

**The 3rd International Symposium on
Interdisciplinary Materials Science**

ISIMS-2011

March 9-10, 2011

Tsukuba International Congress Center, EPOCHAL, Tsukuba, Japan

ABSTRACT Booklet

Strategic Initiative for Interdisciplinary Materials Science (SI-IMS)
University of Tsukuba

The 3rd International Symposium
on Interdisciplinary Materials Science

ISIMS-2011

ISIMS-2011 is held as a part of activities of Strategic Initiatives for Interdisciplinary Materials Science (SI-IMS) that was organized in University of Tsukuba in 2007. The initiative is managed by researchers in five departments in Graduate School of Pure and Applied Sciences, and aims at a novel development in Materials Science by promoting closer collaboration between different fields. The first symposium, ISIMS-2008, was held on 13-14 March 2008 in Tsukuba, where more than 180 participants discussed issues on innovative hybrid molecules, interdisciplinary optical science, nano-science, and the biomaterial. In the second symposium, ISIMS-2009, held on 9-10 March 2009, were discussed functionality in 'molecular assembly', 'specific field and functional molecules', 'surface and interface science', and 'environmental and biomaterial science and technology'. Now, in the third one, ISIMS-2011, we are going to discuss in the latest research progress in the related fields to conclude the SI-IMS project.

Organizer: Strategic Initiatives for Interdisciplinary Materials Science

Date: March 9-10, 2011

Venue: Tsukuba International Congress Center, EPOCHAL, Tsukuba, Japan
Conference Room 101 & 102

Organizing Committee

Youiti Ootuka,	Tatsuro Arai,
Masaaki Ichinohe,	Kazuo Kadowaki,
Takaki Kanbara,	Hidemi Shigekawa,
Toshiharu Teranishi,	Yukio Nagasaki,
Tatsuya Nabeshima,	Toshiaki Hattori,
Yutaka Moritomo,	Kikuo Yamabe

Administrative Coordinator

Suzuyo Nakane	Emiko Ohmori
Kiyoshi Akiba	
Takeshi Miyakawa	Nahomi Arai

Program

March 9th, 2011 (Wednesday) (*Conference Room 101*)

- 9:00-9:20 Check-in
- 9:20-9:30 Opening Remarks: Youiti Ootuka (*SI-IMS, University of Tsukuba*)
- Session A: Chemistry**
Chair: Toshiharu Teranishi (University of Tsukuba)
- 9:30-10:00 **Takahiko, Kojima** (*University of Tsukuba*)
L-1 **Photo-induced Electron Transfer in Molecular and Supramolecular Assemblies based on Non-Planar Porphyrins**
- 10:00-10:30 **Takeaki Iwamoto** (*Tohoku University*)
L-2 **Silicon Pi-Electron Systems Derived From Isolable Divalent Silicon Compound**
- 10:30-11:00 **Naruo Sasaki** (*Seikei University*)
L-3 **Nano-Tribological Functions of Carbon Hybrid Interfaces Formed by Graphene, Fullerene and Carbon Nanotube**
- 11:00-11:20 *Break*
- 11:20-12:00 **Anunay Samanta** (*University of Hyderabad, India*)
L-4 **Room Temperature Ionic Liquids: What has been learnt about these substances from the Fluorescence Response of Dipolar Molecules in These Media?**
- 12:00-12:30 **Kazuki Sada** (*Hokkaido University*)
L-5 **Polyelectrolyte Gels active in Organic Solvents**
- 12:30-12:40 *Photo Session*
- 12:40-13:40 *Lunch*
- 13:40-15:00 **Poster Session 1**
 (*Conference Room 102*)
- 15:00-15:10 *Break*
- Session B-1: Energy & Environment**
Chair: Takaki Kanbara (University of Tsukuba)
- 15:10-16:00 **Christine Luscombe** (*University of Washington, USA*)
L-6 **Semiconducting Polymer Brushes - Externally Initiated Synthesis of poly(3-hexylthiophene)**

16:00-16:30
L-7 **Yohei Yamamoto** (*University of Tsukuba*)
Supramolecular Approaches for Photoelectric Conversion

16:30-16:40 *Break*

16:40-18:00 **Poster Session 2**
(*Conference Room 102*)

18:30 **Reception**
(*Conference Room 405*)

March 10th, 2011 (Thursday) (*Conference Room 101*)

Session B-2: Energy & Environment

Chair: Yutaka Moritomo (University of Tsukuba)

9:00-9:40

L-8

Liyuan Han (*Advanced Photovoltaics Center, National Institute for Materials Science(NIMS)*)

Highly Efficient Dye-sensitized Solar Cells

9:40-10:10

L-9

Haoshen Zhou (*Energy Technology Research Institute (ETRI), National Institute of Advanced Industrial Science and Technology (AIST)*)

Clean Energy Storage Device Based on Nanostructure Active Materials and New Concepts

10:10-10:40

L-10

Yasuhiro Hatsugai (*University of Tsukuba*)

Dirac Fermions with Electron-Electron Interaction in Graphene

10:40-11:00

Break

Session C: Terahertz

Chair: Kazuo Kadowaki (University of Tsukuba)

11:00-11:30

L-11

Toshiaki Hattori (*University of Tsukuba*)

Terahertz-wave Characterization of Conductive Films

11:30-12:10

L-12

Keith A. Nelson (*Massachusetts Institute of Technology, USA*)

THz High Energy Pulses, Nonlinear Spectroscopy, and Coherent Control

12:10-13:10

Lunch

Session C (cont.): Terahertz

Chair: Toshiaki Hattori (University of Tsukuba)

13:10-13:50

L-13

Ryo Shimano (*The University of Tokyo*)

Intense THz Light and Matter Interaction in Low Dimensional Electron Systems

13:50-14:20

L-14

Kazuo Kadowaki (*University of Tsukuba*)

THz Radiation from High Temperature Superconductors: Present Status and Future Perspective

14:20-14:50

L-15

Kodo Kawase (*Nagoya University*)

THz Wave Generation and Real-life Applications

15:00

Closing Remarks:

Poster Presentation Program

- P-1 Reaction of Disilyne with Azobenzenes: Syntheses, Structures, and Properties of Si₂N₂ 4-Membered Ring Biradicaloids**
Takeuchi, Katsuhiko (*Institute of Chemistry, Graduate School of Pure and Applied Sciences, University of Tsukuba*)
- P-2 Reaction of a Disilyne with 4-Dimethylaminopyridine (DMAP)**
Yamaguchi Torahiko (*Institute of Chemistry, Graduate School of Pure and Applied Sciences, University of Tsukuba*)
- P-3 Reactions of Dilithiosilane with Dichlorometallylene-NHC Adducts: Properties of Novel Persilyl-substituted Trisilaallene and Silylene-NHC Adducts**
Tanaka, Hiroaki (*Institute of Chemistry, Graduate School of Pure and Applied Sciences, University of Tsukuba*)
- P-4 Tetrahedrane and Cyclobutadiene: Extremely Strained sigma-pi Conjugation Induced Valence Isomerization.**
Nakamoto, Masaaki (*Institute of Chemistry, Graduate School of Pure and Applied Sciences, University of Tsukuba*)
- P-5 Constrained density functional theory including generalized Born formula: Its application to intramolecular electron transfer systems**
Ogawa, Tomofumi (*Institute of Chemistry, Graduate School of Pure and Applied Sciences, University of Tsukuba*)
- P-6 Synthesis and Functions of Dipyrin-Silicon Complexes**
Sakamoto, Naoya (*Institute of Frontier Science, Graduate School of Pure and Applied Sciences, University of Tsukuba*)
- P-7 Complexation Behavior of a Novel Multidentate Ligand Having Two Pybox Units**
Kawagoe, Shota (*Institute of Frontier Science, Graduate School of Pure and Applied Sciences, University of Tsukuba*)
- P-8 Synthesis and formation of helically twisted stacking structure of helical dinuclear complexes**
Nagumo, Hiroki (*Institute of Frontier Science, Graduate School of Pure and Applied Sciences, University of Tsukuba*)
- P-9 Synthesis of Multi-nuclear Zinc Cluster Complexes with Trisaloph Ligand**
Iida, Masaya (*Institute of Frontier Science, Graduate School of Pure and Applied Sciences, University of Tsukuba*)
- P-10 Fragment-DFT calculation on the interaction energy between HIV-1 protease and its inhibitor.**
Iwase, Tomoyuki (*Institute of Chemistry, Graduate School of Pure and Applied Sciences, University of Tsukuba*)

- P-11 Aerobic Oxidation of Alcohols Promoted by Cyclometalated Ruthenium Catalyst**
Taketoshi, Ayako (*Tsukuba Research Center for Interdisciplinary Materials Science (TIMS), Institute of Materials science, Graduate School of Pure and Applied Sciences, University of Tsukuba*)
- P-12 Molecular Design of Azacalix[3]pyridine Derivatives as New Organic Superbase Catalyst**
Uchida, Natsuko (*Institute of Materials science, Graduate School of Pure and Applied Sciences, University of Tsukuba*)
- P-13 Molecular Recognition of a Novel Cleft Host Bearing Terpyridine Platinum(II) Complexes**
Hasegawa, Yuki (*Institute of Frontier Science, Graduate School of Pure and Applied Sciences, University of Tsukuba*)
- P-14 Chiral Structure Control of Pseudomacrocyclic Terpyridine Host by Achiral Cation Recognition**
Sato, Futoshi (*Institute of Frontier Science, Graduate School of Pure and Applied Sciences, University of Tsukuba*)
- P-15 Conformational Conversion of Calix[6]arenes Having Electron-donating Groups by Recognition of Electron Deficient Organic Guest**
Kusama, Daisuke (*Institute of Frontier Science, Graduate School of Pure and Applied Sciences, University of Tsukuba*)
- P-16 Folding Behavior and Anion Recognition of a Chiral Ditopic Receptor Based on a Pybox Ligand**
Yamamura, Masaki (*Institute of Frontier Science, Graduate School of Pure and Applied Sciences, University of Tsukuba*)
- P-17 Enhancement of the Thermostability of H. thermophilus Cytochrome c552 through Reinforcement of Hydrophobic Protein Interior**
Tai, Hulin (*Institute of Chemistry, Graduate School of Pure and Applied Sciences, University of Tsukuba*)
- P-18 Molecular mechanism for controlling the redox potential of cytochrome c**
Mikami, Shinichi (*Institute of Chemistry, Graduate School of Pure and Applied Sciences, University of Tsukuba*)
- P-19 Design of Core-Shell Type Nanogel -Effect of PEG Chain Density and Length on Blood Circulation-**
Ichinohe, Satoshi (*Institute of Materials Science, Graduate School of Pure and Applied Sciences, University of Tsukuba*)
- P-20 Efficiency and specificity uptake 5-aminolevulinic acid to cancer cell**
Kugimiya, Shintaro (*Institute of Materials Science, Graduate School of Pure and Applied Sciences, University of Tsukuba*)

- P-21 pH-responsive Nitroxide Radical-Containing-Nanoparticles as Nanomedicine of Renal Ischemia-reperfusion Injury**
Yoshitomi, Toru (*Tsukuba Research Center for Interdisciplinary Materials Science (TIMS)*)
- P-22 Polymerization of Aniline in the Presence of Trehalose**
Kawashima, Hirotsugu (*Institute of Chemistry, Graduate School of Pure and Applied Sciences, University of Tsukuba*)
- P-23 Synthesis and Unique Charge Carrier Behavior of Poly(p-phenylenevinylene) Bearing Conjugated Side Chains**
Kawashima, Hirotsugu (*Institute of Chemistry, Graduate School of Pure and Applied Sciences, University of Tsukuba*)
- P-24 New Methodology of Polycondensation for Synthesis of π -conjugated Polymer by Direct Arylation**
Wei, Lu (*Tsukuba Research Center for Interdisciplinary Materials Science (TIMS), Institute of Materials Science, Material Chemistry and Biotechnology, Graduate School of Pure and Applied Sciences, University of Tsukuba*)
- P-25 Synthesis of a low bandgap polymer with phenoxy radicals**
Innmami, Yu (*Institute of Materials Science, Graduate School of Pure and Applied Sciences, University of Tsukuba*)
- P-26 Metal-like luster of polyaniline analogs having azobenzene units**
Kuwabara, Junpei (*Institute of Materials Science, Graduate School of Pure and Applied Sciences, University of Tsukuba*)
- P-27 Laser-combined STM study on organic solar cell**
Ochiai, Takahiro (*Institute of Frontier Science, Graduate School of Pure and Applied Sciences, University of Tsukuba*)
- P-28 Theoretical Investigations of Hole Mobilities in Organic Single Crystals by DFT Calculations**
Watanabe, Shotaro (*Institute of Chemistry, Graduate School of Pure and Applied Sciences, University of Tsukuba*)
- P-29 Synthesis and electrochemical properties of diketopyrrolopyrrole derivatives having high electron accepting property**
Yamagata, Takuya (*Institute of Materials Science, Graduate School of Pure and Applied Sciences, University of Tsukuba*)
- P-30 Structure and Properties of Au Clusters Protected by Porphyrin Derivatives**
Tanaka, Daisuke (*Institute of Chemistry, Graduate School of Pure and Applied Sciences, University of Tsukuba*)
- P-31 Size Effect of Rh Nanoparticle Cocatalyst on Photocatalytic Activity for Overall Water Splitting Under Visible Light**
Ikeda, Takahiro (*Institute of Chemistry, Graduate School of Pure and Applied Sciences, University of Tsukuba*)

- P-32 Designed Synthesis of Monodisperse Pd/Pt Core/Shell Nanoparticles and Their CO Adsorption Properties**
Sato, Ryota (*Institute of Chemistry, Graduate School of Pure and Applied Sciences, University of Tsukuba*)
- P-33 Formation of Au nanoparticle dimers and direct observation of their plasmon coupling modes**
Eguchi, Miharu (*Institute of Chemistry, Graduate School of Pure and Applied Sciences, University of Tsukuba*)
- P-34 Synthesis of Photo Responsive PEGylated Nanogel Containing Si-Au Core-Shell Cluster**
Hossain, Md. Amran (*Institute of Materials Science, Graduate School of Pure and Applied Sciences, University of Tsukuba*)
- P-35 Observation of Magnetization Process of Single-Molecule Magnet by Tunnel Junction Micro-SQUID**
Saitoh, Masamichi (*Institute of Physics, Graduate School of Pure and Applied Sciences, University of Tsukuba*)
- P-36 Formation Process of Silver Nanogaps using Electromigration Studied by In Situ High-Resolution Transmission Electron Microscopy**
Masuda, Hideki (*Institute of Materials Science, Graduate School of Pure and Applied Sciences, University of Tsukuba*)
- P-37 Atomistic Electromigration dynamics in Platinum Nanocontacts Studied by In Situ High-Resolution Transmission Electron Microscopy**
Kodama, Satoshi (*Institute of Materials Science, Graduate School of Pure and Applied Sciences, University of Tsukuba*)
- P-38 Atomistic Structure and Current-Voltage Characteristics of Zinc Oxide Nanocontacts**
Kase, Toshikazu (*Institute of Materials Science, Graduate School of Pure and Applied Sciences, University of Tsukuba*)
- P-39 Electrical conduction through a C60 molecular bridge between superconducting electrodes**
Kousaka, Takeshi (*College of Physics, School of Science and Engineering, University of Tsukuba*)
- P-40 Mechanically controlled transport property of silicon based single molecular junction**
Nakamura, Miki (*Institute of Frontier Science, Graduate School of Pure and Applied Sciences, University of Tsukuba*)
- P-41 Visible-Light-Driven Photocatalytic Overall Water Splitting Promoted by Two Different Cocatalysts**
Yoshinaga, Taizo (*Institute of Chemistry, Graduate School of Pure and Applied Sciences, University of Tsukuba*)

- P-42 Studies on photochemistry of stilbene ionic liquids in acetonitrile with low viscosity and in imidazolium ionic liquid with high viscosity**
Tamura, Hiroyasu (*Institute of Chemistry, Graduate School of Pure and Applied Sciences, University of Tsukuba*)
- P-43 Effect of substituent on the photochemical tautomerization and fluorescence properties of hydrogen bonded compounds**
Tasaki, Satomi (*Institute of Chemistry, Graduate School of Pure and Applied Sciences, University of Tsukuba*)
- P-44 Photoisomerization and energy transfer in naphthalene terminated stilbene dendrimers**
Nakazato, Satoshi (*Institute of Chemistry, Graduate School of Pure and Applied Sciences, University of Tsukuba*)
- P-45 Estimation of Albumin Binding Site and Cell Polarity Using Quinoxaline-Pyrrole Based Fluorescent Probe**
Kudo, Kentaro (*Institute of Chemistry, Graduate School of Pure and Applied Sciences, University of Tsukuba*)
- P-46 Highly Efficient and Selective trans-to-cis Photoisomerization of Water-soluble Diphenylbutadiene Dendrimers**
Miura, Yousuke (*Institute of Chemistry, Graduate School of Pure and Applied Sciences, University of Tsukuba*)
- P-47 Photoinduced hydrogen atom transfer reactions of 2-(2'-hydroxyphenyl)benzimidazole derivatives**
Kobayasi, Takuya (*Institute of Chemistry, Graduate School of Pure and Applied Sciences, University of Tsukuba*)
- P-48 Photoresponsive Properties of a Macrocyclic Boron Complexes Based on an Azobenzene-linked Ligands**
Okazaki, Yuki (*Institute of Frontier Science, Graduate School of Pure and Applied Sciences, University of Tsukuba*)
- P-49 Chl d found as an artifacts of Chl a in crushed algae**
Akutsu, Shinya (*Institute of Materials Science, Graduate School of Pure and Applied Sciences, University of Tsukuba*)
- P-50 Highly fluorescent diketopyrrolopyrrole derivatives and their responses to acids.**
Takahashi, Hiromichi (*College of Engineering Sciences, University of Tsukuba*)
- P-51 Inhibition of oral malodor by chlorophylls**
Abe, Yasuhiro (*Institute of Materials Science, Graduate School of Pure and Applied Sciences, University of Tsukuba*)
- P-52 Synthesis and evaluation of the novel oligonucleotide carrier possessing reactive oxygen species scavenging ability**
Ikeda, Yutaka (*Institute of Materials Science, Graduate School of Pure and Applied Sciences, University of Tsukuba*)

- P-53 Conversion of Chl a into Chl d by hydrogen peroxide**
Aoki, Keisuke (*Institute of Materials Science, Graduate School of Pure and Applied Sciences, University of Tsukuba*)
- P-54 Time-resolved imaging of 10-femtosecond surface plasmon wave packet**
Kubo, Atsushi (*Institute of Physics, Graduate School of Pure and Applied Sciences, University of Tsukuba*)
- P-55 Surface plasmon detection by the optical beat Polarization modulation method**
Matsuyama, Eiji (*Institute of Materials Science, Graduate School of Pure and Applied Sciences, University of Tsukuba*)
- P-56 Terahertz Spectroscopic Study of Lysozyme Powder**
Aoki, Katsuyoshi (*Institute of Applied Physics, Graduate School of Pure and Applied Sciences, University of Tsukuba*)
- P-57 Study of triangular means for for THz electromagnetic wave emission from the intrinsic Josephson junctions in Bi-2212 .**
Delfanazari, Kaveh (*Institute of Applied Physics, Graduate School of Pure and Applied Sciences, University of Tsukuba, CREST-JST, MANA-WPI/ Physical Electronics Engineering*)
- P-58 THz radiation from asymmetric rectangular mesa structure of high-temperature superconductor $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_{8+\delta}$**
Nakayama, Ryo (*Institute of Materials Science, Graduate School of Pure and Applied Sciences, University of Tsukuba*)
- P-59 Real-Time Imaging of Terahertz Electric Near-Field in Metallic Holes**
Tanaka, Daijiro (*Institute of Applied Physics, Graduate School of Pure and Applied Sciences, University of Tsukuba*)
- P-60 Radiation mode characteristics in single crystalline Bi2212 rectangular mesa structures**
Kashiwagi, Takanari (*Institute of Materials Science, Graduate School of Pure and Applied Sciences, University of Tsukuba*)
- P-61 Emission of Terahertz Electromagnetic Waves from Intrinsic Josephson Junction Arrays Embedded in Resonance LCR Circuits**
Ivanovic, Krsto (*Institute of Materials Science, Graduate School of Pure and Applied Sciences, University of Tsukuba*)
- P-62 Antenna design for broad-band terahertz near-field enhancement**
Katsura, Yuusuke (*College of Engineering Sciences/Applied Physics, University of Tsukuba*)
- P-63 Numerical Simulation of Terahertz Radiation Emitted from $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_{8+\delta}$ Sample**
Asai, Hidehiro (*Institute of Materials Science, Graduate School of Pure and Applied Sciences, University of Tsukuba*)

- P-64 Generation of THz Waves from Mesa Structure in Single Crystalline Bi₂Sr₂CaCu₂O₈+ δ toward Higher Frequencies**
Hagino, Shota (*College of Engineering Sciences, University of Tsukuba*)
- P-65 Simple theory of time-domain nonlinear two-dimensional terahertz spectroscopy**
Hattori, Toshiaki (*Institute of Applied Physics, Graduate School of Pure and Applied Sciences, University of Tsukuba*)
- P-66 Silicon-on-Insulator Thickness Dependence of Photoluminescence from Electron-Hole Droplet**
Sakurai, Yoko (*Institute of Physics, Graduate School of Pure and Applied Sciences, University of Tsukuba*)
- P-67 Time-resolved Scanning Tunneling Microscopy on the (NH₄)₂S-treated GaAs(001) Surface**
Iwata, Yasufumi (*Institute of Frontier Science, Graduate School of Pure and Applied Sciences, University of Tsukuba*)
- P-68 Leakage current mapping of hafnium silicate gate dielectrics by local optical excitation**
Juda, Hiroshi (*Institute of Frontier Science, Graduate School of Pure and Applied Sciences, University of Tsukuba*)
- P-69 Evaluation of focused ion beam induced damage to GaAs heterojunction by micro-photoluminescence measurements**
Shishido, Masayuki (*Institute of Frontier Science, Graduate School of Pure and Applied Sciences, University of Tsukuba*)
- P-70 Carrier capture dynamics at metal induced gap states on GaAs(110) studied by time-resolved STM**
Omuro, Wataru (*Institute of Frontier Science, Graduate School of Pure and Applied Sciences, University of Tsukuba*)
- P-71 Fabrication of ballistic graphene Josephson junction and its transport measurement**
Tomori, Hikari (*Institute of Physics, Graduate School of Pure and Applied Sciences, University of Tsukuba*)
- P-72 TRANSPORT PROPERTIES OF MULTILAYER GRAPHENE WITH A CONTACTLESS SUSPENDED TOP GATE**
Nukui, Yousuke (*College of Physics, School of Science and Engineering, University of Tsukuba*)
- P-73 Synthesis and Structural Analysis of Cobalt-Encapsulated Carbon Nanocapsules**
Matsuura, Daisuke (*Institute of Materials Science, Graduate School of Pure and Applied Sciences, University of Tsukuba*)

- P-74 Transmission Electron Microscopy of Tungsten Carbide-Encapsulated Carbon Nanocapsules**
Kobayashi, Ryota (*Institute of Materials Science, University of Tsukuba*)
- P-75 High-Resolution Transmission Electron Microscopy of Isolated Single C60 Molecules**
Nakamura, Daisuke (*Institute of Materials Science, University of Tsukuba*)
- P-76 Transmission Electron Microscopy of Iron-Encapsulated Carbon Nanocapsules**
Suzuki, Motonari (*Institute of Materials Science, University of Tsukuba*)
- P-77 Elastic Properties of Crystalline C70 Nanowhiskers**
Tokumine, Takayuki (*Institute of Materials Science, Graduate School of Pure and Applied Sciences, University of Tsukuba*)
- P-78 Graphene/Nickel Interface Structure in Nickel-Encapsulated Carbon Nanocapsules**
Akagawa, Akira (*Institute of Materials Science, Graduate School of Pure and Applied Sciences, University of Tsukuba*)
- P-79 Simultaneous Measurement of Ionic and Electronic Conductions on Solid-Solid Interface**
Shibata, Takayuki (*Institute of Physics, Graduate School of Pure and Applied Sciences, University of Tsukuba*)
- P-81 Valence-differential Spectroscopy of Cyanide Films**
Kurihara, Yutaro (*Institute of Physics, Graduate School of Pure and Applied Sciences, University of Tsukuba*)
- P-82 Magnetic properties of $\text{Na}_x\text{Cr}[\text{Cr}(\text{CN})_6]_y\text{zH}_2\text{O}$ ($0.67 \leq y \leq 0.77$)**
Wakaume, Kazuma (*College of Physics, School of Science and Engineering, University of Tsukuba*)
- P-83 Spatio-Temporal Dynamics of photo-induced phase transitions in cyanide films**
Ito, Minato (*Institute of Physics, Graduate School of Pure and Applied Sciences, University of Tsukuba*)
- P-84 3D - 1D Crossover of Growth Mode in Transition Metal Cyanide Film**
Ito, Mitsuhiro (*College of Physics, School of Science and Engineering, University of Tsukuba*)
- P-85 Rubidium ion Chain formed by distorted Prussian Blue Framework**
Matsuda, Tomoyuki (*Institute of Physics, Graduate School of Pure and Applied Sciences, University of Tsukuba*)

- P-86 Time-resolved XAFS spectroscopy for the electronic phases in cyano complexes**
Kamioka, Hayato (*Institute of Physics, Graduate School of Pure and Applied Sciences, University of Tsukuba*)
- P-87 Thermal rectification in transition metal oxides junction device**
Kobayashi, Wataru (*Institute of Frontier Science, Graduate School of Pure and Applied Sciences, University of Tsukuba*)
- P-88 Synthesis and Physical Properties of 122 system of iron-based superconductors**
Jono, Youhei (*Institute of Materials Science, Graduate School of Pure and Applied Sciences, University of Tsukuba*)
- P-89 Synthesis and Characterization of Prototype Iron Based Superconductors**
Nozawa, Akihiko (*College of Engineering Sciences, University of Tsukuba*)
- P-90 Single Crystal Growth and Physical Properties of Topological Insulator Bi₂Se₃**
Suzuki, Yusuke (*College of Engineering Sciences, University of Tsukuba*)
- P-91 Magnetization Studies in a Topological Insulator CuxBi₂Se₃ Single Crystal**
Das, Pradip (*Institute of Materials Science, Graduate School of Pure and Applied Sciences, University of Tsukuba*)
- P-92 Alkali metal-doping to perovskite manganese oxide**
Zhu, Xuhao (*Institute of Physics, Graduate School of Pure and Applied Sciences, University of Tsukuba*)