

S-1 Nano-System 1

(Chair: Anthony K. Cheetham)

- 11:50 - 12:20 *FIRST Program: Development of core technologies for green nanoelectronics* (Invited)
Naoki Yokoyama (Leader, Collaborative Research Team, GNC, AIST)
- 12:20 - 12:40 *Transport through dangling bond wires and molecular wires*
Christian Joachim (Satellite PI, CEMES-CNRS)
- 12:40 - 13:40 *Lunch*

S-2 Nano-System 2

(Chair: Christian Joachim & Toyohiro Chikyow)

- 13:40 - 14:10 *A mathematical challenge to a new phase of materials science* (Invited)
Motoko Kotani (Professor, WPI-AIMR, Tohoku Univ.)
- 14:10 - 14:30 *Majorana fermions in nano superconductivity system*
Xiao Hu (MANA PI, NIMS)
- 14:30 - 14:45 *Solid-state reactions at hetero-molecular interface*
Yutaka Wakayama (MANA Scientist, NIMS)
- 14:45 - 15:05 *Global challenges and the possibilities of nanomechanical sensors; MSS*
Genki Yoshikawa (MANA Independent Scientist, NIMS)
- 15:05 - 15:20 *Coffee Break*

S-3 Nano-System 3

(Chair: Kazuhito Tsukagoshi & Adrian Bachtold)

- 15:20 - 15:50 *Electromechanical resonators made from nanotubes and grapheme* (Invited)
Adrian Bachtold (Professor, Catalan Institute of Nanotechnology)
- 15:50 - 16:10 *Graphene-SQUID*
Hideaki Takayanagi (Satellite PI, Tokyo Univ. of Sci.)
- 16:10 - 16:25 *Gapless-type atomic switches using inorganic and organic oxide thin layers*
Tohru Tsuruoka (MANA Scientist, NIMS)
- 16:25 - 16:40 *Neuromorphic atomic switch networks: Rise of the unorganized machines*
Adam Stieg (Satellite Scientist, UCLA)
- 16:40 - 16:50 *Break*

S-4 ICYS 1

(Chair: Noboru Miura & Daisuke Fujita)

- 16:50 - 17:05 *Photoisomerization-induced manipulation of single-electron tunneling*
-Toward novel Si-based optical memory device-
Ryoma Hayakawa (ICYS-MANA Researcher, NIMS)
- 17:05 - 17:20 *Fabrication of graphene and boron nitride layers on metal surfaces by surface segregation*
Jianhua Gao (ICYS-Sengen Researcher, NIMS)
- 17:20 - 17:35 *Facile synthesis of C₆₀ microcrystals with diverse morphologies via liquid-liquid interfacial precipitation (LLIP) method*
Lok Kumar Shrestha (ICYS-MANA Researcher, NIMS)

17:35 - 17:50 *One-step route to a hybrid oxide/nitride nanocomposite*
Zoë Schnepf (ICYS-Sengen Researcher, NIMS)

March 1st

S-5 Nano-Green 1

(Chair: Kohei Uosaki & Nenad M. Markovic)

9:00 - 9:30 *Energy conversion and fuel production from electrochemical interfaces* (Invited)
Nenad M. Markovic (Group Leader, MSD, Argonne National Laboratory)

9:30 - 9:45 *On the ionic conductivity of YSZ – CeO₂ hetero-interfaces*
Daniele Pergolesi (MANA Scientist, NIMS)

9:45 - 10:05 *Surface nanoarchitectonics for the formation of highly efficient energy conversion interfaces at metal and semiconductor electrodes*
Kohei Uosaki (MANA PI, NIMS)

10:05 - 10:20 *Bandgap engineering: A new family of color-tunable light emitting Si nanocrystals with high quantum yields*
Naoto Shirahata (MANA Independent Scientist, NIMS)

10:20 - 10:40 *Coffee Break*

S-6 Nano-Green 2

(Chair: Louis Schlapbach & Hiroyuki Nishide)

10:40 - 11:10 *Radical polymers for the charge-separation, -transport, and -storage in a rechargeable battery and a photovoltaic cell* (Invited)
Hiroyuki Nishide (Professor, Waseda Univ.)

11:10 - 11:40 *Aerobic oxidation, a sustainable material transformation* (Invited)
Tsutomu Katsuki (Professor, WPI-ICNER, Kyushu Univ.)

11:40 - 11:55 *Sequential isomers of metal-organic complex arrays*
Kentaro Tashiro (MANA Scientist, NIMS)

11:55 - 12:10 *Nanostructured materials for fuel cells: Synthesis based on nanoscale phenomena and rational arrangement for novel devices*
Satoshi Tominaka (MANA Scientist, NIMS)

12:10 - 13:30 *Lunch*

S-7 Nano-Materials 1

(Chair: Minoru Osada & Hiroshi Kitagawa)

13:30 - 14:00 *Solid-state protonics in nano-materials* (Invited)
Hiroshi Kitagawa (Professor, WPI-iCeMS, Kyoto Univ.)

14:00 - 14:20 *Recent progress in BN nanotubes and nanosheets*
Yoshio Bando (MANA PI, NIMS)

14:20 - 14:35 *Functionalization of common, light elements; Development of viable thermoelectric materials*
Takao Mori (MANA Group Leader, NIMS)

14:35 - 14:50 *Novel quantum-confined metal oxide hetero-nanostructures*
Lionel Vayssieres (MANA Independent Scientist, NIMS)

14:50 - 15:10 *Coffee Break*

S-8 Nano-Materials 2

(Chair: Takayoshi Sasaki & Mikael Käll)

- 15:10 - 15:40 *Directional plasmonic nanoantennas for spectroscopy and sensing* (Invited)
Mikael Käll (Professor, Chalmers Univ. of Tech.)
- 15:40 - 16:00 *Combinatorial materials screening and its application for future nano electronics*
Toyohiro Chikyow (MANA PI, NIMS)
- 16:00 - 16:15 *Nanocharacterization of semiconducting materials by using scanning electron microscope*
Takashi Sekiguchi (MANA Group Leader, NIMS)
- 16:15 - 16:30 *2D oxide nanosheets: To graphene and beyond*
Minoru Osada (MANA Scientist, NIMS)

16:30 - 16:40 *Break*

S-9 ICYS 2

(Chair: Shunichi Hishita & Koichi Tsuchiya)

- 16:40 - 16:55 *Magneto-responsive soft materials: Magnetically reconfigurable in a nonvolatile fashion*
Fatin Hajjaj (ICYS-MANA Researcher, NIMS)
- 16:55 - 17:10 *Subvalent bismuth optically active centers: New 'Oils' for photonics*
Hong-Tao Sun (ICYS-Sengen Researcher, NIMS)
- 17:10 - 17:25 *Polymeric carbon nitrides: Semiconducting properties and emerging photovoltaic applications*
Yuanjian Zhang (ICYS-MANA Researcher, NIMS)
- 17:25 - 17:40 *The stabilized La-surface of a LaB₆ field emission gun*
Han Zhang (ICYS-Sengen Researcher, NIMS)

18:30 - *Banquet*

March 2nd

S-10 Nano-Bio 1

(Chair: Guoping Chen & François Wilnink)

- 9:00 - 9:30 *A framework of biocompatibility pathways* (Invited)
David F. Williams (Professor, Wake Forest Institute for Regenerative Medicine)
- 9:30 - 9:50 *Anticancer redox-nanotherapy*
Yukio Nagasaki (Satellite PI, University of Tsukuba)
- 9:50 - 10:10 *Surface topography modulation by smart polymers for cell function control*
Takao Aoyagi (MANA PI, NIMS)
- 10:10 - 10:25 *A novel citric acid-crosslinked gelatin with anti-thrombogenic and endothelialization activity*
Tetsushi Taguchi (MANA Scientist, NIMS)
- 10:25 - 10:40 *Coffee Break*

S-11 Nano-Bio 2

(Chair: Takao Aoyagi & David F. Williams)

10:40 - 11:10 *Evolutionary molecular engineering for designing biomaterials* (Invited)

Yoshihiro Ito (Chief Scientist, RIKEN)

11:10 - 11:30 *Nano- and micro-structured porous scaffolds and biomimetic biomaterials for tissue regeneration*

Guoping Chen (MANA PI, NIMS)

11:30 - 11:45 *Activation of bone-related cell functions by hydroxyapatite/collagen bone-like nanocomposite*

Masanori Kikuchi (MANA Group Leader, NIMS)

11:45 - 13:00 *Lunch*

13:00 - 14:40 **Poster Presentations**

(Chair: Naoto Shirahata)

14:40 - 14:45 *Closing Remarks*

Yoshio Bando (MANA Chief Operating Officer, NIMS)

14:45 - 15:00 *Coffee Break*

15:00 - 17:00 **Poster Sessions**