Conference Committee

General Chair  Paul K Chu  
City University of Hong Kong

Founding Chair  Cher Ming Tan  
Nanyang Technological University

Organization Chair  Ricky K Y Fu  
City University of Hong Kong

Program Chair  Kai-Fu Huo (Nano-Fabrication)  
City University of Hong Kong and Wuhan University of Science and Technology
      An-Ping Huang (Nano-Electronics)  
City University of Hong Kong and Beijing University of Aeronautics and Astronautics
      Teng Qiu (Nano-Photonics)  
City University of Hong Kong and Southeast University
      Xuan-Yong Liu (Nano-Biology)  
City University of Hong Kong and Shanghai Institute of Ceramics, CAS
      Xiu-Bo Tian (Nano-Physics)  
City University of Hong Kong and Harbin Institute of Technology

Information Chair  Yu-Long Jiang  
Fudan University

Program Co-Chair  Jian-Min Miao  
Nanyang Technological University
      Beng-Kang Tay  
Nanyang Technological University
      Xiao-Wei Sun  
Nanyang Technological University
      Jun Wei  
Singapore Institution of Manufacturing Technology, A*Star
      Liu-He Li  
City University of Hong Kong and Beijing University of Aeronautics and Astronautics

Local Organizing Committee

Chair  Wenjun Zhang
Vice-Chair  Tao Hu  
Guixiang Qian  
Zhengwei Wu
Member  Cindy Chen  
Li-Ping Tong  
Xiao-Bo Ma
Hong-Min Chen  
Kai Feng  
Hai-Jun Ren
Jian-Hui Li  
Huai-Yu Wang  
Shu-Wing Wong
Qiu-Yuan Lu  
Jiang Jiang  
Chang-Yong Zhan
Dixon Kwok  
Tao Xiong  
Xiao-Jun Wu
Yuan Gao  
Jing-Bi You  
Xinneng Zhang
Zhuo Wang  
Rongsheng Chen  
Fei Ma
Welcome

Encouraged by the success of the 1st and 2nd IEEE International NanoElectronics Conference (INEC) held in Singapore in 2006 and Shanghai in 2008, the 3rd INEC is held in City University of Hong Kong from January 3 to 8, 2010. Extensive research on nanomaterials has unveiled many interesting and promising materials properties for novel applications in electronics, photonics, and biology. In order to benefit mankind for such discoveries, it is necessary to cross the chasm between nanomaterials and nanodevices and their applications. This effort requires a multi-disciplinary approach combining research in materials design, processing, modeling, characterization, and metrology. Commercialization of nanotechnology is also important to fuel future research. The aim of this conference is to identify the paths between fundamental research and potential electronic, photonic, and biological applications. INEC2010 provides 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 can be brought closer to its immense potential.

INEC2010 features 4 plenary and 22 invited talks by international scientists in nanofabrication, nanoelectronics, nanophotonics, and nanobiology. A special symposium on nanoscience and nanotechnology in China is held during the conference to foster further scientific exchange between scientists from Greater China and other parts of world. We are 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.

INEC2010 is the largest one of this growing event. We are very pleased to have received 911 contributed abstracts including 503 oral and 408 poster presentations from 35 countries and special administrative regions.

Hong Kong being a vibrant and modern city where east and west meet is very exciting. The city offers superb dining and attractions and boasts one of the most impressive skylines in the world. In addition to the technical events, I urge you to experience and enjoy our unique city.

Paul K Chu
General Chair
The Effects of Bi-layer Catalysts and its Annealing on the Growth of GaN Nanowires
Dong-Hau Kuo* and Wei-Ting Shen
Department of Polymer Engineering, National Taiwan University of Science and Technology, Taiwan, ROC.
*Contacting Author: Dong-Hau Kuo is with NTUST; No. 43, Sec. 4, Keelung Rd. Taiwan, ROC (phone: 886-2-27303291; fax: 886-2-27303291; email: dhkuo@mail.ntust.edu.tw).

The Fabrication of ZnO Nanowire Arrays in Porous Anodic Alumina Template by Coordination Reaction
Lingcui Zhang, Yongfeng Ruan*, Danli Wang, Hongbo Yang, Dongyu Fang
School of science, Tianjin University, Tianjin, China. *Contacting Author: Yongfeng Ruan is with the School of science, Tianjin University, Tianjin, China.(email: ruanyf2002@yahoo.com.cn)

The Influence of Stacking Faulty Energy on High Energy Ball Milling Cu Alloys
Dai Li, XinKun Zhu
Oxford college, Kunming University of Science and Technology Faculty of materials and metallurgical engineering, Kunming University of Science and Technology hkl9900@yahoo.com.cn, xk_zhu@hotmail.com

The Influence of the Micro-structure on Optical Properties of Nc-Si:H Films for Solar Cells
Xiao-Ni Gao, Jian-Ning Ding*, Ning-Yi Yuan, Guang-Gui Cheng, and Li-Qiang Guo
Center of Micro/Nano Science & Technology, Jiangsu University, Zhenjiang 212013, P. R. China, but the third author is with Center of Low-dimension Materials, Micro/Nano Device and System, Jiangsu Polytechnic University, Changzhou, 213164, P. R. China * Contacting Author: Jian-Ning Ding, Professor, Center of Low-dimension Materials, Micro/Nano Device and System, Jiangsu Polytechnic University, Changzhou, 213164, P. R. China (phone: +86 0519-86330008, email: dingjn@jpu.edu.cn)

The role of pH and calcination process on CuFe$_2$O$_4$ nanoparticles synthesized by microwave-hydrothermal reactions
Titipun Thongtem*, Anukorn Phuruangrat, Somchai Thongtem
1 Department of Chemistry, Faculty of Science, Chiang Mai University, Chiang Mai 50200, Thailand
2 Department of Physics and Materials Science, Faculty of Science, Chiang Mai University, Chiang Mai 50200, Thailand * Corresponding author : ttpthongtem@yahoo.com; ttpthongtem@hotmail.com

The Study of Mechanical Characteristic of Electrodeposited Nanocrystalline Ni-Co Alloy
Chengdong Xu*, Yunhua Xu, and Xiaojing Gong
1 School of Aerospace Engineering, Beijing Institute of Technology, Beijing 100081, China
2 School of Science, Beijing Jiaotong University, Beijing 100044, China
*Contacting Author: Chengdong Xu is with the School of Aerospace Engineering, Beijing Institute of Technology; No.5 South Zhongguancun Street, Beijing,100081, China (phone: 86-10-6891-8053; fax: 86-10-6891-4599; email: xucd@bit.edu.cn)

Zirconia Films Prepared by Micro-Arc Discharge Oxidation in Different Electrolytes
Fanya Jin, Min Dan, Liru Shen, Jiong Li, Honghui Tong, Paul K. Chu
* Southwestern Institute of Physics, Chengdu, Sichuan, 610041, China
b Department of Physics and Materials Science, City University of Hong Kong, Tat Chee Avenue, Kowloon, Hong Kong
Zirconia Films Prepared by Micro-Arc Discharge Oxidation in Different Electrolytes

Fanya Jin\textsuperscript{a}, Min Dan\textsuperscript{a}, Liru Shen\textsuperscript{a}, Jiong Li\textsuperscript{a} Honghui Tong\textsuperscript{a}, Paul K. Chu\textsuperscript{b}

\textsuperscript{a}Southwestern Institute of Physics, Chengdu, Sichuan, 610041, China
\textsuperscript{b}Department of Physics and Materials Science, City University of Hong Kong, Tat Chee Avenue, Kowloon, Hong Kong

Abstract

Micro-arc discharge oxidation (MDO) was used to produce zirconia thin films on zirconium in tungstate, aluminate and silicate solutions. Porous zirconia films containing monoclinic and orthorhombic phases were produced. The surface coarseness and pore size of the ZrO\textsubscript{2} films were found to increase with oxidation time. The properties of the oxide layers such as microstructure and composition are related to the electrolytes and oxidation time, both of which can be easily controlled by adjusting the voltage, processing time, and electrolyte concentration.

Keywords: Micro-arc discharge oxidization; zirconium; zirconia films

PACS codes: 68.37.-d; 68.47.Gh; 81.10.Aj; 81.15.-z.
* Corresponding author

Doc. Fanya Jin
Tel: [86]28-82820977
Fax: [86]28-828209327
Electronic mail: yafanjin@163.com