

DOI: 10.1002/sml.200700987

ChinaNANO 2007

Xing Zhu*

In the recent “Outline of the National Long- and Medium-Term Program for Scientific and Technological Development of China”, issued in 2006 by the Chinese Government, “nanoresearch” was listed as one of the four priority programs. This is an indication of how important nanoscience and technology have recently become and has attracted the attention of not only scientists but also the decision makers of the country.

On June 4–6 2007, over 1000 scientists worldwide gathered at Beijing International Convention Center to attend the China International Conference on Nanoscience and Technology (ChinaNano 2007; Figure 1). During the three-day meeting, scientists discussed the major issues of nanotechnology of nanoscale materials and structures, self-assembly and growth on surfaces, nano-optics and nanophotonics, nanoelectronics and nanoelectromechanical systems (NEMS), nanobiology and nanomedicine, computation and modeling, and nanometrology.

The conference was organized by the National Center for Nanoscience and Technology (P.R. China) under the auspice of the National Steering Committee for Nanotechnology of China, and supported by the Ministry of Science and Technology, the Ministry of Education, the National Natural Science Foundation, the Chinese Academy of Sciences, and the China Association for Science and Technology.

In an opening speech, the conference chairman, **Chunli Bai** (Figure 2), Executive Vice President of the Chinese Academy of Sciences (CAS), wel-

comed the conference participants on behalf of the Co-Chairmen, **Sishen Xie** (Institute of Physics, CAS) and **Zhonglin Wang** (Georgia Tech.).

The worldwide participants came from 36 countries in regions of Africa, Asia, Europe, Oceania, North America, and South America, from not only developed countries but also developing countries. ChinaNano 2007 provided a platform for scientific exchange between leading scientists and newcomers. More than 300 presentations and 1000 posters were presented during the three-day meeting.

ChinaNano 2007 is the second conference following the 2005 China International Conference on Nanoscience and Technology (ChinaNANO 2005) held in June 2005 in Beijing.

In the opening ceremony, **Harald Fuchs** (University of Münster, Germany) and Co-Chairman of the Editorial Board of *Small*, presented the first plenary lecture entitled “Analysis of Atoms and Molecules with High-Resolution Atomic Force Microscopy”. He explored the fundamental understanding of energy-dissipation processes and local surface structures, and the devel-

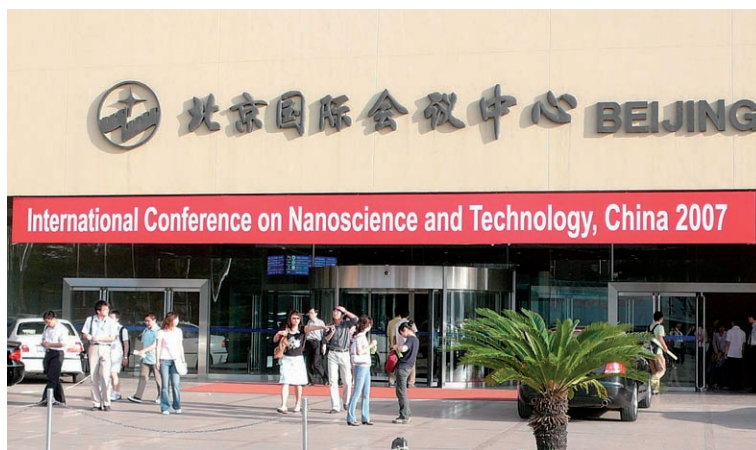


Figure 1. ChinaNano 2007 attracted over 1000 scientists worldwide.



Figure 2. Prof. Chunli Bai chairs the opening ceremony of ChinaNano 2007; Prof. Harald Fuchs in the center.

[*] Prof. X. Zhu
School of Physics, Peking University, and
National Center for
Nanoscience and Technology
Beijing 100871 (P.R. China)
Fax: (+86) 106-295-1615
E-mail: zhuxing@pku.edu.cn

opment of temporary chemical bonds leading to site-specific modification of the interacting probes and surfaces due to the tip–surface interaction at the atomic scale.

In his plenary lecture, **Wilson Ho** (University of California, Irvine) talked about atomic-scale optical phenomena. By using low-temperature scanning tunneling microscopy his group has probed optical phenomena with subatomic resolution, which provides a new window for viewing molecular properties. **Susumu Noda** (Kyoto University, Japan) explained his latest results in the “Manipulation of Photons by Photonic Crystals”. A Chinese scientist, **Yadong Li** (Tsinghua University, P.R. China), presented a lecture entitled “From Monodisperse Nanocrystals to Integrated 3D Colloidal Spheres and Mesoporous Materials”, which is a systematic way of synthesizing and manipulating new structures and compositions of nanomaterials. The final plenary lecture was given by **Mark Welland** (University of Cambridge, UK) in the closing ceremony, with the title of “Applying Nanoscience Tools to Quantify Aspects of Alzheimer’s and Related Human Diseases”.

The ChinaNano 2007 conference was held in conjunction with the “China–Germany Joint Symposium on Nanotechnology 2007”; this high-ranking German delegation was headed by the President of the German Academy of Sciences Leopoldina, **Volker der Meulen** (Figure 3). This joint symposium was originally initiated by **Herbert Gleiter**, who is among the world’s leading pioneers of nanotechnology. **Yongxiang Lu**, President of CAS, met with **Volker ter Meulen** and **Jutta Schnitzer-Ungfug** during the symposium. Distinguished scholars from both countries presented their latest results in nanotechnology. The existing collaborations



Figure 3. The German delegation at the China–Germany Joint Symposium on Nanotechnology 2007. From right to left in the front row: Jinghai Li (Vice President of CAS); Volker ter Meulen (President of CAS); Jutta Schnitzer-Ungfug (Secretary General of the German Academy of Sciences Leopoldina); Herbert Gleiter (Research Center Karlsruhe); Harald Fuchs (University of Münster). Second row in center of picture: Ulrich M.Gösele (MPI Microstructure Physics).

between the two academies have been enhanced through this symposium.

China is one of the few pioneering countries in nanoscience research. From as far back as the 1980s, Chinese scientists have explored nanoscience and -technology in areas including nanomaterials, nanodevices, and nanobiology to nanocharacterization and -fabrication. Since then, China has made a number of breakthroughs in the studies of nanomaterials and related fundamental researches. The most representative advances are one-dimensional materials such as carbon nanotubes, nanometals, and single-molecule detection. China’s achievements in nanoscience have been recognized by the international scientific community.

In recent years the number of nanoscience-related articles by Chinese scholars has increased dramatically at an annual rate of 30–40%. Chinese scholars rank high in international statistics of the volume of published nanoscience papers. Statistics of the Scientific Citation Index also show China as the second largest single country after the United States in publication of

nanotechnology articles. For example, in 2006 China’s nanoscience publications numbered over 8000 according to the ISI web of science, which is 19% of the world total. Articles by Chinese researchers have been increasingly published in the world’s leading scientific journals such as *Science* and *Nature*.

In June 2005, the National Technical Committee for Nanotechnology of Standardization Administration of China (SAC/TC 279) was established. This effort will strengthen the metrological capabilities of the research facilities in public institutions as well as manufacturing sectors in nanotechnologies. Begun in December 2004, the Standardization Administration of China issued and implemented 12 standards of nanotechnologies, including standardization of terminology for nanomaterials, nanoparticle products, particle size, length, and distribution measurements, testing methods, and so on. More standards are being studied.

Received: October 16, 2007

Published online on December 20, 2007