Department Manager in Inotera Technology Inc. for DRAM device and retention optimisation from 2006 to 2012. He joined the Institute of Electro-Optical Engineering in Chang Gung University in 2012 as an Assistant Professor and is an Associate Professor since 2015. His research interests include DRAM device, VLSI and MEMS technology, biomedical and chemical sensors and nanotechnology. He holds one US and 16 Taiwan patents and is author of more than 45 SCI journal and 120 conference papers.

The special issue consists of papers which have been presented at the *5th International Symposium on Next-Generation Electronics (ISNE2016)*, held on May 3–6, 2016 in National Tsing Hua University, Hsinchu, Taiwan. The 2016 ISNE was the 5th conference of the ISNE in its series. Totally 240 papers presented in the conference have a strong focus on next generation devices, materials and energies for both oral and poster presentations with wide scope of topics covering:

- microelectronics devices and materials, memories, displays
- organic/inorganic materials and photonic devices
- compound semiconductor materials, electronics and optoelectronics
- nanotechnology and applications
- thin film technology and characterisation
- biomedical circuits and circuits for communications, as well as
- sensors, packaging technologies, from which, only eight papers were selected to present 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, Dr. 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 to produce a journal with competence quality.