

Asian Nano Science Joining Alliance- *AsiaNANO 2002 Held in Tokyo on Nov. 27-29th 2002*

Among various events in nano science and technology around the globe, AsiaNANO 2002 gathered the top scientists mostly from the China, Japan, and Korea presenting some of the leading research activities in their home countries. AsiaNANO symposium was held at the National Museum of Emerging Science and Innovation (Nippon Kagaku Miraikan) in Tokyo whose atmosphere seems to be suitable to the very nature of nano science and technology.

The symposium program and speakers from each countries were very well coordinated and organized by the 3 key organizing committee members, Prof. Hai-Won Lee from Korea, Prof. Zhong-Fan Liu from China and Prof. Masatsugu Shimomura from Japan. Each of them coordinated the speakers and participants from their home country by selecting the representatives in different areas and keeping in mind the interdisciplinary and cross disciplinary nature of nano science and technology.

There was quite a substantial presence from young students and researchers in both oral and poster presentations as the coordinators are committed to encourage them in conducting nano science and technology research and establish global collaborations as early as possible. Prof. Hai-Won Lee, the Korean coordinator said ` As a relative senior person, I would like to do something to help the young generation by providing them opportunities and international exposure in their research `

The Oral presentations covered quantum nanostructures and applications in nanoelectronics; nanoparticles and applications in biosensing, SPM tools and applications; thin film synthesis and applications; monolayer and nanopatterning; self-assembly and molecular engineering; nanophotonics; and carbon materials and applications.

Overall the program includes from Materials, Fabrication, Devices, Photonics, Bionics, Dynamics, and Characterization. It was clearly shown the confusion of physics, chemistry, biology, polymer science, materials science, semiconductor technology, photonics, DNA technology, MEMS technology and others. Prof. Masatsugu Shimomura, the coordinator from Japan, said `I believe in the inter- and cross-disciplinary nature of nano science and technology, and also the importance of collaborations among all Asia scientists`.

This table summarizes a few features and characteristics of the AsiaNANO2002:

Country	Sponsor	Coordinator	Number of participants	Number of oral presentation	Characteristics Technical Areas
China	NSFC	Zhong-Fan Liu (including	31	14	Carbon Nanotubes Synthesis and Applications; Si Nanostructures;

		HK and Singapore)			Molecular Engineering Biosensors
Korea	Various	Haiwon Lee	28	13	Nanoparticles; DNA technology; Nanofabrication and tools; Nanolithography; Nano-photonics
Japan	NRNCJ, RIKEN and JST	Masatsugu Shimomura	118	18 (including panel presentations)	Quantum Nanostructures and Nanoelectronics; Nano-photonics; Molecular Engineering

NSFC- National Science Foundation of China

NRNCJ- Nanotechnology Researchers Network Center of Japan

JST- Japan Science and Technology Corporation

It was the 1st time to have such a large number (31) of Chinese delegations to participate in a international conference, and the Chinese coordinator Prof Zhong-Fan Liu said `It is becoming easier and easier now for Chinese scientists and students to attend International conferences as the funding situation has been much improved recent years although it still takes time to get a visa to go abroad. International conference organizers should give the Chinese participants 2-3 months advanced notice`.

Snap Shots of the Symposium

Korea is leading the nano instrumentation in Asia. Dr Sang-Il Park, CEO and President of PSIA presented their leading AFM technology with improved scan accuracy, scan speed and optical vision. PSIA (www.psia.co.kr) offers AFMs with high scan accuracy with very low background curvature, high scan speed for both small and large samples, improved z-servo frequency response and improved direct on-axis optical microscope view. PSIA also exhibited their latest products at the symposium. Their business is growing rapidly in Asia with the increasing nano science and technology activities and funding.

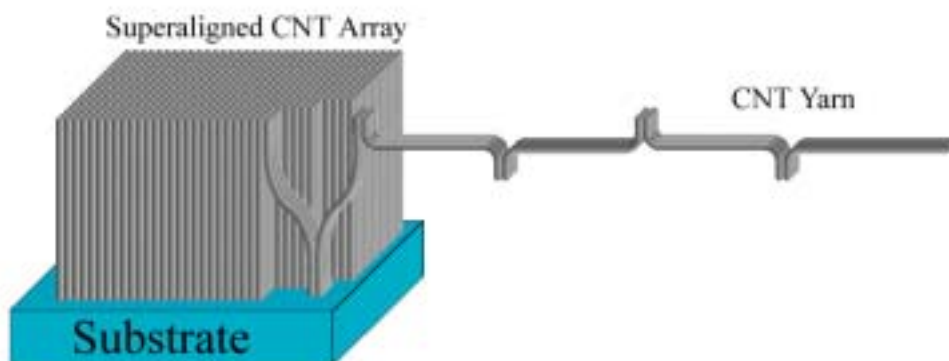
This photo was taken when Dr Park stressed advantages of the PSIA technology over the conventional AFM.



Prof. S. Kawata from Osaka University presented the Micro/Nano-fabrication technology using photon polymerization. His very well known Micro/Nano Ox that has been appearing in various media in Japan and abroad, and it is also the logo of Kawata's home page www.skawata.com. Prof. Kawata stresses on the trans-disciplinary approach in conducting nanotechnology research. This photo was taken when Prof. S. Kawata presented the nanostructures fabricated using photon polymerization.



Mr Kai-Li Jiang, a young graduate student from the Dept of Physics of Tsinghua Univ. and the Tsinghua-Foxcom Nanotechnology Research Center, presented his latest exciting work on Continuous Carbon Nanotube (CNT) Yarns and Their Applications. He demonstrated controlled growth of super-aligned CNT arrays and their macroscopic applications. The amazing mechanical, electrical and thermal properties of CNT can be utilized macroscopically via CNT yarns which can be made into light-bulb filament, polarizer and even eventually can be made into bullet-proof or shielding materials. This work was recently published in Nature (Nature, V419, October 24th 2002, 801). The schematic shows CNT yarn Pulling presented by Mr. Kai-Li Jiang.



Mr. Atsushi Suzuki, the Director of the Nanotechnology Researchers Network Center of Japan (NRNCJ) which is one of the local sponsors of AsiaNANO 2002 addressed the mission of NRNCJ in supporting Japanese researchers and international collaborations in terms of information services, IP support, and etc. Details of NRNCJ can be found at their site www.nanonet.go.jp.

The next event will be hosted by China, and will be called AsiaNANO 2004, likely to be held in Beijing in the fall of 2004.

The full program of AsiaNANO 2002 can be found at <http://local.riken.go.jp/AsiaNANO/>.