第四届中-美纳米科技学术研讨会

The 4th Sino-US Nano Meeting

(July 2-3, 2009, USTC, Hefei, China)

Organized and Sponsored

by

Natural Science Foundation of China

Chinese Academy of Sciences

University of Science and Technology of China

Institute of Solid State Physics, CAS

Organizing Committee

US:

Younan Xia *Washington University in St. Louis*

Peidong Yang *University of Carlifornia at Berkeley*

China:

Jianguo Hou *University of Science and Technology of China*

Shu-Hong Yu *University of Science and Technology of China*

Weiping Cai *Institute of Solid State Physics, CAS*

Jinlong Yang *University of Science and Technology of China*

Xiaoping Wang *University of Science and Technology of China*

The 4th Sino-US Nano Meeting

July 2 & 3, 2009

(University of Science and Technology of China, Hefei)

July 1, 2009 **Check in**

18:00 **Reception (USTC)**

July 2, 2009

Chairman: **Prof. Shu-Hong Yu**

8:30-8:40 **Welcome**
USTC President: **Prof. J. G. Hou**
NSFC: **Prof. Kexin Chen**
CAS: **Prof. Minghua Liu**

8:40-8:45 **Opening Ceremony**
Remarks by **Prof. Younan Xia**

Section 1. Nanotechnology for Biomedical Research

(Lecture Hall A, Third Floor, National Lab Building)

Chairman: **Prof. Xiaohu Gao**

8:45-9:15 Enzyme-Instructed Formation of Nanofibers and Hydrogels for Biomedicine
Bing Xu (Department of Chemistry, Brandeis University)

9:15-9:45 Probing Carbohydrate-Protein Interactions with Carbohydrate Microarray and Glyconanoparticles
Mingdi Yan (Department of Chemistry, Portland State University)

9:45-10:15 Gold Nanocages: Synthesis, Properties, and Biomedical Applications
Jingyi Chen (Department of Biomedical Engineering, Washington University in St. Louis)

10:15-10:25 **Coffee break**

Chairman: **Prof. Bing Xu**

10:25-10:55 The Safe Use of Nanomaterials in Biomedical Systems by Design with Surface Chemistry
Yuliang Zhao (Institute of High Energy Physics, CAS)

10:55-11:25 Multifunctional Nanoparticles for Imaging, Detection, and Therapeutics
Xiaohu Gao (Department of Bioengineering, University of Washington)

11:25-11:55 Biological and Biomimetic Green Synthesis of Nanomaterials for Biolabeling
Dai-Wen Pang (College of Chemistry and Molecular Sciences, Wuhan University)

11:55-12:15 Biomedical Application of Carbon Nanotubes for Cancer Therapy and Molecular Imaging
Zhuang Liu and Hongjie Dai (Department of Chemistry, Stanford University)

12:15-13:45 **Lunch (in USTC)**

Section 2. Nanomaterials: Synthesis and Self-Assembly

Section 2A (Lecture Hall A, Third Floor, National Lab Building)

Chairman: Prof. Yushan Yan

14:00-14:30 Functional Graphene Materials by Controlled Assembly
Jiaxing Huang (Department of Materials Science and Engineering, Northwestern University)

14:30-15:00 Colloidal Crystal-Assisted Lithography for Preparation of 2D Patterned Arrays
Bai Yang (College of Chemistry, Jilin University)

15:00-15:30 Synthesis and Characterization of Nano-Metal-Organic Polyhedra
Long Pan (Colgate Palmolive Co., USA)

15:30-15:40 **Coffee break**

Chairman: Prof. Lei Jiang

15:40-16:10 Nanoclusters: Bridging the Gap Between Organometallics and Nanocrystal Chemistry
Rongchao Jin (Department of Chemistry, Carnegie Mellon University)

16:10-16:40 Shape-Controlled Synthesis of Nanopolyhedra
Jiye Fang (Department of Chemistry, State University of New York at Binghamton)

Chairman: Prof. Chun-Hua Yan

17:10-17:40 Anisotropic Metal Nanostructures Grown on Semiconductor Wafers
Yugang Sun (Center for Nanoscale Materials, Argonne National Laboratory)

17:40-18:10 Macro-scale Composite Cables Constructed with Sigle-Walled Carbon Nanotubes
Zhong Zhang (National Center for Nanoscience and Technology)

Section 2B (Lecture Hall B, First Floor, National Lab Building)

Chairman: Prof. Zhonglin Wang

14:00-14:15 Fabrication of Organic and Hybrid Nanomaterial through the Self-assembly of the L-glutamic Acid-based Organogelators
Minghua Liu (Institute of Chemistry, The Chinese Academy of Sciences)

14:15-14:30 Studies on Mg/Mg-H Nanowires by Density Functional Theory
Jun Chen (Institute of New Energy Material Chemistry and Engineering Research Center of Energy Storage & Conversion, Chemistry College, Nankai University)

14:30-14:45 Rational Design and Synthesis of Hierarchical and Hybrid 1D Nanoarchitectures via AAO-template-assistant Approach
Guowen Meng (Institute of Solid State Physics, CAS)

14:45-15:00 Syntheses and Properties of Nano/Micro-structured Crystallites with High Energetic Surfaces
Zhao-Xiong Xie (Department of Chemistry, Xiamen University)

14:45-15:00 Colloidal Crystal-Assisted Fabrication of Inorganic Nanostructures with controlled architectures
Limin Qi (College of Chemistry, Peking University)

15:15-15:30 Optical Properties of Semiconductor Superlattice Nanowire
Bingsuo Zou (School of Materials Science and Engineering, Beijing Institute of Technology)

15:30-15:40 Coffee break

Chairman: Prof. Yuliang Zhao

15:40-15:55 New Vanadium Oxide Nanostructures: Discovery, Assembly, and Applications
Yi Xie (Division of Nanomaterials and Nanochemistry, Hefei National Laboratory for Physical Sciences at Microscale, University of Science and Technology of China)

15:55-16:10 Electrochemiluminescence of Quantum Dots for Biosensing
Jun-Jie Zhu (School of Chemistry and Chemical Engineering, Nanjing University)

16:10-16:25 Nickel Nanomaterials: Synthesis, Characterization and Properties
Lin Guo (School of Chemistry and Environment, BeiHang University)

16:25-16:40 Assembly of Nanocomposites for Catalysis and Biological Applications
Nanfeng Zheng (Department of Chemistry, Xiamen University)

16:40-16:55 Nanostructured Materials for Nanocatalysis
Weiguo Song (Institute of Chemistry, CAS)

Chairman: Prof. Weiping Cai

16:55-17:10 Contactless C-V Measurements for Nano-electronic Materials
Liwei Chen (Suzhou Institute of Nanotech and Nanobionics, CAS)

17:10-17:25 Surface Chemistry for Biochemical Analysis
Xingyu Jiang (National Center for Nanoscience and Technology of China)

17:25-17:40 Nanoparticle Superstructures

Zhiyong Tang (National Center for Nanoscience and Technology)

17:40-17:55 Controlled Synthesis and Biomedical Applications of Monodisperse Magnetic Nanocrystals
Yanglong Hou (Colleague of Engineering, Peking University)

17:55-18:10 Chemical Approach towards Carbon-rich Nanomaterials with Well-defined Structures and their Energy-related Applications
Linjie Zhi (National Center for Nanoscience and Technology of China)

18:10 **Banquet**

July 3, 2009

Section 3. Nanotechnology for Energy & Catalysis

(Lecture Hall A, Third Floor, National Lab Building)

Chairman: **Prof. Guozhong Cao**

8:30-9:00 Publishing Trends in Materials Science (and How to Maximize Your Success)
Dave Flanagan (Editor of Advanced Materials and Advanced Functional Materials)

9:00-9:30 Design and Synthesis of Novel Catalysts for Fuel Cell Applications
Younan Xia (Department of Biomedical Engineering, Washington University in St. Louis)

Chairman: **Prof. Hong Yang**

9:30-10:00 Novel Bio-inspired Solar Cell Systems Based on Ion Channels
Lei Jiang (Institute of Chemistry, CAS)

10:00-10:30 Hierarchically Structured ZnO/TiO_2 Films for Dye-Sensitized Solar Cells
Guozhong Cao (Department of Materials Science and Engineering, University of Washington)

10:30-10:40 **Photo together**

10:40-10:50 **Coffee break**

Chairman: Prof. Jinlong Yang

10:50-11:20 A Novel Digital Storage Medium Based on the Controllable Assembly and Energy Transfer between Rare Earth Upconversion Nanophosphors and Organic Switchable Molecules
Chun-Hua Yan (State Key Laboratory of Rare Earth Materials Chemistry and Applications, Peking Univerisity)

11:20-11:50 Recent Development on Nanostrucured Platinum Alloy and Intermetallic Electrocatalysts
Hong Yang (Department of Chemical Engineering, University of Rochester)

11:50-12:20 Nanotechnology for Cheaper and More Durable Fuel Cells
Yushan Yan (Department of Chemical and Environmental Engineering, University of California at Riverside)

12:20-13:45 Lunch (in USTC)

Section 4. Nanotechnology for Electronics & Sensing

(Lecture Hall A, Third Floor, National Lab Building)

Chairman: Prof. Qikun Xue

14:00-14:30 Top Emerging Technologies: Nanogenerators and Nanopiezotronics
Zhong Lin Wang (School of Materials Science and Engineering, Georgia Institute of Technology)

14:30-15:00 Selective Growth of Well-Aligned Semiconducting Single-Walled Carbon Nanotubes
Jie Liu (Department of Chemistry, Duke University)

15:00-15:30 Carbon Nanotubes and Oxide Nanowires: Synthesis, Properties and Applications
Chongwu Zhou (Department of Electrical Engineering, University of Southern California, Los Angeles, USA)

15:30-15:40 Coffee break

Chairman: Prof. Jie Liu

15:40-16:10 Quantum Transport Properties of Single Molecules
J. G. Hou (Hefei National Laboratory for Physical Sciences at Microscale, University of Science and Technology of China)

16:10-16:40 How Thin Can a Superconductor Be ?
Qikun Xue (Department of Physcis, Tsinghua Univerisity)

Chairman: Prof. Yadong Li

16:40-17:10 Engineering Fundamental Spin and Charge Interactions at the Nanoscale
Min Ouyang (Department of Physcis, University of Maryland at College Park)

17:10-17:40 Magnetically Tunable Photonic Nanostructures
Yadong Yin (Department of Chemistry, University of California at Riverside)

17:40-18:00 Discussion

18:00-18:10 Closing ceremony

18:10 Banquet