

Conference Program

December 12 (Wednesday)

- 08:00-09:00 **Registration**
- 09:00-09:10 **Opening remarks**
Kazuhiro Oiwa (NICT)
Mitsumasa Iwamoto (Tokyo Institute of Technology)
- 09:10-09:50 **Plenary Lecture I**
Chair:Kazuhiro Kudo (Chiba University)
- 09:10-09:50 **<IW01> The Important Role of Interfaces in Printed Electronics**
(Invited) °Bernard Kippelen¹
¹Center for Organic Photonics and Electronics, School of Electrical and Computer Engineering,
Georgia Institute of Technology, USA
- 09:50-10:50 **Nanointerface Fabrication and Bioelectronics**
Chair:Shukichi Tanaka (NICT)
- 09:50-10:20 **<IW02> Optogenetic neural manipulations with channelrhodopsins, natural photoelectric transducers**
(Invited) Tatsuya Honjoh^{1,2}, Zhi-Gang Ji^{1,2}, Yukinobu Yokoyama^{1,2}, Akira Sumiyoshi³, Toru Ishizuka^{1,2},
Ryuta Kawashima³, °Hiromu Yawo^{1,2}
¹Tohoku University Graduate School of Life Sciences
²JST, CREST
³Institute of Development, Aging and Cancer, Tohoku University
- 10:20-10:50 **<IW03> Biomimetic Optical Sensing Using Bacteriorhodopsin Thin Films**
(Invited) **-From Insect Mimetics towards Robot Vision-**
°Katsuyuki Kasai¹, Yoshihiro Haruyama^{1,2}, Toshiki Yamada¹, Makoto Akiba¹, Yukihiro Tominari¹,
Takahiro Kaji¹, Toshifumi Terui¹, Ferdinand Peper¹, Shukichi Tanaka¹, Yoshitada Katagiri¹, Akira
Otomo¹, Hiroshi Kikuchi³, Yoshiko Okada-Shudo⁴
¹Advanced ICT Research Institute, National Institute of Information and Communications Technology
²Osaka City University
³NHK Science & Technology Research Laboratories
⁴The University of Electro-Communications
- 10:50-11:10 **Refreshment**
- 11:10-12:20 **Nanointerface Fabrication and Bioelectronics**
Chair:Toshifumi Terui (NICT)
- 11:10-11:40 **<IW04> Artificial Cellular Membrane Microchips for Membrane Protein Analysis**
(Invited) °Toshihisa Osaki¹, Ryuji Kawano¹, Koki Kamiya¹, Shoji Takeuchi^{1,2}
¹Kanagawa Academy of Science and Technology
²Institute of Industrial Science, The University of Tokyo
- 11:40-12:00 **<OW01> Electrochemical Impedance Biosensors Based on Interdigitated Electrodes for Label-free Detection of Human Immunoglobulin A**
Ryuzo Ohno¹, °Hitoshi Ohnuki¹, Takuya Yokoyama¹, Mitsuru Izumi¹, Hideaki Endo², Daiju Tsuya³
¹Faculty of Marine Technology, Tokyo University of Marine Science and Technology
²Faculty of Marine Science, Tokyo University of Marine Science and Technology
³National Institute for Materials Science
- 12:00-12:20 **<OW02> Site-selective Fabrication and Electrical Properties of Sodium Phthalocyanine Nanocrystal Using the Nanoscale Electrocrystallization**
°Hiroyuki Hasegawa¹
¹Faculty of Science, Hokkaido University
- 12:20-14:00 **Lunch**

Conference Program

- 12:20-13:10 **Short Presentation I***
Chair: Takashi Kobayashi (Osaka Prefecture University)
- 14:00-14:30 **Keynote Presentation I**
Chair: Kiyooki Usami (Osaka Sangyo University)
- 14:00-14:30 <IW05> **Charge Carrier Transport in Liquid Crystals**
(Invited) °Jun-ichi Hanna¹, Akira Ohno¹, Hiroaki Iino¹
¹Imaging Science and Engineering Laboratory, Tokyo Institute of Technology
- 14:30-15:30 **Dielectrics and Carrier Transport**
Chair: Kiyooki Usami (Osaka Sangyo University)
- 14:30-14:50 <OW03> **Study of rectifying property of ITO/PI/TIPS-pentacene/Au diodes governed by interfacial charge accumulation by electric field induced optical second harmonic generation**
°Eunju Lim¹, Dai Taguchi², Mitsumasa Iwamoto²
¹Dept. of Applied Physics, INBT, Dankook University, Korea
²Dept. of Physical Electronics, Tokyo Institute of Technology
- 14:50-15:10 <OW04> **Direct Observation of Anisotropic Transient Carrier Transport in TIPS Pentacene Field Effect Transistors**
°Takaaki Manaka¹, Kentaro Abe¹, Kohei Matsubara¹, Mitsumasa Iwamoto¹
¹Department of Physical Electronics, Tokyo Institute of Technology
- 15:10-15:30 <OW05> **Gold Nanoparticle Single-Electron Transistors with Molecular Floating Gates**
°Yutaka Noguchi^{1,2,3}, Makoto Yamamoto², Hisao Ishii^{1,2}, Toshifumi Terui⁴, Rieko Ueda⁴, Keisuke Imazu⁵, Kaoru Tamada⁵, Takeshi Sakano⁶, Kenji Matsuda⁶
¹Center for Frontier Science, Chiba University
²Graduate School of Advanced Integration Science, Chiba University
³PRESTO, Japan Science and Technology Agency
⁴KARC, National Institute of Information and Communications Technology
⁵Institute for Materials Chemistry and Engineering, Kyushu University
⁶Department of Synthetic Chemistry and Biological Chemistry, Graduate School of Engineering, Kyoto University
- 15:30-15:50 **Refreshment**
- 15:50-16:40 **Dielectrics and Carrier Transport**
Chair: Akihiko Sugimura (Osaka Sangyo University)
- 15:50-16:20 <IW06> **Chirality formation and modulation in Polydiacetylene assemblies**
(Invited) °Gang Zou¹, Hao Jiang¹, Yangyang Xu¹, Qijin Zhang¹, Takaaki Manaka², Mitsumasa Iwamoto²
¹CAS Key Laboratory of Soft Matter Chemistry, Department of Polymer Science and Engineering, University of Science and Technology of China, P.R.China
²Department of Physical Electronics, Tokyo Institute of Technology
- 16:20-16:40 <OW06> **Field-induced director dynamics in confined nematics: NMR study and theoretical analysis**
A. Sugimura¹, A.A. Vakulenko², °A.V. Zakharov²
¹Department of Information Systems Engineering, Osaka Sangyo University
²Saint Petersburg Institute for Machine Sciences, the Russian Academy of Sciences, Russia
- 16:40-17:30 **Dielectrics and Carrier Transport**
Chair: Gang Zou (University of Sci. and Technol. of China)
- 16:40-17:10 <IW07> **Creation and Annihilation of the Nematic Director Distribution during the Dynamic Process**
(Invited) °A. Sugimura¹, R. Hashim², H. Zimmermann³
¹Department of Information Systems Engineering, Osaka Sangyo University
²Department of Chemistry, University of Malaya, Malaysia
³Department of Biophysics, Max-Planck-Institut für Medizinische Forschung, Germany
- 17:10-17:30 <OW07> **Synthesis of self-assembled nanostructures of optically active Polyaniline**
Sudha¹, °Devendra Kumar¹
¹Department of Applied Chemistry, Delhi Technological University, India
- 17:30-18:00 **Intermission**

18:00-20:00

Poster Session I

Chair: Steering Committee

- <PW01>* **Photonic crystals for enhancing fluorescence from single molecules**
 °Takahiro Kaji¹, Toshiki Yamada¹, Rieko Ueda¹, Shin-ichiro Inoue¹, Akira Otomo¹
¹Advanced ICT Research Institute, National Institute of Information and Communications Technology
- <PW02> **Morphological Control of Conductive Polymer**
 °Mitsuyoshi Onoda¹, Masayuki Okada²
¹Graduate School of Engineering, University of Hyogo
²Ono Plant, AMADA Co.,Ltd.
- <PW03> **Electrical detection of translocating nanoparticles through nanopore in Si₃N₄ membrane**
 °Junki Honda¹, Hiroyuki Sakaue¹, Takayuki Takahagi¹, Hitoshi Suzuki¹
¹Hiroshima University, Graduate School of Advanced Sciences of Matter
- <PW04>* **Synthesis and diameter control of CNTs grown from Fe₃O₄@SiO₂ core-shell nanoparticles**
 °Takehiro Sugawara¹, Kohei Kawasaki¹, Masahito Kushida¹
¹Department of Applied Chemistry and Biotechnology, Chiba University
- <PW05>* **Influence of seed layer morphology on hydro-thermal growth of ZnO nanorod**
 °Yuki Kabeya¹, Hiroaki Ito¹, Nobuya Hiroshiba¹, Yo Ichikawa¹
¹Graduate School of Engineering, Nagoya Institute of Technology
- <PW06> **Effect of Solid State Polymerization on Crystal Morphology of a kind of Polydiacetylene Single Crystal Obtained by Physical Vapor Transport Technique**
 °Sadaharu Jo¹, Seiya Suzuki², Masamichi Yoshimura²
¹Division of General Education, Aich-Gakuin University
²Surface Science Laboratory, Toyota Technological Institute
- <PW07> **Intermixing aggregation of C₆₀ and PCBM on Au(111) surface**
 °Hitoshi Suzuki¹, Keiji Todaka¹, Hiroyuki Sakaue¹, Takayuki Takahagi¹
¹Hiroshima University, Graduate School of Advanced Sciences of Matter
- <PW08> **Diffusive motion of porphyrin derivative suppressed by neighboring C₆₀**
 °Keiji Todaka¹, Hiroyuki Sakaue¹, Takayuki Takahagi¹, Hitoshi Suzuki¹
¹Hiroshima University, Graduate School of Advanced Sciences of Matter
- <PW09>* **Vesicle deformations in applied alternating electric fields**
 °Tsudoi Utamaru¹, Dai Taguchi¹, Takaaki Manaka¹, Mitsumasa Iwamoto¹
¹Department of Physical Electronics, Tokyo Institute of Technology
- <PW10>* **Quantitative analysis of disulfide molecules bound to gold nanoparticles**
 °Shuichi Suzuki¹, Hiroyuki Sakaue¹, Hitoshi Suzuki¹, Takayuki Takahagi¹
¹Graduate School of Advanced Sciences of Matter, Hiroshima Univ
- <PW11> **Synthesis of Fe (II)/Polyaniline composite: Pseudo supercapacitors**
 °Ashish Kumar¹, Arun Kumar Singh¹, Chandan Upadhyay¹, Rajiv Prakash¹
¹School of Materials Science and Technology, Indian Institute of Technology, India Banaras Hindu University
- <PW12>* **Interfacial Charging of CuPc/C₆₀ Double-layer Organic Solar Cells Induced by Photoillumination: Effect of Photoconductivity change**
 °Xiangyu Chen¹, Dai Taguchi¹, Takaaki Manaka¹, Mitsumasa Iwamoto¹
¹Department of Physical Electronics, Tokyo Institute of Technology
- <PW13>* **Direct visualization and modeling of carrier distribution in Organic Light Emitting Transistor**
 °Yasuhiro Mashiko¹, Martin Weis², Dai Taguchi¹, Takaaki Manaka¹, Mitsumasa Iwamoto¹
¹Department of Physical Electronics, Tokyo Institute of Technology
²Institute of Electronics and Photonics, Slovak University of Technology, Slovakia
- <PW14>* **Study of carrier transport in flexible organic field-effect transistors: Analysis of bending effect and microscopic observation using electric-field-induced optical second-harmonic generation**
 °Yohei Abe¹, Dai Taguchi¹, Takaaki Manaka¹, Mitsumasa Iwamoto¹
¹Department of Physical Electronics, Tokyo Institute of Technology
- <PW15> **A Theoretical Study on Carrier Transfer in [3₃](1,3,5)- Cyclophane**
 °Ken Tokunaga¹, Shigekazu Ohmori², Hiroshi Kawabata³
¹Division of Liberal Arts, Kogakuin University
²Venture Business Laboratory, Kyoto University
³Young Researchers Education Center, Hiroshima University

- <PW16>* Electrical characteristics and rectification of alkyl molecules with ferrocenyl terminal group in PEDOT:PSS interlayer metal-molecule-metal junctions**
 °Hyunhak Jeong¹, Dongku Kim¹, Hanki Lee¹, Takhee Lee¹
¹Seoul National University, Department of Physics and Astronomy, Korea
- <PW17> Gap states in Pentacene thin film induced by gas exposure**
 °Fabio Bussolotti¹, Satoshi Kera¹, Nobuo Ueno¹
¹Graduate School of Advanced Integration Science, Chiba University
- <PW18>* Evaluation of Thermal Stability of Organic Electro-optic Polymer by Thermally Stimulated Depolarization Current**
 °Xuepeng Mo^{1,2}, Kazuhiko Kinemura^{1,2}, Toshiki Yamada^{1,2}, Akira Otomo^{1,2}, Dai Taguchi¹, Takaaki Manaka¹, Mitsumasa Iwamoto¹
¹Tokyo Institute of Technology
²NICT
- <PW19>* Norbornene Polymer Brush for Electro-Optic Application**
 °Yue Jia¹, Andrew M. Spring¹, Shiyoshi Yokoyama¹
¹Institute for Materials Chemistry and Engineering, Kyushu University
- <PW20>* Wavelength dependence of photoresponse in a copper phthalocyanine-doped gold nanoparticle single-electron device**
 °Makoto Yamamoto¹, Yutaka Noguchi^{1,2,3}, Hisao Ishii^{1,2}, Toshifumi Terui⁴, Rieko Ueda⁴, Keisuke Imazu⁵, Kaoru Tamada⁵, Takeshi Sakano⁶, Kenji Matsuda⁶
¹Graduate School of Advanced Integration Science, Chiba University
²Center for Frontier Science, Chiba University
³PRESTO, Japan Science and Technology Agency
⁴KARC, National Institute of Information and Communications technology
⁵Institute for Materials Chemistry and Engineering, Kyushu University
⁶Department of Synthetic Chemistry and Biological Chemistry, Graduate School of Engineering, Kyoto University
- <PW21>* Quantitative Study for Photoelectron Intensity Distribution of Transition-metal Phthalocyanines Thin Films on Graphite**
 °Yuan Liu¹, Mayumi Nagaosa¹, Satoshi Kera¹, Nobuo Ueno¹
¹Graduate School of Advanced Integration Science, Chiba University
- <PW22> Growth and Electric Properties of C₆₀ Whiskers Directly Grown between Electrodes by Surface Treatment**
 °Katsuya Uruchida¹, Nobuyuki Iwata¹, Hiroshi Yamamoto¹
¹Department of Electronics & Computer Science, College of Science & Technology, Nihon University
- <PW23> Polarized Emission from Ultra-Thin α -Sexithiophene Layers on Oriented β -phase Polyfluorene Films**
 °Heck Claire¹, Toshiko Mizokuro¹, Nobutaka Tanigaki¹
¹Research Institute for Ubiquitous Energy Devices, National Institute of Advanced Industrial Science and Technology (AIST)
- <PW24> Activated multi-walled carbon nanotube polymer actuator that surpass the performance of a single-walled carbon nanotube polymer actuator**
 °Naohiro Terasawa¹, Norihiro Ono^{1,2}, Tomoyuki Koga², Nobuyuki Higashi²
¹Health Research Institute, National Institute of Advanced Industrial Science and Technology (AIST)
²Faculty of Science and Engineering, Doshisha University
- <PW25>* Nonvolatile memory characteristics of polyimide embedded with ZnO nanowires**
 °Jingon Jang¹, Woanseon Park¹, Kyungjune Cho¹, Takhee Lee¹
¹Seoul National University, Department of Physics and Astronomy, Korea
- <PW26>* Properties of polymer light-emitting transistors with Ag-nanowire source/drain electrodes fabricated on polymer substrate**
 °Koichi Hiraoka¹, Yusuke Kusumoto¹, Ikuya Ikezoe¹, Hirotake Kaji¹, Yutaka Ohmori¹
¹Graduate school of Engineering, Osaka University
- <PW27> Characteristics of dye-sensitized solar cells using oxide semiconductor films with multi-layered structure**
 °Kohei Shibahara¹, Hiroyuki Tabata¹, Shoji Furukawa¹
¹Graduate School of Computer Science and Systems Engineering, Kyushu Institute of Technology

- <PW28> Study on photo-electrode of dye-sensitized solar cells**
 °Seiya Kagawa¹, Shoji Furukawa¹
¹Graduate School of Computer Science and Systems Engineering, Kyushu Institute of Technology
- <PW29> Metal nanoparticles in organic field-effect transistor: transition from charge trapping to conduction mechanism**
 °Keanchuan Lee¹, Martin Weis², Xiangyu Chen¹, Dai Taguchi¹, Takaaki Manaka¹, Mitsumasa Iwamoto¹
¹Department of Physical Electronics, Tokyo Institute of Technology
²Institute of Electronics and Photonics, Slovak University of Technology, Slovak Republic
- <PW30> Anisotropic group and phase refractive indices of end-capped oligothiophene crystals**
 °Yusaku Sakurai¹, Takeshi Yamao¹, Shu Hotta¹
¹Department of Macromolecular Science and Engineering, Kyoto Institute of Technology
- <PW31> Fabrication of Step-Edge Vertical-Channel Organic Transistors by Electro-Spray Deposition**
 °Hiroshi Yamauchi¹, Rui Aino¹, Masatoshi Sakai¹, Shigekazu Kuniyoshi¹, Masaaki Iizuka², Kazuhiro Kudo¹
¹Graduate school of Engineering, Chiba University
²Faculty of Education, Chiba University
- <PW32> Understanding the differential photovoltaic behavior of model squaraine dyes in the light of photophysical investigations**
 °Shyam S. Pandey¹, Naotaka Fujikawa¹, Rie Watanabe¹, Yuhei Ogomi¹, Shuzi Hayase¹, Gustavo de Miguel², Maria Jose Marchena², Abderrazzak Douhal²
¹Graduate School of LSSE, Kyushu Institute of Technology
²Departamento de Quimica Fisica, Universidad de Castilla-la Mancha, Spain
- <PW33> Photoelectron spectroscopic study on band alignment of P3HT/polar-ZnO heterointerface**
 °Takahiro Nagata¹, Seungjun Oh^{1,2}, Yoshiyuki Yamashita^{1,3}, Hideki Yoshikawa³, Norihiro Ikeno^{1,4}, Keisuke Kobayashi³, Toyohiro Chikyow¹, Yutaka Wakayama^{1,2}
¹International Center for Materials Nanoarchitectonics (WPI-MANA), National Institute for Materials Science
²Department of Chemistry and Biochemistry, Faculty of Engineering, Kyushu University
³NIMS Beamline Station at SPring-8, National Institute for Materials Science
- <PW34>* Growth of Dendrimer typed ZnO nanorod in CdS/CdSe Quantum dot-sensitized solar cell**
 °Soo-Kyoung Kim¹, Min-Kyu Son¹, Na-Yeong Hong¹, Jeong-Yun Song¹, Justin Raj¹, Kandasamy Prabakar¹, Hee-Je Kim¹
¹Department of Electrical Engineering, Pusan National University, Korea
- <PW35> Effect of PEDOT:PSS Films and Their Application in Polymer Photovoltaic Devices**
 °Kannappan Santhakumar¹, Palanisamy Kumar¹, Shizuyasu Ochiai¹, Jiro Tatsugi², Paik-Kyun Shin³
¹Department of Electrical Engineering, Aichi Institute of Technology
²Department of Applied Chemistry, Aichi Institute of Technology
³School of Electrical Engineering, Inha University, Korea
- <PW36> Band Gap Tuning of the Radical Added Graphene Nano-Flakes**
 °Hiroto Tachikawa¹
¹Division of Materials Chemistry, Graduate School of Engineering Hokkaido University
- <PW37>* Improved performance of dye-sensitized solar cells by employing acid treated Ti layer on the nanocrystalline TiO₂**
 °Songyi Park¹, Min-Kyu Son¹, Na-Yeong Hong¹, C. Jeong-Yun Song¹, Kandasamy Prabakar¹, Hee-Je Kim¹
¹Dept. Electrical Engineering, Pusan National University, Korea
- <PW38> Continuous-wave photoinduced absorption study on trapped carriers in bulk heterojunction solar cells connected to load resistances**
 °Yosuke Terada¹, Takashi Kobayashi^{1,2}, Takashi Nagase^{1,2}, Hiroyoshi Naito^{1,2,3}
¹Osaka Prefecture University
²The Research Institute for Molecular Electronic Devices, Osaka Pref. Univ.
³CREST, JST

- <PW39> Demonstration of determination of electron and hole drift-mobilities in organic thin films by means of impedance spectroscopy**
 °Shingo Ishihara^{1,2}, Hiroyuki Hase¹, Takayuki Okachi¹, Hiroyoshi Naito^{1,3}
¹Department of Physics and Electronics, Osaka Prefecture University
²Hitachi Research Laboratory, Hitachi, Ltd.,
³The Research Institute for Molecular Electronic Devices, Osaka Prefecture University
- <PW40> Impedance Spectroscopy for High Resolution Measurements of Energetic Distributions of Localized States in Organic Semiconductors**
 Hiroyuki Hase¹, Takayuki Okachi¹, Shingo Ishihara¹, Takashi Nagase¹, Takashi Kobayashi¹,
 °Hiroyoshi Naito¹
¹Department of Physics and Electronics, Osaka Prefecture University
- <PW41>* Outdoor photovoltaic performance Cylindrical TCO-less dye-sensitized solar cells**
 °Jun Usagawa¹, Yuhei Ogomi¹, Shyam S. Pandey¹, Shuzi Hayase¹
¹Graduate School of Life Science and Systems Engineering, Kyushu Institute of Technology
- <PW42> Improvement of wet processed ZnO FET characteristics by UV/O₃ assisted thermal treatments**
 Wataru Sakai¹, Hiroshi Yamauchi¹, Shigekazu Kuniyoshi¹, Masatoshi Sakai¹, °Kazuhiro Kudo¹,
 Masaaki Iizuka²
¹Graduate school of Engineering, Chiba University
²Faculty of Education, Chiba University
- <PW43> Improvement of Open-Circuit Voltage in Bulk-Heterojunction Organic Solar Cells with the Titania Nanosheet as an Electron Selective Layer**
 °Yasutake Maruyama¹, Katsutoshi Fukuda², Eiji Itoh¹
¹Faculty of Engineering, Shinshu University
²Kyoto University
- <PW44> Influence of cycloalkane substitution to naphthalene diimide**
 °Tomoyuki Kakinuma¹, Hirotaka Kojima¹, Minoru Ashizawa¹, Hidetoshi Matsumoto¹, Takehiko Mori¹
¹Department of Organic and Polymeric Materials, Tokyo Institute of Technology
- <PW45> Organic Photovoltaic Cells with Higher Efficiency than Amorphous Silicon Photovoltaics in Indoor Setting**
 °Kota Yoshikawa¹, Satoru Momose¹
¹Environment & Energy Research Center, Fujitsu Laboratories Ltd
- <PW46> Active Layer Analysis of Interpenetrating Heterojunction Organic Thin-Film Solar Cells by X-Ray Photoelectron Spectroscopy**
 °Tetsuro Hori¹, Akitoshi Semba¹, Sunghwan Lee¹, Hitoshi Kubo¹, Akihiko Fujii¹, Masanori Ozaki¹
¹Division of Electrical, Electronic and Information Engineering, Graduate School of Engineering, Osaka University
- <PW47> Flexible C₈-BTBT Field Effect Transistors Fabricated by Thermal Press Method**
 °Yota Yamazaki¹, Tatsuyoshi Okamoto¹, Junro Hayashi¹, Shohei Yamaguchi¹, Masatoshi Sakai¹,
 Shigekazu Kuniyoshi¹, Hiroshi Yamauchi¹, Kazuhiro Kudo¹, Yuichi Sadamitsu², Masahiro Hamada²
¹Department of Electrical and Electronic Engineering, Chiba University
²Nippon Kayaku Co., Ltd.
- <PW48> Spectroscopic investigations on Stark components observed in photoinduced absorption measurements for dye-sensitized solar cells**
 °Katsuichi Kanemoto¹, Shinya Domoto¹
¹Department of Physics, Graduate School of Science, Osaka City University
- <PW49> Electropray-Deposited Fullerene Derivative Thin Film**
 °Takeshi Fukuda¹, Kenji Takagi¹, Kazumasa Takeshi¹, Yusuke Tajima²
¹Saitama University, Department of Functional Materials Science, Graduate School of Science and Engineering
²RIKEN

Conference Program

- <PW50> **Effect of heat treatment on the base electrode structure in the vertical-type metal-base organic transistors**
°Ken-ichi Nakayama¹, Yohei Ueno¹
¹Department of Organic Device Engineering, and Research Center for Organic Electronics, Yamagata University
- <PW51> **Organic Photovoltaic Devices Fabricated Using a Co-deposited Film of Perylene Bisimide and Amorphous Dinaphthyl Anthracene**
°Takao Motoyama^{1,2}, Ken-ichi Nakayama^{1,2}
¹Department of Organic Device Engineering and Research Center for Organic Electronics, Yamagata University
²Core Research for Evolutional Science and Technology (CREST), Japan Science and Technology Agency (JST)
- <PW52> **Improvement of Efficiency and Color Purity of White OLED Using Phosphorescent Materials**
°Dong-Eun Kim¹, Young-Soo Kwon², Burm-Jong Lee³, Hoon-Kyu Shin¹
¹National Center for Nanomaterials Technology, Pohang University of Science and Technology, Korea
²Department of Electrical Engineering, Dong-A University, Korea
³Department of Chemistry, Inje University, Korea
- <PW53> **Characteristics of Intramolecular Charge Transfer by J-Aggregates in Merocyanine Dye Monolayer**
°Chang-Heon Yang¹, Young-Soo Kwon¹, Hoon-Kyu Shin²
¹Department of Nano Engineering and Electrical Engineering, Dong-A University, Korea
²National Center for Nanomaterials Technology (NCNT), Pohang University of Science and Technology (POSTECH), Korea

December 13 (Thursday)

- 08:00-09:00 **Registration**
- 09:00-09:40 **Plenary Lecture II**
Chair: Mitsuyoshi Onoda (University of Hyogo)
- 09:00-09:40 <IT01> **Hand-Operating Nanotechnology for Thin Film Functions**
(Invited) °Katsuhiko Ariga¹
¹World Premier International (WPI) Research Center for Materials Nanoarchitectonics (MANA), National Institute for Materials Science (NIMS) & JST CREST
- 09:40-10:40 **Nano Photonics**
Chair: Shin-ichiro Inoue (NICT)
- 09:40-10:10 <IT02> **Silicon Photonic Crystal Microcavity Biosensors for Multiplexed High Throughput Detection of Cancers with Specificity and High Sensitivity**
(Invited) Swapnajit Chakravarty¹, °Ray T. Chen², Wei-Cheng Lai², Yi Zou²
¹Omega Optics Inc.
²University of Texas, Austin, USA
- 10:10-10:40 <IT03> **Manipulation of Photons by Photonic Crystals**
(Invited) °Takashi Asano¹, Susumu Noda¹
¹Department Electronic Science and Engineering, Kyoto University
- 10:40-11:00 **Refreshment**
- 11:00-12:10 **Nano Photonics**
Chair: Toshiki Yamada (NICT)
- 11:00-11:30 <IT04> **Plasmonic Nanostructures for High-Efficiency LEDs and Solar Cells**
(Invited) °Koichi Okamoto¹
¹Institute for Materials Chemistry and Engineering, Kyushu University

Conference Program

- 11:30-11:50 <OT01> **Subwavelength Interference in Hyperbolic Media**
°Satoshi Ishii^{1,2}, Alexander V. Kildishev¹, Evgenii Narimanov¹, Vladimir M. Shalaev¹, Vladimir P. Drachev¹
¹Birk Nanotechnology Center, School of Electrical and Computer Engineering, Purdue University, USA
²Advanced ICT Research Institute, NICT
- 11:50-12:10 <OT02> **Precise control of inter-dot distance: Resonant energy transfer between CdSe quantum dots**
Koji Yamashita¹, Kazuki Fukaya¹, Tadashi Saitoh¹, °Mitsuru Inada¹
¹Department of Pure and Applied Physics, Kansai University
- 12:10-14:00 **Lunch**
- 12:10-13:00 **Short Presentation II***
Chair:Kiyooki Usami (Osaka Sangyo University)
- 14:00-14:30 **Keynote Presentation II**
Chair:Shuzi Hayase (Kyushu Institute of Technology)
- 14:00-14:30 <IT05> **Development of dye-sensitized molecular devices based on Nano-structured electrodes**
(Invited) Mingxing Wu¹, Wei Guo¹, Liang Wang¹, °Tingli Ma¹
¹State Key Laboratory of Fine Chemicals, Dalian University of Technology, China
- 14:30-16:00 **Organic Devices I**
Chair:Shuzi Hayase (Kyushu Institute of Technology)
- 14:30-15:00 <IT06> **Enhanced Efficiency of Graded Bilayer P3HT/PCBM Solar Cells by Morphological Control of Intermixed Layer**
(Invited) Varun Vohra¹, Koichi Higashimine¹, Mariano Campoy-Quiles², Miquel Garriga², Gianmichele Arrighetti³, Luisa Barba³, William Porzio⁴, °Hideyuki Murata¹
¹Japan Advanced Institute of Science and Technology
²Institut de Ciència de Materials de Barcelona (ICMAB-CSIC), Campus de la Universitat Autònoma de Barcelona, Spain
- 15:00-15:20 <OT03> **Efficient photovoltaic response by inserting ZnO-PVP electron transport layer in polymer/fullerene bulk heterojunction solar cells**
°Palanisamy Kumar¹, Kannappan Santhakumar¹, Shizuyasu Ochiai¹, Paik-Kyun Shin²
¹Department of Electrical Engineering, Aichi Institute of Technology
²School of Electrical Engineering, Inha University, Korea
- 15:20-15:40 <OT04> **One-Step Fabrication of Large Scaled ITO/PEDOT:PSS/P3HT:PCBM Structure**
°Jianchen Hu^{1,2}, Yasuhiro Shirai^{1,3}, Liyuan Han³, Yutaka Wakayama^{1,2}
¹International Center for Materials Nanoarchitectonics (WPI-MANA)
²Department of Chemistry and Biochemistry, Faculty of Engineering, Kyushu University
³Photovoltaic Materials Unit, National Institute for Materials Science
- 15:40-16:00 <OT05> **Study of Interface Layer Effect in Organic Solar Cells by Electric-Field-Induced Optical Second-Harmonic Generation Measurement**
°Dai Taguchi¹, Ryota Sumiyoshi¹, Xiangyu Chen¹, Takaaki Manaka¹, Mitsumasa Iwamoto¹
¹Department of Physical Electronics, Tokyo Institute of Technology
- 16:00-16:20 **Intermission**
- 16:20-18:20 **Poster Session II**
Chair:Steering Committee
- <PT01> **Electro-optic Polymer-Silicon Hybrid Photonic Crystal Nanobeam Modulators**
°Shin-ichiro Inoue¹, Akira Otomo¹
¹Advanced ICT Research Institute, NICT
- <PT02> **Inter-dot distance dependence of photoluminescence in Au₁₀ nanoclusters**
°Kazuki Fukaya¹, Tadashi Saitoh¹, Mitsuru Inada¹
¹Department of Pure and Applied Physics, Faculty of Engineering Science, Kansai University

Conference Program

- <PT03>* **Number density control of Fe nanoparticles as catalyst for CNT growth using LB technique by changing mixture ratio of Fe nanoparticles to arachidic acid**
°Akihiro Takezawa¹, Ryuta Nara¹, Masahito Kushida¹
¹Department of Applied Chemistry and Biotechnology, Chiba University
- <PT04>* **Layer-by-layer Growth of Precise Controlled Hetero-Molecular Multi-Layers and Superlattice Structures**
°Nobuya Hiroshiba^{1,2}, Jonathan P. Hill¹, Ryoma Hayakawa¹, Toyohiro Chikyow¹, Ariga Katsuhiko¹, Kiyoto Matsui², Yutaka Wakayama¹
¹International Center for Materials Nanoarchitectonic (WPI-MANA), National Institute for Materials Science
²Graduate School of Pure and Applied Sciences, Tsukuba University
- <PT05> **Formation of Chemical Bonds at the Interface between Polymer Layer and ITO**
°Seong-Ho Kim¹, Hanae Ohtsuka¹, Soutaro Ono¹, Hiroaki Usui¹, Rigoberto C. Advincula²
¹Tokyo University of Agriculture and Technology
²Case Western Reserve University, U.S.A
- <PT06> **SEM observation of nano structured materials using Room Temperature Ionic Liquids**
°Shigeaki Abe¹, Fumio Watari¹, Atsushi Hyono², Tetsu Yonezawa²
¹Graduate School of Dental Medicine, Hokkaido University
²Division of Materials Chemistry, Faculty of Engineering, Hokkaido University
- <PT07> **Preparation of Large-area Molecular Junctions with Metallic Conducting Langmuir-Blodgett Films**
°Kengo Mochizuki¹, Hitoshi Ohnuki¹, Daisuke Shimizu¹, Mitsuru Izumi¹, Tatsuro Imakubo², Daiju Tsuya³
¹Tokyo University of Marine Science and Technology
²Nagaoka University of Technology
³National Institute for Materials Science
- <PT08>* **Fabrication of Water-stable Electrospun Poly(acrylic acid) Fibers and Their Application to Long-range Surface Plasmon Resonance Based Biosensors**
Hiroto Mimiya¹, Paphawadee Netsuwan¹, °Akira Baba¹, Kazunari Shinbo¹, Keizo Kato¹, Futao Kaneko¹, Saengrawee Sriwichai², Sukon Phanichphant²
¹Graduate School of Science and Technology and Center for Transdisciplinary Research, Niigata University
²Department of Chemistry, Faculty of Science, Chiang Mai University, Thailand
- <PT09> **Patterning of purple membrane thin films by UV light irradiation**
°Yoshihiro Haruyama^{1,3}, Katsuyuki Kasai¹, Toshiki Yamada¹, Hiroshi Kikuchi², Toshifumi Terui¹, Shukichi Tanaka¹, Masaya Kitamura³, Akira Otomo¹
¹Advanced ICT Research Institute, NICT
²NHK STRL
³Osaka City University
- <PT10> **Pressure Effect on Resistance in Alkylammonium-Au(dmit)₂ LB films**
°Yasuhiro F. Miura¹, Naoki Sugimoto¹, Hironari Akiyama¹, Hiroyuki Hasegawa², Kazuyuki Matsubayashi³, Yoshiya Uwatoko³
¹Graduate School of Engineering, Toin University of Yokohama
²Graduate School of Science and Graduate School of Chemical Sciences and Engineering, Hokkaido University
³Institute for Solid State Physics, University of Tokyo
- <PT11> **Structural Control of Merocyanine Dye LB Films by Hydrothermal Treatment**
°Yasuhiro F. Miura¹, Motoaki Sano¹, Tsuneyoshi Sugimoto¹
¹Graduate School of Engineering, Toin University of Yokohama
- <PT12> **Bias Voltage Dependences of SPM imaging on Organic Molecule Complexes**
°Shukichi Tanaka¹, Yukihiko Tominari¹
¹Advanced ICT Research Institute, National Institute of Information and Communications Technology

- <PT13> **Electrorheological Response of Interfacial Layer between Liquid Crystal and Polymer Alignment Sublayer**
^oMasahiro Morimoto¹, Yoshio Makino², Junji Gonda², Masahiro Misaki¹, Kenji Ishida¹, Yasukiyo Ueda¹, Atsushi Kubono²
¹Department of Chemical Science & Engineering, Graduate School of Engineering, Kobe University
²Department of Materials Science & Chemical Engineering, Graduate School of Engineering Shizuoka University
- <PT14> **Crystallization of Thiophene/Phenylene Co-Oligomers from Droplets of Their Solutions**
^oHiroyuki Mochizuki¹, Fumio Sasaki¹, Shu Hotta²
¹Electronics and Photonics Research Institute, National Institute of Advanced Industrial and Science Technology
²Department of Macromolecular Science and Engineering, Graduate School of Science and Technology, Kyoto Institute of Technology
- <PT15> **Preparation of gold nanoparticle dispersed water solution with solution plasma**
^oNaoki Matsuda¹, Tatsuou Nakashima¹, Hirotaka Okabe¹
¹Measurement Solution Research Center, AIST
- <PT16> ***In situ* observation of direct electron transfer reaction between cytochrome *c* and ITO electrode with slab optical waveguide spectroscopy**
^oHirotaka Okabe¹, Naoki Matsuda¹
¹Measurement Solution Research Center, AIST
- <PT17> **Surface Property of Perfluoropolymer Films Exposed to Linearly Polarized Ultraviolet Light**
^oKiyoaki Usami¹, Kengo Masaki¹
¹Department of Information Systems Engineering, Osaka Sangyo University
- <PT18> **Investigation of Surface morphological properties of functional polymer thin films under heating process by atomic force microscopy**
^oYukihiro Tominari¹, Tatsuro Mizunuma¹, Shukichi Tanaka¹, Akira Otomo¹
¹Advanced ICT Research Institute, National Institute of Information and Communications Technology
- <PT19> **Modeling and Probing carrier motion in ambipolar organic field transistors as Maxwell-Wagner effect elements**
^oMitsumasa Iwamoto¹, Takaaki Manaka¹, Dai Taguchi¹
¹Department of Physical Electronics, Tokyo Institute of Technology
- <PT20> **Control of the Inter-Molecular Interaction in the Pentacene cluster on the charged state calculation**
^oShigekazu Ohmori¹, Ken Tokunaga², Hiroshi Kawabata³
¹Venture Business Laboratory, Kyoto University
²Division of Liberal Arts, Kogakuin University
³Young Researchers Education Center, Hiroshima University
- <PT21> **Effect of sugar stereochemistry on glycolipid self-assembly**
^oRauzah Hashim¹, Akihiko Sugimura¹
¹Chemistry Department, University of Malaya, Malaysia
²Department of Information Systems Engineering, Osaka Sangyo University
- <PT22> **Monodomain Planner Alignment of 1,4,8,11,15,18,22,25- Octahexylphthalocyanine by Melt Growth Method**
^oNaoyuki Yamasaki¹, Takeshi Saito¹, Jaeki Kim¹, Hiroyuki Yoshida¹, Akihiko Fujii¹, Masanori Ozaki¹, Yo Shimizu²
¹Division of Electrical, Electronic and Information Engineering, Graduate School of Engineering, Osaka University
²Synthetic Nano-Function Materials Group, Research Institute for Ubiquitous Energy Devices, National Institute of Advanced Industrial Science and Technology (AIST),
- <PT23> **Uniaxial Alignment of π -Conjugated Polymer Films by Reciprocating Shearing Method**
^oNaoyuki Yamasaki¹, Hideyuki Utsumi¹, Jaeki Kim¹, Hiroyuki Yoshida¹, Akihiko Fujii¹, Masanori Ozaki¹
¹Division of Electrical, Electronic and Information Engineering, Graduate School of Engineering, Osaka University

- <PT24> **Three-Dimensional Photochemical Microfabrication of Poly(3,4-ethylenedioxythiophene) in Transparent Polymer Sheet**
 °Katsumi Yamada¹
¹Department of Life Science and Sustainable Chemistry, Tokyo Polytechnic University
- <PT25> **Effects of alkyloxy groups bound to amino benzene donor unit of electro-optic chromophores**
 °Toshiki Yamada¹, Isao Aoki¹, Hideki Miki¹, Akira Otomo¹
¹National Institute of Information and Communications Technology
- <PT26> **Intercalation of the FeCl₃ to the graphite and a few layers of graphenes**
 °Hiroaki Ichikawa¹, Shogo Sato¹, Nobuyuki Iwata¹, Hiroshi Yamamoto¹
¹College of Science & Technology, Nihon Univ.
- <PT27> **Simultaneous Control of Position, Chirality, and in-plane Orientation of Single-walled Carbon Nanotubes Growth**
 °Satoshi Doi¹, Takumi Sagara¹, Nobuyuki Iwata¹, Hiroshi Yajima², Hirofumi Yamamoto¹
¹College of Science & Technology, Nihon University
²Department of Applied Chemistry, Faculty of Science, Tokyo University of Science
- <PT28>* **USAXS Study of Periodic Polymer Structure of the Polymer-Stabilized Blue Phase Liquid Crystals**
 °Tatsuro Mizunuma¹, Hiroki Higuchi¹, Yasushi Okumura¹, Hirotsugu Kikuchi¹, Yasutomo Nagano², Yasuhiro Haseba²
¹Institute of Materials Chemistry and Engineering, Kyushu University
²JNC Petrochemical Corporation
- <PT29> **Third-Order Optical Susceptibility in Polythiophene Thin Films prepared by Spin-Coating from High-Boiling-Point Solvents**
 °Takashi Kobayashi^{1,2}, Wataru Shinke¹, Takashi Nagase^{1,2}, Shuichi Murakami³, Hiroyoshi Naito^{1,2}
¹Department of Physics and Electronics, Osaka Prefecture University
²The Research Institute of Molecular Electronic Devices, Osaka Prefecture University
³Control Engineering and Electronic Materials Section, Technology Research Institute of Osaka Prefecture
- <PT30>* **Probing Space Charge Effect on Electroluminescence of ITO/ α -NPD/Alq₃/Al Diodes by Time-Resolved Electric-Field-Induced Optical Second-Harmonic Generation Measurement**
 °Atsuo Sadakata¹, Dai Taguchi¹, Takaaki Manaka¹, Mitsumasa Iwamoto¹
¹Department of Physical Electronics, Tokyo Institute of Technology
- <PT31>* **Optical switching of OFET characteristics with photochromic spiropyran molecules**
 °Yasushi Ishiguro^{1,2}, Ryoma Hayakawa², Toyohiro Chikyow², Yutaka Wakayama^{1,2}
¹Department of Chemistry and Biochemistry, Faculty of Engineering, Kyushu University
²International Center for Materials Nanoarchitectonics (WPI-MANA), National Institute for Materials Science
- <PT32>* **MoO₃ based intermediate connector in tandem OLED: electric field assist charge generation and separation process**
 °Jin-Peng Yang¹, Yan Xiao², Steffen Duhm², Satoshi Kera¹, Nobuo Ueno¹, Yan-Qing Li², Jian-Xin Tang²
¹Graduate School of Advanced Integration Science, Chiba University
²Jiangsu Key Laboratory for Carbon-Based Functional Materials & Devices Institute of Functional Nano & Soft Materials (FUNSOM), Soochow University
- <PT33>* **A Novel Method for Modelling of Dye-sensitized Solar Cell**
 °Min-Kyu Son¹, Hyunwoong Seo², Kyoung-Jun Lee¹, Soo-Kyoung Kim¹, Byung-Man Kim¹, Songyi Park¹, Kandasamy Prabakar¹, Hee-Je Kim¹
¹Department of Electrical Engineering, Pusan National University, Korea
²Center of Plasma Nano-interface Engineering, Kyushu University
- <PT34>* **Effect of Well-aligned TiO₂ on Dye-sensitized Solar Cells**
 °Na-Yeong Hong¹, Soo-Kyoung Kim¹, Byung-Man Kim¹, SongYi Park¹, Kandasamy Prabakar¹, Hee-Je Kim¹
¹Department of Electrical Engineering, Pusan National University, Korea
- <PT35>* **Nonlinear effect for conducting polymer network with synapse structure**
 °Yuka Machiya¹, Masaharu Fujii¹, Haruo Ihori¹, H.- G. Jeon¹
¹Graduate School of Science and Engineering, Ehime University

- <PT36>* **Structural Control of Graphene Edges by Electrochemical Etching**
 °Shosei Kubota¹, Takashi Yanase², Tetsu Yonezawa², Taro Nagahama², Toshihiro Shimada²
¹Department of Chemical Sciences and Engineering, Hokkaido University
²Department of Engineering, Hokkaido University
- <PT37>* **The enhancement of dye-sensitized solar module with an electrical adsorption method**
 °Hyunwoong Seo¹, Masaharu Shiratani¹, Min-Kyu Son², Hee-Je Kim²
¹Center of Plasma Nano-interface Engineering, Kyushu University
²Department of Electrical Engineering, Pusan National University, Korea
- <PT38>* **Electrochemical impedance analysis on the additional layers for the enhancement on the performance of dye-sensitized solar cell**
 °Hyunwoong Seo^{1,2}, Yuting Wang^{1,2}, Daiki Ichida^{1,2}, Giichiro Uchida^{1,2}, Naho Itagaki^{1,2}, Kazunori Koga^{1,2}, Masaharu Shiratani^{1,2}
¹Graduate School of Information Science and Electrical Engineering, Kyushu University
²Center of Plasma Nano-interface Engineering, Kyushu University
- <PT39>* **Preparation and Characteristics of Organic Field-Effect Transistor Having HAT-CN Carrier Generation Layer**
 °Takatoshi Goto¹, Masahiro Minagawa², Akira Baba¹, Kazunari Shinbo¹, Keizo Kato¹, Futao Kaneko¹
¹Niigata University
²Nagaoka National College of Technology
- <PT40>* **Investigation of relationship between diffusion for electrolyte in nanoporous TiO₂ for Dye sensitized solar cells**
 °Minobu Kawano¹, Hiromi Sato¹, Yuhei Ogomi¹, Shyam S. Pandey¹, Shuzi Hayase¹
¹Graduate School of LSSE, Kyushu Institute of Technology
- <PT41>* **Polymer Based Field Effect Transistors with Carbon Nanotube Electrodes Fabricated by Soft-lithography**
 °Ryo Kanai¹, Eiji Itoh¹
¹Department of Electrical and Electronic Engineering, Shinshu University
- <PT42>* **Characterization of Electropray-Based P3HT Thin Film by Raman Spectroscopy**
 °Yingjie Liao¹, Takeshi Fukuda¹, Kenji Takagi¹, Norihiko Kamata¹, Fumihiko Fukuda², Yukio Furukawa²
¹Saitama University
²Waseda University
- <PT43>* **Fabrication of ZnO nanorod structures for high-efficiency solid-state dye-sensitized solar cells**
 °Md. Mijanur Rahman¹, Shinji Kouya², Jun Osawa², Masatoshi Sakai², Kazunuki Yamamoto¹, Kazuhiro Kudo²
¹Department of Nanomaterial Science, Graduate School of Advanced Integration Science, Chiba University
²Department of Electrical and Electronic Engineering, Graduate School of Engineering, Chiba University
- <PT44>* **Excitation-Emission Matrix Spectrum of Coal Tar Pitch Solution Separated by Soxhlet Extractor**
 Sho Kimura¹, °Takeshi Fukuda¹, Norihiko Kamata¹, Makoto Yamashita²
¹Saitama University
²Chuo university
- <PT45>* **Influence of Metal Coating and Aggregation Effects on Intrachain Excitons in Poly (3-Hexylthiophene)**
 °Vipul Singh¹, Shyam S. Pandey², Wataru Takashima², Keiichi Kaneto²
¹Department of Electrical Engineering, Indian Institute of Technology
²Department of Biological Functions and Engineering, Kyushu Institute of Technology
- <PT46> **Thermoelectric properties of PEDOT/PSS with ethylene glycol**
 °Akihiro Kohno¹, Shigeo Ogawa¹
¹NTT Energy and Environment Systems Laboratories
- <PT47> **Engineering Density of Organic pn Heterojunction Interface States to Modulate Threshold Voltage in Organic Thin Film Transistors**
 °Rongbin Ye¹, Koji Ohta¹, Mamoru Baba¹
¹Faculty of Engineering, Iwate University

- <PT48> **Influence of substrate material on TTF-TCNQ film morphology**
 °Yasuko Yamada Maruo¹, Tohru Maruno²
¹NTT Energy and Environment Systems Laboratory
²NTT Advance Technology
- <PT49> **Nanocrystals of Phtalocyanine-based Mott Insulator and their Electrical Characteristics**
 °Nobuaki Kinoshita¹, Masaki Matsuda¹
¹Graduate School of Science and Technology, Kumamoto University
- <PT50> **Mechanical Analysis of Flexible Devices by the Finite Element Calculation**
 °Masatoshi Sakai¹, Tatsuyoshi Okamoto¹, Youta Yamazaki¹, Shohei Yamaguchi¹, Junro Hayashi¹, Kazuhiro Kudo¹
¹Department of Electrical and Electronic Engineering, Chiba University
- <PT51> **Fabrication of optical waveguide structure with in-plane electrode for high performance electro-optic polymer**
 °Kazuhiro Yamamoto¹, Lu Li¹, Shiyoshi Yokoyama¹
¹Institute for Materials Chemistry and Engineering, Kyushu University
- <PT52> **Density Functional Theory (DFT) Study on Interaction of Radicals and Atoms with Graphene Surface**
 °Tetsuji Iyama¹, Hiroto Tachikawa¹
¹Hokkaido University
- <PT53> **An Ammonia Sensing Method by Measurement of Voltametric Current and Fluorescence of Chemical Product from Prolin in the Gel**
 °Yutaka Tsujiuchi¹, Yuta Ando¹, Takahiko Sano¹, Hiroshi Masumoto², Takashi Goto³
¹Department of Material Science and Engineering, Akita University
²Center for Interdisciplinary Research, Tohoku University
³Institute for Materials Research, Tohoku University

18:20-18:30 **Intermission**

18:30-20:00 **Banquet**

December 14 (Friday)

08:00-09:00 **Registration**

09:00-10:30 **Nanointerface Phenomena**

Chair: Hitoshi Suzuki (Hiroshima University)

09:00-09:30 <IF01> **Integration of molecular functions into Si device for single-electron memory**
 (Invited) °Yutaka Wakayama¹, Ryoma Hayakawa¹
¹International Center for Materials Nanoarchitectonics (WPI-MANA), National Institute for Materials Science

09:30-09:50 <OF01> **Geometric and Electronic Structure of Templated C₆₀ on Diindenoperylene Thin Films**
 °Alexander Hinderhofer¹, Keiichirou Yonezawa¹, Kengo Kato¹, Satoshi Kera¹, Nobuo Ueno¹, Takuya Hosokai², Alexander Gerlach³, Katharina Broch³, Frank Schreiber³
¹Graduate School of Advanced Integration Science, Chiba University
²Department of Materials and Science, Iwate University
³Institute for Applied Physics, University of Tuebingen, Germany

09:50-10:10 <OF02> **Mechanisms of crystallization of deposited thiophene/phenylene co-oligomer films**
 °Hiroyuki Mochizuki¹, Yoshizo Kawaguchi¹, Fumio Sasaki¹, Masayuki Chikamatsu¹, Reiko Azumi¹, Shu Hotta²
¹Electronics and Photonics Research Institute, National Institute of Advanced Industrial and Science Technology
²Department of Macromolecular Science and Engineering, Graduate School of Science and Technology, Kyoto Institute of Technology

Conference Program

- 10:10-10:30 <OF03> **Visualizing Polarization Structure of Lipid Langmuir Monolayer by Second-Harmonic Generation Technique**
°Yohei Matsuoka¹, Dai Taguchi¹, Takaaki Manaka¹, Mitsumasa Iwamoto¹
¹Department of Physical Electronics, Tokyo Institute of Technology
- 10:30-10:50 **Refreshment**
- 10:50-11:50 **Organic Devices II**
Chair: Takhee Lee (Seoul National University)
- 10:50-11:20 <IF02> **Molecular and macromolecular approach to organic electronics: new heteroaromatic-based building blocks for opto/electronic materials**
(Invited) °Kazuo Takimiya¹, Itaru Osaka¹, Eigo Miyazaki¹
¹Department of Applied Chemistry, Graduate School of Engineering, Hiroshima University
- 11:20-11:50 <IF03> **Materials and devices of high-end organic transistors**
(Invited) °Jun Takeya¹
¹ISIR, Osaka University
- 11:50-13:00 **Lunch**
- 13:00-14:20 **Organic Devices II**
Chair: Eiji Itoh (Shinshu University)
- 13:00-13:20 <OF04> **Transparent conductive oxide-less dye-sensitized solar cells with back contact structure**
Yuhei Ogomi¹, Terumi Nishimura¹, Jun Usagawa¹, Takeshi Kogo¹, Shyam S. Pandey¹, °Shuzi Hayase¹
¹Kyushu Institute of Technology
- 13:20-13:40 <OF05> **Tuning the Vertical Concentration Gradient in P3HT:PCBM Graded Bilayer Solar Cells by Adding Regiorandom P3HT**
°Varun Vohra¹, Koichi Higashimine¹, Hideyuki Murata¹
¹Japan Advanced Institute of Science and Technology (JAIST)
- 13:40-14:00 <OF06> **Thermoelectric Effect of Doped Organic Semiconductors**
°Yu Ikuta¹, Toshihiro Shimada¹, Takashi Yanase¹, Taro Nagahama¹
¹Division of Materials Chemistry, Faculty of Engineering, Hokkaido University
- 14:00-14:20 <OF07> **High-Efficiency Green Phosphorescent Organic Light-Emitting Diodes with Double-Emission Layer and Thick N-doped Electron Transport Layer**
°Shunichiro Nobuki¹, Hironori Wakana¹, Shingo Ishihara¹, Akiyoshi Mikami²
¹Hitachi Research Laboratory, Hitachi Ltd.
²Dept. of Electrical Engineering, Kanazawa Institute of Technology
- 14:20-15:40 **Organic Devices II**
Chair: Masatoshi Sakai (Chiba University)
- 14:20-14:40 <OF08> **Fabrication and Characterization of the multi-layered polymer-based light emitting diodes deposited by transfer printing technique**
°Eiji Itoh¹, Yuuki Kato¹
¹Department of Electrical and Electronic Engineering, Shinshu University
- 14:40-15:00 <OF09> **Optically- and electrically-driven dual-gate transistor with diarylethene channel layers**
°Ryoma Hayakawa¹, Kenji Higashiguchi², Kenji Matsuda², Toyohiro Chikyow¹, Yutaka Wakayama¹
¹International Center for Materials Nanoarchitectonics (WPI-MANA), National Institute for Materials Science
²Department of Synthetic Chemistry and Biological Chemistry, Graduate School of Engineering, Kyoto University
- 15:00-15:20 <OF10> **High mobility in solution-processed polycrystalline thin films of highly ordered smectic liquid crystals at 65°C**
°Hiroaki Iino¹, Takayuki Usui¹, Takeo Kobori¹, Jun-ichi Hanna¹
¹Imaging Science and Engineering Laboratory, Tokyo Institute of Technology

Conference Program

- 15:20-15:40 **<OF11> Analysis of temperature dependence of threshold voltage and trap density of states in organic n-channel field-effect transistors**
 °Joungmin Cho¹, Tomoyuki Kakinuma¹, Takehiko Mori¹
 ¹Department of Organic and Polymeric Materials, Tokyo Institute of Technology
- 15:40-16:00 **Awarding ceremony** Presenter: Mitsumasa Iwamoto
- 16:00-16:20 **Closing remarks**
 Takhee Lee (Seoul National University)
 Akira Otomo (NICT)