

**Poster Session**  
**March 1<sup>st</sup> & 2<sup>nd</sup>**

**ICYS Researcher**

- PIR-1 Nanosheets of Boron-Carbon-Nitrogen System: Synthesis, Supercapacitor, and Composite  
**Xue-Bin Wang** (ICYS-MAMA, NIMS)
- PIR-2 Analytical Models for the Interpretation of Nanomechanical Sensing Signals  
**Gaku Imamura** (ICYS-MAMA, NIMS)
- PIR-3 Dynamic Control of Cellular Alignment Using Shape-memory Cell Culture Platform  
**Koichiro Uto** (ICYS-MAMA, NIMS)
- PIR-4 Computational design of novel nanocarbon materials from bottom-up approach  
**Thanh Cuong Nguyen** (ICYS-MAMA, NIMS)
- PIR-5 Nanoscale mapping of luminescence centers in CdS nanowires  
**Ovidiu Cretu** (ICYS-MAMA, NIMS)
- PIR-6 Acceleration of Steel Corrosion in Reinforced Concrete by Enhancing Oxygen Supply  
**Kotaro Doi**(ICYS-RCSM, NIMS)
- PIR-7 Continuous deposition of boron-doped diamond multilayers by plasma-enhanced CVD  
**Alexandre Fiori** (ICYS-MAMA, NIMS)
- PIR-8 High-Resolution Printing of Flexible Organic Thin-Film Transistors  
**Xuying Liu** (ICYS-Namiki, NIMS)
- PIR-9 Efficient and accurate first-principles method for modeling phonon anharmonicity and thermal conductivity  
**Terumasa Tadano** (ICYS-MI<sup>2</sup>I, NIMS)
- PIR-10 Fundamental properties of plastics made of polyelectrolyte complexes  
**Gauthier Rydzek** (ICYS-MAMA, NIMS)
- PIR-11 Charge-order-driven ferroelectricity in molecular conductors from first principles  
**Takao Tsumuraya** (ICYS-Namiki, NIMS)
- PIR-12 Development of Regioregular Polythiophene with Hydrogen-Bonding Imidazolyl Groups  
**Kazuhiko Nagura** (ICYS-Sengen, NIMS)
- PIR-13 Robust superconductivity of atomic-layer indium under in-plane magnetic fields  
**Shunsuke Yoshizawa** (ICYS-MAMA, NIMS)
- PIR-14 Capacitance spectroscopy on quantum hetero structure embedded Intermediate Band Solar Cells  
**Martin Elborg** (ICYS-Sengen, NIMS)
- PIR-15 Organic and Inorganic Neuromorphic Nanowire Arrays  
**Curtis O'Kelly** (ICYS-MAMA, NIMS)
- PIR-16 Nanocrystalline NiTi stable at high temperatures via grain boundary segregation  
**Aslan Ahadi** (ICYS-Sengen, NIMS)

- PIR-17 Next-generation coatings and adhesives inspired by extraordinary adaptation of marine organisms  
**Debabrata Payra** (ICYS-Sengen, NIMS)
- PIR-18 Squaraine derivatives for organic (opto)electronic applications: crystal growth, photophysics and their role in macro- and nano-scale device performance  
**James Ryan** (ICYS-GREEN, NIMS)
- PIR-19 Surface Temperature Dependence of H<sub>2</sub> Ortho-Para Conversion on Amorphous Solid Water  
**Hirokazu Ueta** (ICYS-Sengen, NIMS)
- PIR-20 Improved Performance of Lithium-Oxygen Batteries by Forming Heteroatom Incorporated Lithium Peroxide as Discharged Products  
**Shoichi Matsuda** (ICYS-GREEN, NIMS)

### Nano-Materials

- PM-1 CL/EBIC/TEM Study of Nb-doped SrTiO<sub>3</sub> Single Crystal  
**Jun CHEN** (WPI-MANA, NIMS)
- PM-2 Redoxable Cation Intercalation/Deintercalation in Two-Dimensional Layered MnO<sub>2</sub> Nanostructures for High-Rate Electrochemical Energy Storage  
**Pan Xiong** (WPI-MANA, NIMS)
- PM-3 Phase Behavior of Water Soluble Porphyrins  
**Jan Labuta**(WPI-MANA, NIMS)
- PM-4 Mechanically Induced Opening–Closing Action of Binaphthyl Molecule  
**Taizo Mori** (WPI-MANA, NIMS)
- PM-5 Conformation manipulation of binaphthyl-dimer with a low temperature scanning tunneling microscope  
**We-Hyo Soe** (CEMES-CNRS)
- PM-6 Insights into the exfoliation mechanism of lepidocrocite titanate obtained via a homologous series of tetraalkylammonium cations  
**Tosapol Maluangnont** (College of KMITL Nanotechnology)
- PM-7 Control of molecular machines at interfaces  
**Waka Nakanishi** (WPI-MANA, NIMS)
- PM-8 Interface Bonding Prediction Software  
**Michiko Yoshitake**(WPI-MANA, NIMS)
- PM-9 Band Diagram Characterization System  
**Shinjiro Yagyu** (WPI-MANA, NIMS)
- PM-10 Biodegradable, stretchable, transparent supramolecular networked films  
**Helen Parker** (WPI-MANA, NIMS)
- PM-11 Bottom-up Fabrication of Porous Carbon Nanosheet  
**Amit Dalui**(WPI-MANA, NIMS)

- PM-12 Intentional Opening/Closing of 'Hole-in-Cube' in Fullerene Crystal and Microscopic Recognition by Hole  
**Partha Bairi** (WPI-MANA, NIMS)
- PM-13 Linker-Dependence of Association Chirality of Clothespin-Shaped Pd(II) Complexes  
**Masaya Naito** (Osaka University)
- PM-14 Emission Enhancement Controlled by Association Chirality of Vaulted trans-Bis(iminoimidazolato)platinum(II) Complexes  
**Ngoc Ha-Thu Le** (Osaka University)
- PM-15 Difference in exfoliation behaviors of layered perovskite niobate in aqueous solutions containing quaternary ammonium hydroxides  
**Yeji Song** (WPI-MANA, NIMS)
- PM-16 Soft-Chromophoric Liquid Porphyrins: Engineering with Branched Alkyl Chains  
**Avijit Ghosh** (WPI-MANA, NIMS)
- PM-17 Tuning Interlayer Coupling in Nanosheet Architectures for Artificial Multiferroics  
**Muhammad Shuaib Khan** (WPI-MANA, NIMS)
- PM-18 Synthesis of Si biocompatible nanocrystals for bioimaging  
**Thi Kim Dung Doan** (Hochiminh City Institute of Physics)
- PM-19 Superhydrophilicity and Antireflection of Hierarchically Nano-Porous Layer etched on a Silicate Glass  
**Takuya Fujima** (Tokyo City University)
- PM-20 Moisture Sensor: Detection/Distinction of small aqua droplet  
**Jin Kawakita** (WPI-MANA, NIMS)
- PM-21 Ionic elution and distribution in HNL glass by XPS  
**Akihiro Nakada** (Tokyo City University)
- PM-22 Graphene Oxide and Coal Oxide as Novel Carbon-Based Proton Conductors  
**Takaaki Taniguchi** (WPI-MANA, NIMS)
- PM-23 Transient Absorption Spectroscopy Analysis of Silver Nanocube Collective Acoustic Oscillations  
**Tomas Tamulevicius** (Kaunas University of Technology)
- PM-24 Nearly Ideal Vertical Schottky Barrier Diodes of GaN for Power Devices  
**Bing Ren** (WPI-MANA, NIMS)
- PM-25 Self-Assembly of Chiral Perylene Diimides  
**Geraldine Echue** (WPI-MANA, NIMS)
- PM-26 'Polymeric micelle assembly' for synthesis of mesoporous Au films  
**Cuiling Li** (WPI-MANA, NIMS)
- PM-27 Chemical Design of Functional Mesoporous Silica Materials for Environment-Related Utilizations  
**Nagy Torad** (Tanta University)

- PM-28 Functional Nanocomposites for Building Materials: Example of the collaboration between NIMS, CNRS and Saint-Gobain  
**Maxence Wilmet** (CNRS Saint-Gobain)
- PM-29 SiO<sub>2</sub> Encapsulates Ultra-Small Hexanuclear Tantalum Halide Clusters (Ta<sub>6</sub>Br<sub>12</sub>)<sup>II</sup> by Reverse Microemulsion Method  
**Wanghui Chen** (CNRS Saint-Gobain)

### Nano-System/Nano-Theory

- PS-1 Aero-Thermo-Dynamic Mass Analysis  
**Kota Shiba** (WPI-MANA, NIMS)
- PS-2 Helium separation of monolayer C<sub>2</sub>N membrane under uniform strain  
**Adisak Boonchun** (Kasetsart University)
- PS-3 Large Magnetoresistance in Single Radical Molecule Junctions  
**Ryoma Hayakawa** (WPI-MANA, NIMS)
- PS-4  $\pi$ -conjugated polymers for Ag<sub>2</sub>S atomic switch based 'Tug of War'  
**Carolyn Lutz** (WPI-MANA, NIMS)
- PS-5 Organic heterojunction for negative differential resistance transistor  
**Kazuyoshi Kobashi** (WPI-MANA, NIMS)
- PS-6 Neuromorphic Atomic Switch Networks for Natural Computing  
**Kelsey Scharnhorst** (University of California, Los Angeles)
- PS-7 Traffic Prediction Using Turing B-Type Atomic Switch Networks  
**Adam Stieg** (California NanoSystems Institute/University of California, Los Angeles)
- PS-8 Thin Film Transistor-based Memory with Molecular Dipole Moment  
**Yesul Jeong** (WPI-MANA, NIMS)
- PS-9 Organic field-effect transistor based Cs<sup>+</sup> ion sensor  
**Phan Tin Nguy** (WPI-MANA, NIMS)
- PS-10 Fabrication and Characterization of hBN/Graphene/hBN Van Der Waals Heterostructure-Based Quantum Point Contact Devices  
**Nurul Fariha Ahmad** (WPI-MANA, NIMS)
- PS-11 Fabrication of heterostructures between Ti<sub>0.87</sub>O<sub>2</sub><sup>0.52</sup> and 1T-MoS<sub>2</sub> nanosheets for enhanced photocatalytic hydrogen production activity  
**Leanddas Nurdwijayanto** (WPI-MANA, NIMS)
- PS-12 Optically switchable transistors with diarylethene photochromic channel layers  
**Jieun Koo**(WPI-MANA, NIMS)
- PS-13 Observation of valley Hall effect in ballistic (hBN)/Graphene/hBN Heterostructures  
**Katsuyoshi Komatsu** (WPI-MANA, NIMS)
- PS-14 Investigation of dynamic phenomena in polymer-coated Ag nanowire network  
**Rintaro Higuchi** (WPI-MANA, NIMS)

- PS-15 Conduction through Thermosensitive Networks  
**Rekha Goswami Shrestha** (WPI-MANA, NIMS)
- PS-16 Single-electron spin control in CMOS-compatible tunnel field-effect transistors (TFETs)  
**Satoshi Moriyama** (WPI-MANA, NIMS)
- PS-17 Fluorine-Based Defect Termination for GaN Semiconductor Devices: Its Characteristics and First-Principle Calculations  
**Asahiko Matsuda** (WPI-MANA, NIMS)
- PS-18 Interface characterization of Schottky and Ohmic metal/GaN contacts  
**Dominic Gerlach** (WPI-MANA, NIMS)
- PS-19 Thermodynamic and Thermoelectric Properties of Organic Dirac Fermion System  
**Takako Konoike** (WPI-MANA, NIMS)
- PS-20 Effect of molecular packing density on bioinertness of self-assembled monolayers of methoxy-tri(ethylene-glycol)-terminated alkanethiols  
**Syifa Asatyas** (Tokyo Institute of Technology)
- PS-21 Direct observation of hydrogen atom in a single molecule by atomic force microscopy  
**Shigeki Kawai** (WPI-MANA, NIMS)
- PS-22 Photo-polymerization rate and selfsensitization of diacetylene self-assembled on h-BN nanosheets  
**Elisseos Verveniotis** (WPI-MANA, NIMS)
- PS-23 Functionalized PANI network conductor towards future computation  
**Qiao Li** (WPI-MANA, NIMS)
- PS-24 MP-AFM measurement of metal and polymer nanowires as basic components of neuromorphic network system  
**Yoshitaka Shingaya** (WPI-MANA, NIMS)
- PS-25 Mapping Potential Distribution using bias voltage  
**Karim Abdul** (University of Tsukuba)
- PS-26 Spin-texture inversion in image potential states of Ir(111) covered by graphene  
**Ryuichi Arafune** (WPI-MANA, NIMS)
- PS-27 Spin-induced anomalous magnetoresistance at the hydrogen-terminated (100) diamond surface  
**Takahide Yamaguchi** (WPI-MANA, NIMS)
- PS-28 Transport Properties of Hydrogen-Terminated Silicon Surface Controlled by Ionic-Liquid Gating  
**Yosuke Sasama** (WPI-MANA, NIMS/University of Tsukuba)
- PS-29 Fullerene-based Superconducting Fibers and Wires  
**Hiroyuki Takeya** (WPI-MANA, NIMS)
- PS-30 Spontaneous patterning of high-resolution electronic circuits  
**Takeo Minari** (WPI-MANA, NIMS)
- PT-1 Electronic Band Structure of Various TiN/MgO Nanostructures  
**Kazuaki Kobayashi** (WPI-MANA, NIMS)

PT-2 Role of dynamical symmetry in an effective time-independent Hamiltonian for a laser-driven system

**Jun-ichi Inoue** (WPI-MANA, NIMS)

PT-3 Sampling stress effects on B/P dopant atoms in Si-Ge core-shell nanowires

**Shereif Mujahed** (WPI-MANA, NIMS/University College London)

## Nano-Power

PP-1 Origin of the Emission Quantum Yields Enhanced by Alkane-Termination of Freestanding Silicon Nanocrystals

**Naoto Shirahata** (WPI-MANA, NIMS)

PP-2 Efficient Visible-Light-Driven Carbon Dioxide Reduction by a Single-Atom Implanted Metal-Organic Framework

**Huabin Zhang** (WPI-MANA, NIMS)

PP-3 Acetylene bubble-propelled miniaturized devices: Towards in situ fuels

**Guo Sheng James Moo** (Nanyang Technological University)

PP-4 Development of hierarchically porous ZnO based material for Thermoelectric application

**Raymond V.Rivera Virtudazo** (WPI-MANA, NIMS)

PP-5 Cultivation of Unexplored Materials Accelerated by First-Principle Calculations and Materials Informatics

**Isao Ohkubo** (WPI-MANA, NIMS)

PP-6 Organic  $\pi$ -type thermoelectric module patterned by photolithography

**Norifusa Satoh** (WPI-MANA, NIMS)

PP-7 Uniform Wide-Angle Spray under a Vacuum Condition towards Multistep Inorganic Synthesis of Thin Films

**Norifusa Satoh** (WPI-MANA, NIMS)

PP-8 Synthesis and characterization of the thermoelectric properties in the system  $\text{GdCu}_{1+x}\text{Te}_2$

**Jean-Baptiste Simon Vaney** (WPI-MANA, NIMS)

PP-9 Synthesis, Characterization, and Device Fabrication of Al-Catalyzed SiNWs

**Wipakorn Jevasuwan** (WPI-MANA, NIMS)

PP-10 High-efficiency silicon hybrid solar cells employing nanocrystalline Si quantum dots and Si nanotips for energy management

**Thiyagu Subramani** (WPI-MANA, NIMS)

PP-11 Highly-Efficient Printable Hybrid Perovskite Solar Cells Enabled by an Easily Accessible n-Doped Fullerene Cathode Interfacial Layer

**Chih-Yu Chang** (Feng Chia University)

PP-12 Sb Doped p-Type ZnO Nanowires for Optoelectronics

**Ken Pradel** (WPI-MANA, NIMS)

- PP-13 AI Plasmonics for plasmon-enhanced infrared spectroscopy  
**Kai Chen** (WPI-MANA, NIMS)
- PP-14 Enhancement of Broadband Solar Light Absorption and Photocurrent Increase of  $C_3N_4$  decorated by TiN and Carbon dots  
**Satish Laxman Shinde** (WPI-MANA, NIMS)
- PP-15 All-ceramic microfibrinous solar steam generator: TiN plasmonic nanoparticle-loaded transparent microfibers  
**Kaur Manpreet** (WPI-MANA, NIMS)
- PP-16 Hot carrier excitation in titanium nitride for photoelectric and photothermal applications  
**Satoshi Ishii** (WPI-MANA, NIMS)
- PP-17 Hole Array Perfect Absorbers for Spectrally Selective Infrared Detectors  
**Duy Thang Dao** (WPI-MANA, NIMS)
- PP-18 Mn Substitution Effect on the Thermoelectric Properties of  $AlMgB_{14}$   
**Yoshiki Endo** (Tokyo City University)

### Nano-Life

- PL-1 Gelatin Hydrogels with Different Stiffness for 3D Culture of Chondrocytes  
**Xiaomeng Li** (WPI-MANA, NIMS)
- PL-2 The nanoconfiguration and density of ECM biochemical cues manipulate cell adhesion and motility  
**Shimaa Abdelaleem** (WPI-MANA, NIMS)
- PL-3 Mesoporous Phospholipid Particle as a Drug Delivery Platform  
**Kohsaku Kawakami**(WPI-MANA, NIMS)
- PL-4 Thermo/photo-sensitive star-shaped PNIPAm-based supramolecular systems  
**Xuewei Zhang** (University of Montreal)
- PL-5 Binding of Lipopolysaccharide and Cholesterol-Modified Gelatin on Supported Lipid Bilayers: Effect of Bilayer Area Confinement and Bilayer Edge Tension  
**Chiho Kataoka** (WPI-MANA, NIMS)
- PL-6 High performance of newly designed silica-containing redox nanoparticles for oral delivery of poorly water-soluble drug to treat colon cancer  
**Binh Long Vong** (University of Tsukuba/WPI-MANA, NIMS)
- PL-7 Facile construction of anti-oxidative cell culture dish by atmospheric plasma  
**Yutaka Ikeda** (University of Tsukuba)
- PL-8 Nanoencapsulation of Single Mammalian Cells by in situ Polymerization  
**Jianmin Yang** (WPI-MANA, NIMS)
- PL-9 Liquid Naphthalenes: Tuning the spectroscopic and liquid physical properties by regioisomerism  
**Bhawani Narayan** (WPI-MANA, NIMS)
- PL-10 Single-Dose Administration of Novel Redox Nanoradioprotector Extends the Life-Span of Whole-Body Irradiated Mice by Preventing Radiation-Induced Hematopoietic

Syndrome

**Chitho Feliciano** (University of Tsukuba)

PL-11 Fabrication of Arbitrarily shaped hydrogels using a self-healing template method

**Takeshi Sato** (University of Tsukuba/WPI-MANA, NIMS)

PL-12 Fabrication of Smart Nanofiber Meshes for Kidney Failure Disease

**Ryo Takai** (WPI-MANA, NIMS)

PL-13 Regulating Cellular Uptake of Gold Nanoparticles on Micropatterned Surfaces

**Xinlong Wang** (WPI-MANA, NIMS)

PL-14 Development of cationic silica-containing redox nanoparticles for the prevention and treatment of bacterial infection in peritoneal dialysis patients

**Takuya Inagaki** (University of Tsukuba)

PL-15 Preparation of Dexamethasone Incorporated Biphasic Calcium Phosphate Nanoparticles for Osteogenic Differentiation of Human Mesenchymal Stem Cells

**Ying Chen** (WPI-MANA, NIMS)

PL-16 Design of Exenatide Loaded Redox-Active Injectable Gel as A Novel Anti-Diabetic Drug

**Sho Sakaue** (University of Tsukuba)

PL-17 Role of lipid rafts (nanodomains) in unique apoptosis inducing activity of epidermal growth factor-gold nanoparticles conjugates

**Shota Yamamoto** (WPI-MANA, NIMS)

PL-18 Glassy Bicontinuous Cubic Liquid Crystals for Nanostructured Solid Proton Conductive Materials.

**Tsubasa Kobayashi** (Tokyo University of Agriculture and Technology)

PL-19 Identification of adsorbed proteins on self-assembled monolayers from serum using MALDI-ToF-MS

**Makoto Hirohara** (Tokyo institute of technology)

PL-20 Engineered Antibody with Temperature-responsive Polymer for Biomarker Purification

**Naoto Nomura** (WPI-MANA, NIMS)

PL-21 Design of Smart Nanofiber Meshes with Simultaneous Release of Heat and Drug for Combined Cancer Chemo/Thermo Therapy

**Eri Niiyama** (University of Tsukuba)

PL-22 Investigation of Anti-inflammatory Effect of Apoptotic Cell Membrane Mimetic Nanomaterials

**Yasuhiko Nakagawa** (WPI-MANA, NIMS)

PL-23 Map analysis of combinational effects between viscoelastic polymers and peptides for design of selective cell adhesion surface

**Rio Kurimoto** (WPI-MANA, NIMS)

PL-24 Development of water absorptive nanofiber meshes for hemodialysis treatments

**Mirei Tsuge** (WPI-MANA, NIMS)