



Selected Peer-Reviewed Articles from the 3rd IEEE International NanoElectronics Conference (INEC 2010)

The 3rd IEEE International NanoElectronics Conference (INEC) was held in City University of Hong Kong from January 3 to 8, 2010. The aim of this conference was to identify the paths between fundamental research and potential electronic, photonic, and biological applications. INEC 2010 provided a forum for international academics, researchers, practitioners, and students working in the areas of nanofabrication, nanoelectronics, nanophotonics, and nanobiology to discuss new developments, concepts, and practices, and to identify future research needs so that nano-research could be brought closer to its immense potential. Professor Paul K. Chu, chair professor of materials engineering at City University of Hong Kong, served as the general chair of the conference.

INEC 2010 was the largest one of this growing event. The conference accepted 911 contributed abstracts including 503 oral and 408 poster presentations from 35 countries and special administrative regions. After the conference, 484 full papers were submitted for publication in this special section in *Journal of Nanoscience and Nanotechnology*, and 173 papers were ultimately accepted (acceptance rate of 35.7%).

INEC 2010 also featured 4 plenary and 22 invited talks by international scientists in nanofabrication, nanoelectronics, nanophotonics, and nanobiology. A special symposium on nanoscience and nanotechnology in China was held during the conference to foster further scientific

exchange between scientists from Greater China and other parts of world. We were very fortunate to have 16 academicians of the Chinese Academy of Sciences, Chinese Academy of Engineering, and Academia Sinica to give presentations in this special symposium.

We would like to express our sincere thanks to the authors of the contributed papers and conference attendees. We also offer our deep appreciation to all local organizing committee members, student helpers, and workshop lecturers for their tremendous efforts and contributions to the conference.

Finally, we would like to thank the session co-chairs who helped to process the large number of the manuscripts for this special section. They were Professor Kaifu Huo of Wuhan University of Science and Technology and City University of Hong Kong, Professor Jian-Min Miao of Nanyang Technological University, Professor Anping Huang of Beijing University of Aeronautics and Astronautics, Professor Teng Qiu of Southeast University, Professor Xuanyong Liu of Shanghai Institute of Ceramics and City University of Hong Kong, Professor Xiubo Tian of Harbin Institute of Technology, and Professor Liuhe Li of Beijing University of Aeronautics and Astronautics.

Guest Editors

Paul K. Chu, Wenjun Zhang
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ABOUT THE GUEST EDITORS



Paul K. Chu received his B.S. in mathematics from The Ohio State University in 1977 and M.S. and Ph.D. in chemistry from Cornell University in 1979 and 1982, respectively. He is Chair Professor of Materials Engineering in the Department of Physics and Materials Science in City University of Hong Kong. Paul's research activities are quite diverse encompassing plasma surface engineering and various types of materials and nanotechnology. Paul is co-editor of seven books on plasma science, biomedical engineering, and nanotechnology. He has co-authored more than 20 book chapters and 800 journal papers and given more than 100 invited talks and lectures. He has also been granted 11 US, 1 European, and 7 Chinese patents. He is chairman of the Plasma-Based Ion Implantation (PBII&D) International Committee and a member of the Ion Implantation Technology (IIT) International Committee and IEEE Nuclear and Plasma Sciences Society (NPSS) Fellow Evaluation Committee. He is

Fellow of the IEEE, APS, AVS, and HKIE (Hong Kong Institution of Engineers). He is a senior editor of IEEE Transactions on Plasma Science and associate editor of Materials Science & Engineering Reports. He has won a number of awards, including the 2007 IEEE NPSS Merit Award and 2008 Materials Research Society (MRS) Taiwan JW Mayer Lectureship.



Wenjun Zhang completed his B.Sc. in chemical engineering and technology at Wuhan Institute of Chemical Technology and received his M.Phil. in applied chemistry from Huazhong University of Science and Technology. In 2009, he obtained his Ph.D. in materials engineering from City University of Hong Kong under the supervision of Professor Paul K. Chu and served as a senior research associate in the plasma laboratory. He is currently a post-doctoral research fellow position in Fudan University. His main interests are in developing new methods to fabricate micro-/nano-structures for biological applications and in particular unconventional lithography for ordered nanostructures in molecular diagnostic devices and integrated biosensors using enhanced spectroscopic techniques.