

## Poster Session 5<sup>th</sup> March, 2014

### ICYS Researcher

- PIR-1      Switchable porphyrinoid conjugates - reversible capture/transport of fullerenes and new materials with controllable properties  
               **Huynh Thien Ngo** (ICYS-MANA Researcher, NIMS)
- PIR-2      Adsorption geometry of pentacene on TiO<sub>2</sub> anatase surface resolved by intra-molecular atomic force microscopy imaging  
               **César Moreno** (ICYS-Sengen Researcher, NIMS)
- PIR-3      Dual-Temperature and pH responsive (Ethylene Glycol)-based nanogels for drug delivery system  
               **Yohei Kotsuchibashi** (ICYS-MANA Researcher, NIMS)
- PIR-4      Selection of magnetic structure suited for magnetic refrigeration material  
               **Ryo Tamura** (ICYS-Sengen Researcher, NIMS)
- PIR-5      Nanomechanical cleavage of MoS<sub>2</sub> atomic layers  
               **Dai-Ming Tang** (ICYS-MANA Researcher, NIMS)
- PIR-6      Reversible and instantaneous swelling of inorganic layered materials  
               **Fengxia Geng** (ICYS-MANA Researcher, NIMS)
- PIR-7      Challenge for the use of non-siliceous mesoporous thin films in device applications  
               **Norihiro Suzuki** (ICYS-Sengen Researcher, NIMS)
- PIR-8      Dynamic breathing of CO<sub>2</sub> by hydrotalcite  
               **Shinsuke Ishihara** (ICYS-MANA Researcher, NIMS)
- PIR-9      Carrier injection and transport in atomically thin MoS<sub>2</sub> layers  
               **Song-Lin Li** (ICYS-MANA Researcher, NIMS)
- PIR-10     Effect of hydrogen edge passivation on BC<sub>3</sub> ribbons  
               **Sudipta Dutta** (ICYS-MANA Researcher, NIMS)
- PIR-11     Unprecedented simultaneous enhancement in strain tolerance, toughness and strength of Al<sub>2</sub>O<sub>3</sub> ceramic by multiwall-type failure of a high loading of uniformly dispersed carbon nanotubes  
               **Mehdi Estili** (ICYS-Sengen Researcher, NIMS)
- PIR-12     Fabrication of High-*k*/hydrogenated-diamond field effect transistors  
               **Jiangwei Liu** (ICYS-NAMIKI Researcher, NIMS)
- PIR-13     Single particle measurement of Li-ion battery materials  
               **Kei Nishikawa** (ICYS-NAMIKI Researcher, NIMS)
- PIR-14     It's a small world: applications of advanced SAXS  
               **Brian R. Pauw** (ICYS-Sengen Researcher, NIMS)
- PIR-15     Advanced anode materials for Lithium-ion batteries and their storage mechanisms at atomic scale  
               **Xi Wang** (ICYS-MANA Researcher, NIMS)

- PIR-16 Freestanding organometallic nanomembrane for Nano-electronics  
**Hicham Hamoudi** (ICYS-MANA Researcher, NIMS)
- PIR-17 Development and applications of a novel optimization method for local orbitals in the first principles order-*N* DFT program CONQUEST  
**Ayako Nakata** (ICYS-NAMIKI Researcher, NIMS)
- PIR-18 Nanoscale design of Lithium-based coordination polymers for energy storage  
**Hamish Hei-Man Yeung** (ICYS-MANA Researcher, NIMS)
- PIR-19 Nano-scale characterization of III-V compound based solar cells using scanning probe microscopy  
**Nobuyuki Ishida** (ICYS-Sengen Researcher, NIMS)

## Nano-Materials

- PM-1 All-Nanosheet ultrathin capacitors assembled layer-by-layer via solution-based processes  
**Chengxiang Wang** (MANA, NIMS)
- PM-2 New spin-driven multiferroics  $\text{Sc}_2\text{NiMnO}_6$  and  $\text{In}_2\text{NiMnO}_6$   
**Alexei A. Belik** (MANA Independent Scientist, NIMS)
- PM-3 Activation and imaging of intracellular acetyl CoA  
**Hirokazu Komatsu** (MANA, NIMS)
- PM-4 Synthesis and structural analysis of disilanyl double-pillared bisheteroarenes  
**Waka Nakanishi** (MANA Scientist, NIMS)
- PM-5 Structural and mechanical properties of quaternary  $\text{TiAlCrN}$  thin films, deposited by cathodic arc deposition  
**Sukkaneste Tungasmita** (Chulalongkorn University)
- PM-6 Screening for high affinity plastic antibodies mimicking ELISA method  
**Yusuke Yonamine** (MANA, NIMS)
- PM-7 Mineralization of hydroxyapatite upon a unique xanthan gum hydrogel  
**Hironori Izawa** (Tottori University)
- PM-8 'Soft' flake capsule as a support for catalytic nanoparticles  
**Qingmin Ji** (MANA Scientist, NIMS)
- PM-9 Three-dimensional few-layered graphitic architecture fabricated by substrate-free polymer-based graphitization  
**Xuebin Wang** (MANA, NIMS)
- PM-10 Stabilities and mechanical and electronic properties on B-N doped zigzag single-wall carbon nanotubes  
**Vudhichai Parasuk** (Chulalongkorn University)
- PM-11  $\text{CeO}_2$ -CNT/RGO nanocomposites for high performance supercapacitor  
**Raja Rajendran** (MANA, NIMS)

- PM-12 Controlling porphyrin nanoarchitectures at solid surfaces  
**Jonathan P. Hill** (MANA Scientist, NIMS)
- PM-13 Fullerene nanoarchitectonics: From zero to higher dimensions  
**Lok Kumar Shrestha** (MANA Scientist, NIMS)
- PM-14 Porous boron nitride materials: Template-free fabrication and H<sub>2</sub> adsorption properties  
**Qunhong Weng** (MANA, NIMS)
- PM-15 Osteogenic differentiation of mesenchymal stem cells on boron nitride nanotubes  
**Xia Li** (MANA, NIMS)
- PM-16 Light-induced nanoscale morphological changes of azobenzene self-assembled monolayers  
**Daisuke Ishikawa** (MANA, NIMS)
- PM-17 Powder metallurgy routes toward Al-BN nanotube composites, their morphologies, structures and mechanical properties  
**Maho Yamaguchi** (MANA, NIMS)
- PM-18 Ultra-rapid production of fullerene (C<sub>60</sub>) nanorods  
**Rekha Goswami Shrestha** (MANA, NIMS)
- PM-19 Synthesis of highly luminescent terbium-doped layered cerium hydroxides pillared by sulfate ions and its luminescence switching properties  
**Jinghua Wu** (MANA, NIMS)
- PM-20 Flexible ultraviolet photodetectors with broad photoresponse based on branched ZnS-ZnO heterostructure nanofilms  
**Wei Tian** (MANA, NIMS)
- PM-21 Tunneling current driven rotation of Pt-porphyrin dimers on Au(111) surface  
**P. Mishra** (MANA, NIMS)
- PM-22 Fabrication and characterization of alumina flake reinforced bioinspired nacre-like bulk lamellar composites  
**Arcan F. Dericioglu** (Middle East Technical University)
- PM-23 Nanoporous materials for energy storage application  
**Ajayan Vinu** (The University of Queensland)

## Nano-System

- PS-1 Rectification effect of PTCDI-C7 on transparent ITO thin films  
**Arramel Arramel** (MANA, NIMS)
- PS-2 Synthesis and properties of macromolecular [2]rotaxanes composed of block and random copolyesters as an axle component  
**Valentina Stephanie** (Tokyo Institute of Technology)
- PS-3 STEM images of chemically-synthesized, atomically-precise gold nano-clusters  
**Hassan S. Al Qahtani** (MANA, NIMS)

- PS-4 Bound states in graphene point contacts  
**Hai-Yao Deng** (MANA, NIMS)
- PS-5 The effects of ambient gas on the properties of organic nano-floating-gate memory  
**Xu Gao** (MANA, NIMS)
- PS-6 Boltzmann transport theory of graphene double-layer systems  
**Katsunori Wakabayashi** (MANA Independent Scientist, NIMS)
- PS-7 Raman spectroscopy study of atomically thin molybdenum ditelluride  
**Mahito Yamamoto** (MANA, NIMS)
- PS-8 Annealing effect on the transport properties of p-type WSe<sub>2</sub> thin layers  
**Katsuyoshi Komatsu** (MANA, NIMS)
- PS-9 Spin-selective topological insulator towards spintronics applications  
**Longhua Wu** (MANA, NIMS)
- PS-10 Theory on depinning and coercivity in ferromagnetic thin films  
**Bin Xi** (ESICMM, NIMS)
- PS-11 A novel artificial hip joint: Alumina layer on Ti alloy  
**R. Khanna** (Chubu University)
- PS-12 Charge transport control of graphene by helium ion irradiation  
**Shu Nakaharai** (MANA Scientist, NIMS)
- PS-13 One-dimensional superconductivity in niobium-nitride nanowires on suspended carbon nanotubes  
**S. Moriyama** (MANA Independent Scientist, NIMS)
- PS-14 Multilevel operation of single-electron tunneling with heterogeneous binary molecules in a Si-based device structure  
**Hoon-Seok Seo** (MANA, NIMS)
- PS-15 Hexagonal boron nitride as a substrate for electrical studies of polydiacetylene chains  
**Marina Makarova** (MANA, NIMS)
- PS-16 Photoisomerization-induced manipulation of single-electron tunnelling in a silicon-based double tunnel junction  
**Ryoma Hayakawa** (MANA Independent Scientist, NIMS)
- PS-17 Optical control of carrier transport in polymeric transistors with photochromic spiropyran molecules  
**Yasushi Ishiguro** (MANA, NIMS)
- PS-18 Exploring novel half metallic materials for spintronic applications by first-principles calculations  
**Madhav Prasad Ghimire** (MANA, NIMS)
- PS-19 Novel functionalities in mechanically bent single-crystal SnO<sub>2</sub> wires  
**Makoto Sakurai** (MANA Scientist, NIMS)
- PS-20 Electronic property of bilayer graphene on pristine and rhenium-doped MoS<sub>2</sub>  
**Mei-Yan Ni** (MANA, NIMS)

- PS-21 Josephson effect of three-band superconductors with time-reversal symmetry breaking  
**Zhao Huang** (MANA, NIMS)
- PS-22 Reversible linear-cyclic polymer topology control utilizing rotaxane switch  
**Takahiro Ogawa** (Tokyo Institute of Technology)
- PS-23 Domain structure and electro-optic effect in perfectly surface crystallized glass-ceramics  
**Yoshihiro Takahashi** (Tohoku University)
- PS-24 An automated atomic precision lithography tool  
**James Hugh Gervase Owen** (Zyvex Labs)
- PS-25 Peptide-based neuromorphic nanostructures  
**Rhiannon Creasey** (MANA, NIMS)
- PS-26 STM observation on the edge-state of the atomically-thin Bi film: a promising candidate for the 2D topological insulator  
**Katsumi Nagaoka** (MANA Scientist, NIMS)
- PS-27 AFM observations of SWCNT treated by organic/inorganic dispersion solvents  
**Difei Miao** (MANA, NIMS)
- PS-28 Development of compact multiple scanning probe AFM/KFM for local potential distribution measurement  
**Yoshitaka Shingaya** (MANA Scientist, NIMS)
- PS-29 Vortex Imaging on one-atom-thick superconductor Si(111)-( $\sqrt{7} \times \sqrt{3}$ )-In  
**Shunsuke Yoshizawa** (MANA, NIMS)

## Nano-Power

- PP-1 Highly effective in-situ photocatalytic reduction of graphene oxide with layer-by-layer assembled titania nanosheet  
**Xingke Cai** (MANA, NIMS)
- PP-2 Luminescent lighting diodes from compositionally modulated semiconductor quantum structures  
**Somobrata Acharya** (Indian Association for the Cultivation of Science)
- PP-3 Decision making photonic device: conformation induced discrimination between picric acid and nitro derivatives/anions with Cu-Pyrene array  
**Venkata Krishnan** (Indian Institute of Technology Mandi)
- PP-4 Reduced TiO<sub>2</sub> nanotube arrays for photoelectrochemical water splitting  
**Qing Kang** (MANA, NIMS)
- PP-5 Photosensitization of TiO<sub>2</sub> with gold: Targeting a broadband visible light harvesting  
**Lequan Liu** (MANA, NIMS)
- PP-6 Fabrication of silicon-based light emitting diodes  
**Naoto Shirahata** (MANA Independent Scientist, NIMS)

- PP-7 In situ observation of potential-induced Si oxide growth by hard X-ray photoelectron spectroscopy  
**Takuya Masuda** (MANA-GREEN, NIMS)
- PP-8 Utilization of double resonance sum frequency generation (DR-SFG) to investigate the interfacial vibrational and electronic structure at solid/liquid interface  
**Hidenori Noguchi** (MANA Scientist, NIMS)
- PP-9 Study on the structures of bio-model interfaces by vibration spectroscopy  
**Ya Zhang** (MANA, NIMS)
- PP-10 Tuning the strain in oxygen ion and proton conducting oxides by thin film pulsed laser deposition  
**Daniele Pergolesi** (Paul Scherrer Institut)
- PP-11 Unraveling the oxygen reduction reaction mechanism and activity of novel electrocatalysts for low temperature alkaline fuel cells  
**Emiliana Fabbri** (Paul Scherrer Institut)
- PP-12 AUNPS/LDHS nanoarchitectonics as catalysts for artificial photosynthesis  
**Gabriela Carja** (Technical University "Gh. Asachi" of Iasi)

## Nano-Life

- PL-1 Detection of cellular DNA damage induced by TiO<sub>2</sub> and PEG-modified TiO<sub>2</sub> nanoparticles using sensor cells and BTG2 promoter  
**Karim Samy El-Said** (MANA, NIMS)
- PL-2 Poly(ethylene glycol)-block-polymers mediated anti-fouling for Aptamer-Factor IX interaction on Au surface by SPR  
**Thangavel Lakshmipriya** (University of Tsukuba)
- PL-3 Induction of albumin expression in HepG2 cells using immobilized simplified recombinant fibronectin protein  
**Yuuki Nishida** (MANA, NIMS)
- PL-4 Orally administered redox nanoparticles internalize in the inflamed tissue and prevent the colitis-associated colon cancer  
**Long Binh Vong** (University of Tsukuba)
- PL-5 Silica-containing redox nanoparticle for the application to peritoneal dialysis  
**Takuma Matsumura** (University of Tsukuba)
- PL-6 Collagen-functionalized single-walled carbon nanotubes for stem cell labeling  
**Hongli Mao** (MANA, NIMS)
- PL-7 Influence of nanotopography and biochemical cues on the cellular behavior  
**Shimaa A. Abdellatef** (MANA, NIMS)
- PL-8 Design and construction of gold nanoparticle displaying clustered carbohydrate for effective oligonucleotide delivery to hepatic parenchymal cells  
**Yutaka Ikeda** (University of Tsukuba)

- PL-9      Highly stable PEGylated silica nanocomposite - A new drug carrier for oral drug delivery  
**Md. Amran Hossain** (University of Tsukuba)
- PL-10     Mesenchymal stem cells response to treatment with surface charged gold nanoparticles  
**Li Jia En Jasmine** (MANA, NIMS)
- PL-11     Design of protein-loaded redox injectable gel for long-term local treatment  
**Junya Kaneko** (University of Tsukuba)
- PL-12     Development of nitroxide radicals-containing polymer for ROS-scavenging in cigarette smoke  
**Yukio Nagasaki** (University of Tsukuba)
- PL-13     A robust approach for the surface modification of gold nanorods using hydroxyl terminated alkanethiols  
**Qinghui Shou** (MANA, NIMS)
- PL-14     Self-healing 4-arm PEG hydrogels via selective metal-ligand interaction  
**Takeshi Sato** (MANA, NIMS)
- PL-15     Therapeutic implications of targeting energy metabolism in breast cancer  
**Babita Shashni** (University of Tsukuba)
- PL-16     Microstructure of calcium phosphate coatings on bioabsorbable Mg/Mg alloys formed in an aqueous solution  
**Sachiko Hiromoto** (MANA Scientist, NIMS)
- PL-17     Nanopatterned structures formed by polymer self-assembly for stem cell function regulation  
**Lingfeng Guo** (MANA, NIMS)
- PL-18     Design and evaluation of novel boron-containing redox nanoparticles for high performance boron neutron capture therapeutics  
**Zhenyu Gao** (University of Tsukuba)
- PL-19     Photoactivatable substrates: New platform for collective migration study  
**Jun Nakanishi** (MANA Independent Scientist, NIMS)
- PL-20     Synthesis and characterization of phosphoryl serine-derived temperature-responsive polymers for anti-inflammatory therapy  
**Yasuhiro Nakagawa** (MANA, NIMS)
- PL-21     "PEGylated and quaternized polyamine nanogel", a brand-new bile acid sequestrant, ameliorates lipoprotein profiles and reduces atherosclerosis in mice  
**Takashi Matsuzaka** (University of Tsukuba)
- PL-22     Fabrication of zeolite-polymer composite nanofibers for the adsorption of uremic toxins  
**Koki Namekawa** (MANA, NIMS)
- PL-23     Design of clickable smart polymers for enrichment of dilute biomarkers  
**Koichiro Uto** (MANA, NIMS)
- PL-24     Development of redox therapy for periodontitis using redox injectable gel  
**Makiko Saita** (Kanagawa Dental University)

- PL-25 Polymer coating as a method of cytocompatibility improvement of magnesium alloy ZM21  
**Agnieszka Witecka** (MANA, NIMS)
- PL-26 G-quadruplex structure extend the immunostimulatory effect of CpG oligodeoxynucleotides  
**Tomohiko Yamazaki** (MANA Scientist, NIMS)
- PL-27 Redox-nanoparticle assisted delivery of drugs for treatment of prostate cancer  
**Sindhu Thangavel** (University of Tsukuba)
- PL-28 ADOCIA innovative medicine for everyone, everywhere  
**Richard Charvet** (ADOCIA)
- PL-29 Polymersomes for wound healing therapeutics  
**Carlos Agudelo, Winnik Francoise** (Universite de Montreal, Canada)
- PL-30 Boron-nitride nanotubes grafted with thermoresponsive and zwitterionic polymers  
**Jukka Niskanen** (Universite de Montreal, Canada)
- PL-31 Regulation of cell aggregation on nanoengineered polysaccharide interfaces  
**Piotr Kujawa** (MANA, NIMS)
- PL-32 High throughput electron transfer from carbon dots to chloroplast: A rationale of enhanced photosynthesis.  
**Sourov chandra** (MANA, NIMS)