
ASIAN NANO 2002

Asian Symposium on Nanotechnology and Nanoscience

November 27-29, 2002

NIPPON KAGAKU MIRAikan
TOKYO, JAPAN

Sponsored by

Nanotechnology Researchers Network Center of Japan,
RIKEN and JST

◆WEDNESDAY, NOVEMBER 27

Oral Session 1

MIRAikan Hall

10:00-10:20

Opening Address

Eiichi Maruyama

Director of Frontier Research System, RIKEN, Japan

Touichi Sakata

Ministry of Education, Culture, Sports, Science and Technology, Japan

Mamoru Mohri

Director of National Museum of Emerging Science and Innovation, Japan

10:20-11:20 [PL-01]

Hiroyuki Sakaki

The University of Tokyo, Japan

**Quantum Manipulation of Electrons in Semiconductor Nanostructures: Impacts on
Physics, Materials, and Electronics and Its Future Prospects**

11:20-11:35 [OP-01]

Nobuo Kimizuka, Hideki Matsune, Takuya Nakashima

Kyushu University, Japan

**Design and Construction of Self-assembling Inorganic Nanowires and Metal
Nanoparticles**

11:35-11:45

<< COFFEE BREAK >>

11:45-12:00 [OP-02]

Xiao-Yuan Li, Jianshan Ye, Baoxing Wang

- The Hong Kong University of Science and Technology, China*
Noble Metal Nanoparticles Electrochemically Embedded in Conductive and Semiconductive Polymers: Preparation and Application in Biosensing
 12:00-12:15 [OP-03] Naoki Toshima, Yukihide Shiraishi, Toru Matsushita, Yoshikazu Mukai, Kazutaka Hirakawa
Tokyo University of Science, Yamaguchi, Japan
- Self-organization of Metal Nanoparticles and Its Application to Syntheses of Pd/Ag/Rh Trimetallic Nanoparticle Catalysts with Triple Core/Shell Structures**
 Withdraw [OP-04] Kyung-Hwa Yoo, Sunbae Lee, Sang-Min Lee, Jinwoo Cheon
Yonsei University, Korea
- Self-Assembled DNA-Mediated Assembly of the Metallic Nanoparticles for Nano-Scale Devices**
 12:15-13:45 << LUNCH >>

Oral Session 2 **MIRAICAN Hall**

- 13:45-14:15 [IL-01] Masakazu Aono
Osaka University / NIMS, Japan
Electrical Conduction in Low Dimensional Nanostructures
- 14:15-14:30 [OP-05] Jianbin Xu, Z. Xie, H. Y. Guo, G. D. Hu, E. Z. Luo
The Chinese University of Hong Kong, China
Nanoscale Characterization of Ferroelectric Materials by Voltage Modulated Atomic Force Microscopy
- 14:30-14:45 [OP-06] Sang-il Park, Joonhyung Kwon, Won-Hyeog Jin, Yong-Seok Kim, Dong-Youn Lee, Kyumin Lee, Sang-min Lee
PSIA Corp., Korea
AFM with Improved Scan Accuracy, Scan Speed, and Optical Vision
- Withdraw [OP-07] Xi Zhang, Wenke Zhang, Shuxun Cui, Chi Wang
Jilin University, China
Single Molecule Mechanochemistry: from Force Pattern to Adsorption Conformation and Strength
- 15:00-15:15 [OP-08] Masamichi Fujihira
Tokyo Institute of Technology, Japan
Chemical Differentiation by Scanning Probe Microscopies
- 15:15-15:30 << COFFEE BREAK >>
- 15:30-15:45 [OP-09] Jeong-Woo Choi, Sukhyun Byun, Yun-Suk Nam, Won Hong Lee
Sogang University, Korea
Nanoscale Biophotodiode Consisted of Self-Assembled Protein Molecules
- 15:45-16:00 [OP-10] Haiwon Lee, Yun Kyung Jang, Sang Jung Ahn+, Haeseong Lee, Jung Oh Kim, Sang Min Kim
Hanyang University, Korea
Atomic Force Microscope Lithography on Langmuir-Blodgett Films
- 16:00-16:30 [IL-02] T. P. Radhakrishnan, M. Sharath Chandra, Y.Ogata, J. Kawamata
University of Hyderabad, India
Polyelectrolyte Assisted Deaggregation and SHG Enhancement in Hemicyanine Based Langmuir-Blodgett Films

- 16:30-16:45 [OP-11] Kwanwoo Shin, A. Munir, U. Jeng, T.-L. Lin, M. H. Wu, Z. A. Chi, M.C. Shih, C.-H. Hsu, H.-Y. Lee, L.Y. Chiang
Kwangju Institute of Science and Technology, Korea
Characterization of Phospholipid Langmuir layers Mixed with Novel Lipophilic-C60-derivative
- 16:45-17:00 [OP-12] Futao Kaneko, Mitsuru Terakado, Toshiharu Sato, Hirotsugi Hatakeyama, Wataru Saito, Kazunari Shinbo, Keizo Kato, Takashi Wakamatsu
Niigata University, Japan
Nanostructured LB Films and Emission Light due to Multiple Surface Plasmon Excitations in the Kretschmann Configuration

Poster Session 1 17:00-18:00 Conference Room 1& Innovation Hall

◆THURSDAY, NOVEMBER 28

Oral Session 3 MRAICAN Hall

- 10:00-10:30 [IL-03] Chun-Li Bai
Chinese Academy of Sciences, China
The Advancement of Nanoscience and Nanotechnology in China
- 10:30-10:45 [OP-13] Xing Zhu, Shifa Xu, Yumin Shen, Xiaoling Liu,, Ping Lu, Hetian Zhou, Zhaohui Zhang, Zhonghe Zhai
Peking University, China
Fine Structures of Apoptotic HeLa Cells Studied by Using Near-Field Optical Technique
- 10:45-11:00 [OP-14] Takehiro Nishikawa, Keiko Arai, Junko Hayashi, Masahiko Hara, Masatsugu Shimomura
RIKEN, Japan
"Honeycomb Films"-Biointerface for Tissue Engineering
- 11:00-11:15 << COFFEE BREAK >>
- 11:15-11:30 [OP-15] Zu-Hong Lu, Zheng-Chun Liu, Quan-Guo He, Peng-Feng Xiao, Nong-Yue He
Southeast University, China
Ag Film Formed on Self-Assembly Monolayer of Mercaptopropyltrimethoxysilane
- 11:30-11:45 [OP-16] Kohei Uosaki, M. Emran Quayum, Dai Miyamoto, Satoshi Nihonyanagi, Toshihiro Kondo
Hokkaido University, Japan
Formation and Decomposition Processes and Structure of Highly Ordered Organic Monolayer Formed on Si(111) via Si-C Covalent Bond Studied by Attenuated Total Reflectance Fourier Transform Infrared (ATR FT-IR) and Sum Frequency Generation (SFG) Spectroscopy
- 11:45-12:00 [OP-17] Joon Won Park, Young-Hye La, Il Sang Maeng, Yu Jin Jung
Pohang University of Science and Technology, Korea
Nanopattern Formation on the Self-Assembled Monolayers by Soft X-ray and Low Energy Electron Irradiation
- 12:00-12:15 [OP-18] Byeong-Hyeok Sohn, Sang-Hyun Yun, Seong Il Yoo
Pohang University of Science and Technology, Korea

Iron Oxide Nanopatterns Fabricated from Monolayer Films of Diblock Copolymer Micelles
 12:15-12:30 [OP-19] Atsushi Takahara, Tomoyuki Koga, Masamichi Morita, Hideyuki Otsuka
Kyushu University, Japan
 Fabrication of Multi-Component Micropatterned Organosilane Monolayer by Stepwise Photolithography and Chemisorption Process
 12:30-13:45 << LUNCH >>

Oral Session 4 **MIRAICAN Hall**

13:45-14:15 [IL-04] Takuzo Aida
The University of Tokyo, Japan
 Molecular Design, Functions, and Self-Assembly of Novel Dendritic Macromolecules
 14:15-14:30 [OP-20] Hiroshi Masuhara, Sadahiro Masuo, Hiroyuki Yoshikawa, Takafumi Sato, Dong-Lin Jiang, Takuzo Aida
Osaka University, Japan
 Photon Pressure Induced Contraction and Recovery Behavior of Gel-like Wire-Type Dendrimer Assemblies in Solution

Fusion Session **Title: Nano meets Bio** **MIRAICAN Hall**

14:30-15:00 [FS-01] Curt W. Frank, Marc Glazer, Jacqueline Fidanza, Glenn McGall
Stanford University, U.S.A.
 Kinetics of Oligonucleotide Hybridization to DNA Probe Arrays on High-Capacity Porous Silica Substrates
Withdraw [FS-02] Dominic Walsh
University of Bristol, U.K.
 Novel Materials and Architectures Prepared by Biomimesis
 15:00-15:15 << COFFEE BREAK >>
 15:15-16:45 [PANEL DISCUSSION]
 < Chair >
Masatsugu Shimomura
Hokkaido University, Japan
 < Panelists >
Satoshi Kawata
Osaka University, Japan
Tadashi Matsunaga
Tokyo University of Agriculture and Technology, Japan
Atsushi Suzuki
Nanotechnology Researchers Network Center of Japan, Japan
Hiroshi Tokumoto
National Institute of Advanced Industrial Science and Technology, Japan

Poster Session 2 **16:45-17:45** **Conference Room 1& Innovation Hall**

Banquet **19:00-**

◆FRIDAY, NOVEMBER 29

Oral Session 5

MIRAICAN Hall

- 10:00-10:30 [IL-05] Yihong Wu, Bingjun Yang, Chong Tow Chong
National University of Singapore, Singapore
Carbon Nanowalls and the Associated Nanostructures
- 10:30-10:45 [OP-21] Kaili Jiang, Qunqing Li, Shoushan Fan
Tsinghua University, China
Controlled Growth of Super-aligned Carbon Nanotube Arrays
- 10:45-11:00 [OP-22] Jin Zhang, Qingwen Li, Hao Yan, Xiaohong Li, Zhongfan Liu
Peking University, China
Chemical Tailoring of Single-Walled Carbon Nanotubes
- 11:00-11:15 << COFFEE BREAK >>
- 11:15-11:45 [IL-06] Daoben Zhu, Yunqi Liu, Xianbao Wang, Ping'an Hu
Chinese Academy of Sciences, China
Preparation and Properties of Aligned Carbon Nanotubes
- 11:45-12:00 [OP-23] Zhe Ying, Jin-Hong Du, Shuo Bai, Feng Li, Hui-Ming Cheng
Chinese Academy of Sciences, China
Mechanical Properties of Carbon Nanotube/Epoxy Composite
- 12:00-12:15 [OP-24] Dongryul Jeon, S. W. Lee, Y.-J. Baik
Myong Ji University, Korea
Fabrication and Properties of Diamond Nano-Whiskers
- 12:15-13:30 << LUNCH >>

Oral Session 6

MIRAICAN Hall

- 13:30-14:00 [IL-07] Seong-Ju Park
Kwangju Institute of Science and Technology, Korea
Growth of Silicon Quantum Dots and Light-Emitting Diodes
- 14:00-14:15 [OP-25] Qi-Kun Xue, Ji-Feng Jia
Chinese Academy of Sciences, China
Cloning Nanoclusters on Si Surface
- 14:15-14:30 [OP-26] Jun-Jie Zhu, Hui Wang
Nanjing University, China
Preparation of V-VI Group Metal Chalcogenide Nanorods by Sonochemical and Microwave Assisted Heating Methods
- 14:30-14:45 [OP-27] Young Mee Jung, Hyun Chul Choi, Isao Noda, Seung Bin Kim
Pohang University of Science and Technology, Korea
Formation and Characterization of Cobalt Nanoparticles in Electrochemical Reaction of Lithium with CoO by X-ray Absorption Spectroscopy and Two-Dimensional Correlation Analysis
- 14:45-15:00 << COFFEE BREAK >>
- 15:00-15:15 [OP-28] Minghua Liu, Haofei Gong, Junfang Cai
Chinese Academy of Sciences, China
Fabrication of Two-Dimensional Molecular Assemblies of Metal Complexes through Interfacial Coordination

- 15:15-15:30 [OP-29] Masahiro Yamashita, T. Manabe, H. Kishida, H. Matsuzaki, H. Okamoto, Y. Tokura
Tokyo Metropolitan University, Japan
Gigantic Optical Nonlinearity In Mott-Hubbard NANO-Wires
- 15:30-16:00 [IL-08] Kookheon Char, Sangcheol Kim, Jinhan Cho, Hiesang Sohn, Hong Seok Jang
Seoul National University, Korea
Characteristics and Micropatterning of Spin Self-Assembled Ultrathin Multilayers
- 16:00-16:15
<< COFFEE BREAK >>
- 16:15-16:30 [OP-30] Jinkwon Kim, Akilesh K. Gupta, Jong Soon Hong
Kongju National University, Korea
Synthesis of Novel Manganese Single-Molecule Nano-Magnets
- 16:30-16:45 [OP-31] Soo Young Park, Byeong-Kwan An, Soon-Ki Kwon, Sang-Don Jung
Seoul National University, Korea
A Novel Class of Fluorescent Organic Nanoparticles; Enhanced Emission and Its Switching
- 16:45-17:00 [OP-32] Olaf Karthaus, T. Imai, K. Kaga, J. Sato, S. Kurimura, K. Okamoto
Chitose Institute of Science and Technology, Japan
Crystallization Control of Fluorescent Dyes on the Mesoscale
- 17:00-17:15 [OP-33] Toshimi Shimizu, George John, Akihiro Fukagawa, Hiroshi Furusawa, Kohzo Ito
Japan Science and Technology Corporation, Japan
Molecule-Up Fabrication and Manipulation of Lipid Nanotubes

Closing Remark