

EM-NANO 2017 Program

Sunday, June 18

Welcome Reception

Rehearsal Room

18:30 - 20:30

Monday, June 19

OPENING REMARKS (Main Hall)

09:00 Conference Chair

PLENARY SESSION

Chairperson : Masaaki Kuzuhara (University of Fukui, Japan)

June 19, Monday, 09:15 - 12:00

Main Hall

09:15 **PL-1 Fiber Optic Nerve Systems for Structural Health Monitoring**, Kazuo Hotate (Toyota Technological Institute, Japan)

10:00 **PL-2 Recent Progress in Inorganic Electro-Active Materials**, Hideo Hosono (Tokyo Institute of Technology, Japan)

10:45 **Break**

11:15 **PL-3 3D Local Structure Science of Active-site by Atomic-Resolution Stereography and Holography**, Hiroshi Daimon (Nara Institute of Science and Technology, Japan)

FOCUS SESSION 1

Chairperson : Mutsumi Kimura (Ryukoku University, Japan)

June 19, Monday, 13:15 - 15:15

Main Hall

13:15 **F1-1 Organic Electrochemical Transistors as Bio-Sensors from Physics and Chemistry to Model Design**, Yvan Bonnassieux, Anna Shirinskaya, Gilles Horowitz (LPICM, CNRS, Ecole Polytechnique, France)

13:45 **F1-2 Contact Effects in Organic Thin Film Transistors: Device Physics and Modeling**, (invited) Guglielmo Fortunato, Matteo Rapisarda, Antonio Valletta, Sabrina Calvi, Luigi Mariucci (Consiglio Nazionale delle Ricerche - Institute for Microelectronics and Microsystems, Italy)

14:15 **F1-3 A Route toward Less-Lead or Lead-Free Perovskite Solar Cells**, Meng Li, Zhao-Kui Wang, (invited) Liang-Sheng Liao (Soochow University, China)

14:45 **F1-4 PL Decay Imaging for Probing Carrier Behavior in Luminescence Polymer Thin Films**, (invited) Takaaki Manaka, Mitsumasa Iwamoto (Tokyo Institute of Technology, Japan)

15:15 **Break**

FOCUS SESSION 2

Chairperson : Koichi Maezawa (University of Toyama, Japan)

June 19, Monday, 15:45 - 17:45

Main Hall

15:45 **F2-1 Renovation of Power Semiconductor Technology - From Silicon to Wide Bandgap Devices**, (invited) Daisuke Ueda (Kyoto Institute of Technology, Japan)

16:15 **F2-2 High Performance III-V Nanowire Transistors**, Erik Lind (invited) (Lund University, Sweden)

16:45 **F2-3 Femtosecond Slow-Motion of a Molecular Orbital in a Single Vibrating Molecule**, (invited) Dominik Peller, Tyler L. Cocker, Ping Yu, Jascha Repp, Rupert Huber (University of Regensburg, Germany)

17:15 **F2-4 Nanodiagnosis Platform Technology: Toward In-body Hospital**, Takanori Ichiki^{1,2} (invited) (¹University of Tokyo, Japan, ²Kawasaki Institute of Industry Promotion, Japan)

17:45 **Break**

POSTER SESSION 1

18:00 - 19:30

Tuesday, June 20, 2017

FOCUS SESSION 3

Chairperson : Susumu Horita (Japan Advanced Institute of Science and Technology, Japan)

June 20, Tuesday, 09:00 - 10:30

Main Hall

- 09:00 **F3-1 Ultimate Electronics with Control of Single Electrons**, Akira Fujiwara, Katsuhiko Nishiguchi, (invited) Gento Yamahata, Kensaku Chida (NTT Basic Research Laboratories, Japan)
- 09:30 **F3-2 Research Development on Device Fabrication Processes of Atomically Thin 2D Functional Films for Ubiquitous Sensing**, Atsushi Ando (National Institute of Advanced Industrial Science and Technology, Japan)
- 10:00 **F3-3 Computational Nano-Materials Design and Realization: Defect and Impurity Control**, (invited) Hiroshi Katayama-Yoshida¹, Tetsuya Fukushima², Kazunori Sato², (¹University of Tokyo, Japan, ²Osaka University, Japan)

10:30 **Break**

FOCUS SESSION 4

Chairperson : Atsushi Matsuda (National Institute of Advanced Industrial Science and Technology, Japan)

June 20, Tuesday, 11:00 - 12:30

Main Hall

- 11:00 **F4-1 Assessing the Limits and Possibility of Solar Cells**, Pabitra K. Nayak (invited) (University of Oxford, UK)
- 11:30 **F4-2 Solution-Processed Organic-Inorganic Perovskite Thin-Film Transistors with High Hole and Electron Mobilities**, Toshinori Matsushima^{1,2}, Atula S. D. Sandayaka^{1,2}, Chuanjiang Qin^{1,2}, Takashi Fujiwara³, Chihaya Adachi^{1,2} (¹Kyushu University, Japan, ²JST, ERATO, Adachi Molecular Exciton Engineering Project, Japan, ³ISIT, Japan)
- 12:00 **F4-3 Ferroelectric Photovoltaics Delivering Abnormally High Photovoltages**, Yuji Noguchi¹, (invited) Ryotaro Inoue², Yuuki Kitanaka¹, Masaru Miyayama¹ (¹University of Tokyo, Japan, ²Nihon University, Japan)

POSTER SESSION 2

12:30- 14:00

14:00 **Break**

PARALLEL SESSION 1

PA1-1 : Organic Materials & Devices

Chairperson : Hiroyuki Okada (University of Toyama, Japan)

June 20, Tuesday, 14:10 - 16:10

Main Hall

- 14:10 **PA1-1-1 Fundamental Technology for Application of Organic Transistors to High Frequency Organic Transistors to High Frequency Operating Circuits**, Masatoshi Kitamura (Kobe University, Japan)
- 14:40 **PA1-1-2 Remaining Challenges in Organic Light-Emitting Diodes for Practical Use: Operational Lifetime and Color Purity**, Hirohiko Fukagawa (NHK, Japan)
- 15:10 **PA1-1-3 Top-Gate Pentacene-Based OFET with α -Rubrene Gate Insulator**, Mizuha Hiroki, Yasutaka Maeda, Shun-ichiro Ohmi (Tokyo Institute of Technology, Japan)
- 15:30 **PA1-1-4 Short-Circuit Current Enhancement in Photovoltaic-Based Organophosphate Pesticide Chlorpyrifos Sensor Using Surface Plasmon Resonance Effect**, Treenet Thepudom^{1,2}, Chutiparn Lertvachirapaiboon¹, Kazunari Shinbo¹, Keizo Kato¹, Futao Kaneko¹, Teerakiat Kerdcharoen², Akira Baba¹ (¹Niigata University, Japan, ²Mahidol University, Thailand)

- 15:50 **PA1-1-5 Electronic Structures of bis(1,2,5-thiadiazolo)-p-quinobis(1,3-dithiole) (BTQBT) and Electrode Interface Measuring by Photoelectron Spectroscopy**, N. Ohashi, S. Kobayashi, M. Hikasa, Y. Nakayama, Y. Watanabe (Tokyo University of Science, Japan)

PA1-2 : Inorganic, Ferroelectric & Oxide materials

Chairperson : Hironori Fujisawa (University of Hyogo, Japan)

June 20, Tuesday, 14:10 - 16:00

Room 607

- 14:10 **PA1-2-1 Functional Properties of Ferroelectric Polymer and its Device Application**,
(invited) Takashi Nakajima^{1,2} (¹Tokyo University of Science, Japan, ²PRESTO, JST, Japan)
- 14:40 **PA1-2-2 A Novel Power Device Materials of Corundum-Structured α -Ga₂O₃ Generated by MIST**
(invited) **EPITAXY Technique**, Kentaro Kaneko^{1,2}, Shizuo Fujita¹, Toshimi Hitora² (¹Kyoto University, Japan, ²FLOSFA, Japan)
- 15:10 **PA1-2-3 Diamond Epitaxy for High Power and High Temperature Electronics**, Franz A. Koeck¹,
(invited) Maitreya Dutta^{1,2}, Raghuraj Hathwar¹, Mehdi Saremi¹, Xingye Wang¹, Brianna Eller¹,
Manpuneet Kaur Benipal¹, Srabanti Chowdhury^{1,2}, Stephen M. Goodnick¹, Robert J. Nemanich¹
(¹Arizona State University, USA, ²University of California - Davis, USA)
- 15:40 **PA1-2-4 Optimized Ascorbic Acid Fuel Cells with Graphene-coated Carbon Fiber Cloth**,
Toshinari Doi¹, Kazuki Hoshi¹, Kazuo Muramatsu², Hisato Sumi², Yasuhiro Nishioka¹,
Satomitsu Imai¹ (¹Nihon University, Japan, ²Incubation Alliance Inc., Japan)

PA1-3 : Photovoltaics I (Inorganic)

Chairperson : Atsushi Matsuda (National Institute of Advanced Industrial Science and

June 20, Tuesday, 14:10 - 16:10

Room 601

- 14:10 **PA1-3-1 Oxide Semiconductor Thin Films for Solar Cell Applications**, Toshihiro Miyata,
(invited) Tadatsugu Minami (Kanazawa Institute of Technology, Japan)
- 14:40 **PA1-3-2 Optical Properties and Band Structures Cu(In,Ga)Se₂ and Cu-Deficient Phases**,
(invited) **Cu(In,Ga)₃Se₅ and Cu(In,Ga)₅Se₈**, Takahiro Wada, Tsuyoshi Maeda (Ryukoku University,
Japan)
- 15:10 **PA1-3-3 First-Principles Study of Defect Formation in the Photovoltaic Semiconductor Cu₂ZnGeSe₄**,
Hironori Nishihara, Tsuyoshi Maeda, Takahiro Wada (Ryukoku University, Japan)
- 15:30 **PA1-3-4 Analysis for Leakage Currents within Unlaminated Photovoltaic-Module-Like Layer Stacks in a Cell-Level Potential-Induced Degradation Test**, Seira Yamaguchi, Keisuke Ohdaira (Japan Advanced Institute of Science and Technology, Japan)
- 15:50 **PA1-3-5 Bending Cyclic Load Test for Crystalline Si Photovoltaic Modules**, Soh Suzuki^{1,2},
Takuya Doi³, Atsushi Masuda³, Tadanori Tanahashi¹ (¹Espec Corp., Japan, ²Photovoltaic Power Generation Technology Research Association, Japan, ³National Institute of Advanced Industrial Science and Technology, Japan)

16:00 **Break**

PARALLEL SESSION 2

PA2-1 : Thin-Film Transistors

Chairperson : Yukiharu Uraoka (Nara Institute of Science and Technology, Japan)

June 20, Tuesday, 16:30 - 18:10

Main Hall

- 16:30 **PA2-1-1 Chemical Solution Process of In-Based Oxides and MoS₂ for Thin Film Transistors**,
(invited) Eisuke Tokumitsu (Japan Advanced Institute of Science and Technology, Japan)
- 17:00 **PA2-1-2 Evaluation Stress Stabilities in Amorphous In-Ga-Zn-O Thin Film Transistors: Effect of Passivation with Si-based Resin**, Mototaka Ochi, Aya Hino, Hiroshi Goto, Kazushi Hayashi, Toshihiro Kugiyama (Kobe Steel Ltd., Japan)

- 17:30 **PA2-1-3 3-D Stacked Complementary Circuit with n-Type α -IGZO and p-Type F8T2 TFTs - Tolerant Characteristic against Temperature Change** - Takayuki Hasegawa¹, Masashi Inoue¹, Mutsumi Kimura¹, Kenji Nomura², Toshio Kamiya², Hideo Hosono² (¹Ryukoku University, Japan, ²Tokyo Institute of Technology, Japan)
- 17:50 **PA2-1-4 A Novel Method for Low-Temperature Ultraviolet-Ozone Channel Activation of Amorphous In-Ga-Zn-O Thin Transistors**, Michael Paul Jallorina, Juan Paolo Bermundo, Yasuaki Ishikawa, Yukiharu Uraoka (Nara Institute of Science and Technology, Japan)

PA2-2 : THz Electronics

Chairperson : Masahiko Tani (University of Fukui, Japan)

June 20, Tuesday, 16:30 - 18:10

Room 607

- 16:30 **PA2-2-1 Application of Terahertz Wave for Polymer Science**, Hiromichi Hoshina (invited) (RIKEN, Japan)
- 17:00 **PA2-2-2 Terahertz Oscillators and Receivers Using Electron Devices for Applications**, Safumi Suzuki, (invited) Masahiro Asada (Tokyo Institute of Technology, Japan)
- 17:30 **PA2-2-3 Study of Terahertz Radiation Propagation in Stratified GaAs/InGaAs/GaAs Structure for Detection Applications**, Anatoly Koval'chuk¹, Irina Khmyrova², Sergei Shapoval¹ (¹IMT RAS, Russia, ²University of Aizu, Japan)
- 17:50 **PA2-2-4 Effects of Metal V-Grooved Waveguide Gap Width on High Efficient THz Waves Generations Using Laser Chaos and Super Focusing**, Fumiyoshi Kuwashima¹, Takuya Shirao¹, Yusuke Akamine¹, Kazuyuki Iwao¹, Manatsu Ooi¹, Naoya Sakae¹, Takuro Sirasaki¹, Siori Gouda¹, Masahiko Tani², Kazuyoshi Kurihara², Kohji Yamamoto², Osamu Morikawa³, Hideaki Kitahara², Makoto Nakajima⁴ (¹Fukui University of Technology, Japan, ²University of Fukui, Japan, ³Chair of Liberal Arts, Japan Coast Guard Academy, Japan, ⁴Osaka University, Japan)

PA2-3 : Photovoltaics II (Organic)

Chairperson : Tatsuo Mori (Aichi Institute of Technology, Japan)

June 20, Tuesday, 16:30 - 18:10

Room 601

- 16:30 **PA2-3-1 A Hydrophobic Hole Transporting System to Improve Moisture Stability of Perovskite Solar Cells**, Lixin Xiao, Yingzhuang Ma, Lingling Zheng, Cuncun Wu (Peking University, China)
- 17:00 **PA2-3-2 Recent Progress in All Vacuum Processed Perovskite Solar Cells**, Chien-Yu Chen, (invited) Sheng-Yi Hsiao, Wei-Hung Lee, Wei-Lun Tsai, Hung-Yu Lin, Kai-Ming Chiang, Hao Wu Lin (National Tsing Hua University, Taiwan)
- 17:30 **PA2-3-3 Interface Engineering between Electron Transport Layer and Perovskite Layer for Perovskite Solar Cells**, Takuro N. Murakami¹, Takashi Funaki¹, Tetsuhiko Miyadera¹, Ludmila Cojocar², Said Kazaoui¹, Masayuki Chikamatsu¹, Hiroshi Segawa² (¹National Institute of Advanced Industrial Science and Technology, Japan, ²University of Tokyo, Japan)
- 17:50 **PA2-3-4 Grating-Coupled Surface Plasmon Resonance Enhanced Organic Photovoltaic Devices Induced by Blu-Ray Disc Recordable and Blu-Ray Disc Grating Structures**, Supeera Nootchanat^{1,2}, Apichart Pangdam^{1,2}, Ryouyuke Ishikawa¹, Kanet Wongravee², Kazunari Shinbo¹, Keizo Kato¹, Futao Kaneko¹, Sanong Ekgasit², Akira Baba¹ (¹Niigata University, Japan, ²Chulalongkorn University, Thailand)

Banquet

Yours Hotel

18:30 - 20:30

Wednesday, June 21, 2017

PARALLEL SESSION 3

PA3-1 : Inorganic (Compound Semiconductors)

Chairperson : Joel T. Asubar (University of Fukui, Japan)

June 21, Wednesday, 09:30 - 10:20

Room 607

- 09:00 **PA3-1-1 Current Understanding and Challenges of Metal-Oxide-Semiconductor Gated GaN HFETs**, (invited) Milan Tapajna, Dagmar Gregusova, Karol Frohlich, Jan Kuzmik (Slovak Academy of Sciences, Slovakia)
- 09:30 **PA3-1-2 Progress of Wide Band Gap Power Devices**, Katsunori Ueno (invited) (Fuji Electric Co., Japan)
- 10:00 **PA3-1-3 Enhancement-Mode AlGaIn/GaN MIS-HEMTs with Recessed-Gate Structures Exhibiting High Threshold Voltage**, Wataru Gamachi, Kotaro Ishii, Joel T. Asubar, Hirokuni Tokuda, Masaaki Kuzuhara (University of Fukui, Japan)

PA3-2 : Bioelectronics

Chairperson : Ichiro Yamashita (Nara Institute of Science and Technology, Japan)

June 21, Wednesday, 09:30 - 10:30

Main Hall

- 09:00 **PA3-2-1 Massive Parallel Operation of Bio-Substance by Microfluidic Techniques**, Yuzuru Takamura (invited) (Japan Advanced Institute of Science and Technology, Japan)
- 09:30 **PA3-2-2 Biodegradable Neural Cell Culture Sheet Made of Poly (Lactic-Co-Glycolic Acid) Thin Film with Micropatterns of Polylysine Containing Laminin Layer**, Yuki Nakamura, Shunpu Horiuchi, Eiki Koshinuma, Satomitsu Imai, Yasuhiro Nishioka (Nihon University, Japan)
- 09:50 **PA3-2-3 Development of Graphene Oxide-poly(3,4-ethylenedioxythiophen) / poly(styrenesulfonate) Thin Film-Based Electrochemical-Surface Plasmon Resonance Immunosensor**, Chamhari Pothipor^{1,2}, Kontad Ounnunkad², Chutiparn Lertvachirapaiboon¹, Kazunari Shinbo¹, Keizo Kato¹, Futao Kaneko¹, Akira Baba¹ (¹Niigata University, Japan, ²Chiang Mai University, Thailand)
- 10:10 **PA3-2-4 Highly Sensitive QCM Based Biosensor Using Au Dendrite Structure**, N. Asai, T. Yoshimura, T. Shimizu, S. Shingurbara, T. Ito (Kansai University, Japan)

PA3-3 : Polymers and Nanostructures

Chairperson : Akira Baba (Niigata University, Japan)

June 21, Wednesday, 09:30 - 10:30

Room 601

- 09:00 **PA3-3-1 Aspartame-Imprinted Conducting Polymer Pillar Arrays Using Insulating Inverse Silica Photonic Crystals**, Jin Young Park (Kyungpook National University, Korea)
- 09:30 **PA3-3-2 Mechanical, Electronic Properties and Its Strain Engineering of Metal-Organic Frameworks: A First-Principles Study**, Xiaoyuan Wang¹, Fengpeng Zhao¹, Yabin Yan^{1,2} (¹China Academy of Engineering Physics, China, ²Kyoto University, Japan)
- 09:50 **PA3-3-3 Synthesis of NiNW/ Cellulose Nano Hybrid via Liquid Phase Reduction**, Siti Rahmah Shamsuri¹, Eiichiro Matsubara¹, Shohei Shiomi² (¹Kyoto University, Japan, ²Kyoto Municipal Institute of Industrial Technology and Culture, Japan)
- 10:10 **PA3-3-4 Acrobatic Crystals - Actuators on the Nanoscale**, Jasminka Popovic¹, Ivor Loncaric², Zeljko Skoko³ (¹Rudjer Boskovic Institute, Croatia, ²Centro de Fisica de Materiales CFM/MPC, Spain, ³University of Zagreb, Croatia)

10:20 **Break**

PARALLEL SESSION 4

PA4-1 : Inorganic (Silicon)

Chairperson : Yukinori Ono (Shizuoka University, Japan)

June 21, Wednesday, 10:50 - 12:00

Main Hall

- 10:50 **PA4-1-1 Single-Electron Tunneling via Dopant-Quantum-Dots Embedded in Silicon Nano-**
(invited) **Transistors and Nano-Diodes**, Daniel Moraru, Michiharu Tabe (Shizuoka University, Japan)
- 11:20 **PA4-1-2 Formation of Al and Hf Germanates as Interlayers between High- κ Dielectrics and Ge**
Substrates by Radical-Enhanced Atomic Layer Deposition, Daichi Yamada¹, Yohei Otani¹,
Chiaya Yamamoto², Junji Yamanaka², Tetsuya Sato², Hiroshi Okamoto³, Yukio Fukuda¹ (¹Tokyo
University of Science, Japan, ²University of Yamanashi, Japan, ³Hirosaki University, Japan)
- 11:40 **PA4-1-3 Luminescent Si Nanomaterials Prepared from Agricultural Residues of Rice Husks**,
Kimihiisa Matsumoto¹, Kazuhide Kamiya¹, Shigeki Kawabata¹, Shinya Suzuki² (¹Toyama
Prefectural University, Japan, ²Nagano National College of Technology, Japan)

PA4-2 : Spintronics and Nanostructures

Chairperson : Naotaka Uchitomi (Nagaoka University of Technology, Japan)

June 21, Wednesday, 10:50 - 12:00

Room 601

- 10:50 **PA4-2-1 Spin Conversion Phenomena in Spintronics**, Yoshichika Otani^{1,2}, Kouta Kondou²,
(invited) Shutaru Karube¹, Junyeon Kim² (¹University of Tokyo, Japan, ²RIKEN, Japan)
- 11:20 **PA4-2-2 Simultaneous Measurement of Local and Non-Local Spin-Valve Signals in**
MnAs/GaAs/InAs/GaAs(111)B Hybrid Structure, Md. Earul Islam, Kazuki Hayashida,
Masashi Akabori (Japan Advanced Institute of Science and Technology, Japan)
- 11:40 **PA4-2-3 Influence of Behaviour of Magnetic Particles in Ferrofluids against Alternating Magnetic**
Fields on Harmonic Responses, Shoya Oda, Yoshitaka Kitamoto (Tokyo Institute of
Technology, Japan)

PA4-3 : Electronic Devices and Nanostructures

Chairpersons : Noriaki Ikenaga (Kanazawa Institute of Technology, Japan)

Takeshi Kawae (Kanazawa University, Japan)

June 21, Wednesday, 10:50 - 12:00

Room 607

- 10:50 **PA4-3-1 Nano-Level Analytical and Evaluation Techniques Essential to the Development of ULSI**
(invited) **and Nano-Devices**, Osamu Ueda (Kanazawa Institute of Technology, Japan)
- 11:20 **PA4-3-2 Electrical Characteristics of SrBi₂Ta₂O₇ Ferroelectric Thin Film Formed by Kr/O₂**
Sputtering, B. J. Zeng^{1,2}, Q. X. Peng², Y. C. Zhou², S. Ohmi¹ (¹Tokyo Institute of Technology,
Japan, ²Xiangtan University, China)
- 11:40 **PA4-3-3 Vacancy Induced Phonon Properties of Single Wall Carbon Nanotube**,
Ashraful Hossain Howlader¹, Md. Sherajul Islam², Md. Rafiqul Islam², Ashraful Ghani Bhuiyan²
(¹Bangabandhu Sheikh Mujibur Rahman Science and Technology University, Bangladesh,
²Khulna University of Engineering and Technology, Bangladesh)

POSTER SESSION 3

12:00 - 13:30

13:30 **Break**

CLOSING REMARKS (14:00 - 14:20)

Excursion (Ichijodani) (14:30 - 17:00)

EM-NANO 2017 POSTER SESSION

Poster session 1 (June 19, 18:00 - 19:30)

PO1-1	Electrical Characterization of β-Ga₂O₃ Single Crystal Substrate , Yoshitaka Nakano (Chubu University, Japan)
PO1-2	Electrical Characterization of p-GaN Film Homo-Epitaxially Grown on Free-Standing GaN Substrate , Yoshitaka Nakano (Chubu University, Japan)
PO1-3	Growth Nature of InSb Channel Layer on Heteroepitaxial Film of InGaSb Barrier Layer on GaSb/Si(111)-$\sqrt{3}\times\sqrt{3}$-Ga Surface , A.A.Md.Monzur-UI-Akhir, Masayuki Mori, Koichi Maezawa (Toyama University, Japan)
PO1-4	Study on High Frequency Loss in Coplanar Waveguides Fabricated on Si Substrate , Kosuke Suzuki, Joel T. Asubar, Hirokuni Tokuda, Masaaki Kuzuhara (University of Fukui, Japan)
PO1-5	Primitive Study of VOC Sensor Using QCM Coated with Carbon Black , Takeshi Ito, Hiroshi Takahashi, Tomohiro Shimizu, Shoso Shingubara (Kansai University, Japan)
PO1-6	Optical and Radioluminescence Properties of Dy-doped 12CaO·7Al₂O₃ Electride Single Crystals , Narumi Kumamoto, Daisuke Nakauchi, Takumi Kato, Go Okada, Noriaki Kawaguchi, Takayuki Yanagida (Nara Institute of Science and Technology, Japan)
PO1-7	Liquid-Phase Synthesis of Vertically Aligned Carbon Nanotubes and Related Nanomaterials on Preheated Alloy Substrates , Kiyofumi Yamagiwa ¹ , Jun Kuwano ² (¹ Teikyo University of Science, Japan, ² Tokyo University of Science, Japan)
PO1-8	Fabrication of Lead-free Piezoceramics with Vertical MPB , Miao Yan, Tomoaki Karaki, Tadasu Fujii (Toyama Prefectural University, Japan)
PO1-9	Luminescent and Scintillation Properties of Ce-doped Tb₃Ga_xAl_{5-x}O₁₂ Single Crystals , Daisuke Nakauchi, Go Okada, Noriaki Kawaguchi, Takayuki Yanagida (Nara Institute of Science and Technology, Japan)
PO1-10	Enhanced Electrochemical Performance of Carbon Quantum Dots-Polyaniline Hybrid , Zhichao Zhao, Yibing Xie (Southeast University, China)
PO1-11	Fabrication and Supercapacitor Behavior of Phosphomolybdic Acid/Polyaniline/Titanium Nitride Core-Shell Nanowire Array , Lu Lu, Yibing Xie (Southeast University, China)
PO1-12	Growth of Langasite-type Ca₃NbGa_{3-x}Al_xSi₂O₁₄ Single Crystals , Yuki Kiyohara, Masakazu Kobayashi, Tomoaki Karaki, Tadashi Fuji (Toyama Prefectural University, Japan)
PO1-13	Doping Nitrogen in InGaZnO Thin Film Transistor with Double Layer Channel Structure , Sheng-Po Chang, Kuan-Jen Cheng (National Cheng Kung University, Taiwan)
PO1-14	The Charge-Discharge Characteristics of Mg-Zn-Al Powder with Ag Nanoparticles-Modified at High Temperature Environment , Kuan-Jen Chen, Fei-Yi Hung, Truan-Sheng Lui, Tung-Hsuan Hsiao, Sheng-Po Chang (National Cheng Kung University, Taiwan)
PO1-15	Preparation of Cu₂SnS₃ (CTS) Thin Film by Photo Chemical Deposition , Amane Abe ¹ , Katsuhiko Moriya ¹ , Takeshi Houga ¹ , Kunihiko Tanaka ² (¹ National Institute of Technology, Tsuruoka College, Japan, ² Nagaoka University of Technology, Japan)
PO1-16	Effect of Annealing Conditions of Cu₂ZnSnS₄ Thin Films Prepared by Dip Coating , Yusuke Togashi ¹ , Katsuhiko Moriya ¹ , Takeshi Houga ¹ , Kunihiko Tanaka ² (¹ National Institute of Technology, Tsuruoka College, Japan, ² Nagaoka University of Technology, Japan)
PO1-17	Luminescence Characterizations of Sc-doped Al₂O₃ Ceramics Prepared by Spark Plasma Sintering Method for Radiation Detectors , Nurul Athirah Noor Azman, Takumi Kato, Go Okada, Noriaki Kawaguchi, Takayuki Yanagida (Nara Institute of Science and Technology, Japan)

PO1-18	Formation of Graphitic Carbon Nitride Thin-Film on Sapphire Substrate , Maito Kosaka, Noriyuki Urakami, Yoshio Hashimoto (Shinshu University, Japan)
PO1-19	Tuning the Molecular Chain Distance to Improve Memory Window of Polyimide-Based Resistive Switching Memory , Guan-Wei Lin, Min-Fang Kao, Chi-Chang Wu, Wen-Luh Yang (Feng Chia University, Taiwan)
PO1-20	Luminescence Properties of Organic-Inorganic Layered Perovskite-Type Compounds under Vacuum Ultraviolet Irradiation , Naoki Kawano ¹ , Masanori Koshimizu ² , Yutaka Fujimoto ² , Go Okada ¹ , Noriaki Kawaguchi ¹ , Takayuki Yanagida ¹ , Keisuke Asai ² (¹ Nara Institute of Science and Technology, Japan, ² Tohoku University, Japan)
PO1-21	Preparation of 0.09BaZrO₃-0.9025(K_{0.45}Na_{0.5}Li_{0.05})NbO₃-0.0075(La_{0.5}Na_{0.5})TiO₃ Piezoelectric Thin Films from Precursor Solution by Pechini Method , Liqiang Liu ¹ , Tomoaki Karaki ¹ , Tadashi Fujii ¹ , Yuichi Sakai ² (¹ Toyama Prefectural University, Japan, ² Toyama Industrial Technology Center, Japan)
PO1-22	Visualization Method of Blood Flowing by Laser Doppler Velocimetry Using Speckle and Fringe Pattern , Shunsuke Akiguchi ¹ , Tomoaki Kyoden ¹ , Shoji Naruki ¹ , Tomoki Tajiri ¹ , Tsugunobu Andoh ² , Hiroki Ishida ³ , Tadashi Hachiga ¹ (¹ National Institute of Technology, Toyama College, Japan ² University of Toyama, Japan, ³ Okayama University of Science, Japan)
PO1-23	Multi-photon Confocal Microscope Evaluation of Fluorescent Centres in Ag-activated Phosphate Glass Irradiated with Heavy Charged Particles , Toshio Kurobori ¹ , Wataru Kada ² , Taichi Shirao ³ , Takahiro Satoh ⁴ (¹ Kanazawa University, Japan, ² Gunma University, Japan, ³ Nikon Instech Co., Ltd., Japan, ⁴ Takasaki Advanced Radiation Research Institute, Japan)
PO1-24	Bulk-Related Current Collapses in Carbon-Doped AlGaN/GaN/GaN:C Hetero-Structures Grown on Si Substrates , Akihito Chikamatsu, Yoshitaka Nakano (Chubu University, Japan)
PO1-25	Low-Temperature Solution Processed Indium Oxide Using Ultraviolet Annealing , Yuuki Yoshimoto, Jinwang Li, Tatsuya Shimoda (Japan Advanced Institute of Science and Technology, Japan)
PO1-26	Study of Fabricating Orientated Lead-Free Piezoceramics Using Plate-Like Powders , Yoshiaki Ido, Yao Lu, Tomoaki Karaki, Tadashi Hujii (Toyama Prefectural University, Japan)
PO1-27	Estimation of Activation Energy of Si-doped β-Ga₂O₃ Thin Films , Satoshi Itoh ¹ , Iwan Dwi Antoro ¹ , Takashi Nakajima ² , Takeshi Kawae ¹ (¹ Kanazawa University, Japan, ² Tokyo University of Science, Japan)
PO1-28	Composites of Hydroxyethyl Cellulose and M²⁺ Chelate Complexes as an Effective Electron-injection Layer for Polymer Light-emitting Diodes , Yun Chen, Cheng-Liang Wu, Chih-Yang Lin (National Cheng Kung University, Taiwan)
PO1-29	Simple Quantization Method of Localized Surface Plasmon for Quantum Plasmonics , Hisaki Oka, Yasuo Ohdaira (Niigata University, Japan)
PO1-30	Surface Second Harmonic Generation (SHG) on the Au/TiO₂ (320) Interface and Bare TiO₂ (320) , Haque MD Ehasanul ¹ , Daiki Kobayashi ¹ , Yuki Tomatsu ¹ , Khuat Thi Thu Hien ¹ , Goro Mizutani ¹ , Harvey N. Rutt ² (¹ Japan Advanced Institute of Science and Technology, Japan, ² University of Southampton, UK)
PO1-31	High-Temperature Annealing Effect of Ferromagnetic ZnSnAs₂ Thin Films Heavily Doped with Mn , Y. Minamizawa ¹ , T. Kitazawa ¹ , S. Hidaka ¹ , H. Toyota ¹ , S. Nakamura ² , B. Mehdiyev ¹ , N. Uchitomi ¹ (¹ Nagaoka University of Technology, Japan, ² Aoyama Gakuin University, Japan)
PO1-32	Porous Silicon Film Formation from Silicon-Nanoparticle Inks: the Possibility of Influences of van der Waals Interactions on Uniform Film Formation , Kazuki Tanaka, Wataru Nagoya, Kazuya Moriki, Seiichi Sato (University of Hyogo, Japan)

PO1-33	Improvement of Wettability of Porous Si by Carboxylate Termination , M. Sakakibara ¹ , K. Matsumoto ¹ , K. Kamiya ¹ , S. Kawabata ¹ , M. Inada ² , S. Suzuki ³ (¹ Toyama Prefectural University, Japan, ² Kansai University, Japan, ³ Nagano National College of Technology, Japan)
PO1-34	Influence of Ambient Gas on the Electrical Conduction of Porous Silicon films Produced from Silicon Nanoparticle Inks , Wataru Nagoya, Kazuki Tanaka, Kazuya Moriki, Seiichi Sato (University of Hyogo, Japan)
PO1-35	Er-doped ZnO Films Deposited by an Alternative Pulsed Laser Deposition , Satoru Yamada, Souki Urashita, Hiroto Kawae, Daiki Okada, Satoru Seto (National Institute of Technology, Ishikawa College, Japan)
PO1-37	Blue-color Photoluminescence from Natural Pigments Extracted from Fraxinus Lanuginosa , Yusuke Kinou, Naoki Ohtani (Doshisha University, Japan)
PO1-38	Antioxidant Effect of β-Carotene and Lutein Isolated and Purified from Spinach on Photoluminescence Lifetime of Organic Emissive Materials , Shun Imada, Takato Ito, Naoki Ohtani (Doshisha University, Japan)
PO1-39	Fabrication of Emissive Thin Films Using Nano-amorphous Graphitic Carbon Nitride Powders , Takahiro Watanabe ¹ , Masaaki Hirai ² , Ken-ichi Takarabe ² , Naoki Ohtani ¹ (¹ Doshisha University, Japan, ² Okayama University of Science, Japan)
PO1-40	Investigation of Photoluminescence from $\text{Cu}_2\text{ZnSnS}_4$ Depending on Growth Temperature , Yoshiharu Takamatsu, Kunihiko Tanaka (Nagaoka University of Technology, Japan)
PO1-41	Fabrication of Core-Shell Quantum Dot Films by a Spin-Coating Method and Their Application to Light-Emitting Diodes , Chisato Konishi, Naoki Ohtani (Doshisha University, Japan)
PO1-42	Influence of Au Nanoparticles on Magnetic Characteristics in TbFeCo/Au Nanostructures , Ryouyuke Hara ¹ , Haruki Yamane ² , Masanobu Kobayasi ¹ , Xiaoxi Liu ³ , Akimitsu Morisako ³ , Yukiko Yasukawa ¹ (¹ Chiba Institute of Technology, Japan, ² Akita Industrial Technology Center, Japan, ³ Shinshu University, Japan)
PO1-43	Analysis of Optics Properties and Carrier Transport in a Biased GaAs/AlAs Asymmetric Quintuple-Quantum-Well Superlattice , Kousuke Yoshida ¹ , Makoto Hosoda ² , Kouichi Akahane ³ , Naoki Ohtani ¹ (¹ Doshisha University, Japan, ² Shizuoka University, Japan, ³ National Institute of Information and Communications Technology, Japan)
PO1-44	Platinum-Free, Carbon-Based Materials as Efficient Counter Electrodes for Dye-Sensitized Solar Cells , Hendri Widiyandari ¹ , Adi Prasetyo ¹ , Agus Purwanto ² , Agus Subagio ¹ , Muhammad Hilmy Alfaruqi ³ (¹ Diponegoro University, Indonesia, ² Sebelas Maret University, Indonesia, ³ Chonnam National University, Korea)
PO1-45	Diffusion of Hydroxyl Groups Through Binding Interface between Hydroxyl-Containing and Oxygen-Deficient Silica Glasses , Yu Arakawa ¹ , Naoya Sato ¹ , Nobu Kuzuu ¹ , Hideharu Horikoshi ² , Hiroki Sakakibara ¹ (¹ University of Fukui, Japan, ² Tosoh SGM Corp., Japan)
PO1-46	Fabrication of H-Terminated Diamond MISFET with Al_2O_3 as Buffer Layer , S. Shoji, H. Furuichi, T. Kawae (Kanazawa University, Japan)
PO1-47	Fabrication of Carbon Nitride-based Emissive Thin Films by Wet Process Using Annealed Melamine , Katsuya Wada, Naoki Ohtani (Doshisha University, Japan)
PO1-48	1T Type Ferroelectric Random Access Memory with MoS_2 Channel , S. Shimizu ¹ , Sadamune Watanabe ¹ , Takashi Nakajima ² , Takeshi Kawae ¹ (¹ Kanazawa University, Japan, ² Tokyo University of Science, Japan)
PO1-49	Diffusion Coefficient of Hydroxyl Group in Vitreous Silica , Naoya Sato ¹ , Yu Arakawa ¹ , Nobu Kuzuu ¹ , Hideharu Horikoshi ² , Hiroki Sakakibara ¹ , Naohiro Horii ³ (¹ University of Fukui, Japan, ² Tosoh SGM Corp., Japan, ³ National Institute of Technology, Fukui College, Japan)

PO1-50	Preparation of Transparent CuI-CuBr Alloy Thin Films with Solution Processing, Taiga Harada ¹ , Shoko Tao ¹ , Toshiki Imamura ¹ , Katsuhiko Moriya ² , Nobuo Saito ¹ , Kunihiro Tanaka ¹ (¹ Nagaoka University of Technology, Japan, ² National Institute of Technology, Tsuruoka College, Japan)
PO1-51	Cl-free CZTS Thin Film Solar Cell Fabricated by Non-Vacuum Process, Atsushi Munemura, Kyouhei Yamamoto, Kunihiro Tanaka (Nagaoka University of Technology, Japan)
PO1-52	Effect of Air Assisted Flow on Organic Perovskite Solar Cells Fabricated by One Step Spin-Coating Method, Hiroyuki Okada, Kenta Saito, Vincent Obiozo Eze, Yoshiyuki Seike, Tatsuo Mori (Aichi Institute of Technology, Japan)
PO1-53	Optical Properties of Wannier excitons in Closely Located Quantum Wells in Organic-Inorganic Layered Perovskite-Type Compounds, Daiki Tajima, Masanori Koshimizu, Yutaka Fujimoto, Keisuke Asai (Tohoku University, Japan)
PO1-54	Electronic Structure and Magnetic Properties of Mn-doped Perovskites for Solar Cell Applications, Atsushi Suzuki, Takeo Oku (University of Shiga Prefecture, Japan)

Poster session 2 (June 20, 12:30 - 14:00)

PO2-1	Electrospinning of Silver/Polymer Composite Nanofiber Mats for Lightweight and Flexible Electrodes, Han-Hsuan Chen, Jun-You Su, Chien-Tin Lin, Yu-Yu Cho, Changshu Kuo (National Cheng Kung University, Taiwan)
PO2-2	Study of Organic/Inorganic Polymer/Quantum Dot Nanocomposite for Lighting and Displays, Hsueh-Shih Chen, Wen Hsin Tsai, Shang-Chieh Huang, Chang-Wei Yeh, Guan-Hong Chen (National Tsing Hua University, Taiwan)
PO2-3	Scintillation and Dosimetric Properties of Tb-doped LiCaAlF₆ Single Crystals, Noriaki Kawaguchi ¹ , Naoki Kawano ¹ , Go Okada ¹ , Kentaro Fukuda ² , Takayuki Yanagida ¹ (¹ Nara Institute of Science and Technology, Japan, ² Tokuyama Corp., Japan)
PO2-4	Preparation of Bi-(Cr,Ga)N Thin Films by Pulsed Laser Deposition, Yusei Mizuno, Tsuneo Suzuki, Tadachika Nakayama, Hisayuki Suematsu (Nagaoka University of Technology, Japan)
PO2-5	Preparation of Ge doped Cu₂ZnSn(S,Se)₄ Absorber Thin Films, Daiki Miyazawa ¹ , Mitsuki Shinohara ¹ , Noritaka Momose ¹ , Myo Than Htay ² , Yoshio Hashimoto ² , Kentaro Ito ² (¹ National Institute of Technology, Nagano College, Japan, ² Shinshu University, Japan)
PO2-6	Preparation of Aluminum Nanostructured Materials by a Two Step Heating Process in Spark Plasma Sintering, Tosiki Honma ¹ , Itsuhiko Hirota ¹ , Yoshinori Tokoi ¹ , Naritoshi Aoyagi ¹ , Hisayuki Suematsu ² (¹ National Institute of Technology, Nagaoka College, Japan, ² Nagaoka University of Technology, Japan)
PO2-7	Characterization of Mn-doped ZnSnAs₂ Thin Films Below the Magnetic Percolation Threshold, S. Saito ¹ , M. Ogo ¹ , S. Hidaka ¹ , H. Toyota ¹ , M. Akabori ² , B. Mehdiyev ¹ , N. Uchitomi ¹ (¹ Nagaoka University of Technology, Japan, ² Japan Advanced Institute of Science and Technology, Japan)
PO2-8	Structural and Thermoelectric Properties of Bismuth Telluride Nanoplate Thin Films with and without Carbon Nanotubes, Yuichi Hosokawa, Kodai Wada, Masaki Tanaka, Koji Tomita, Masayuki Takashiri (Tokai University, Japan)
PO2-9	Control of Particle Size and Phase by Dwell-Time on Pulsed Wire Discharge, Taiga Murayama, Yoshinori Tokoi (National Institute of Technology, Nagaoka College, Japan)
PO2-10	Planar Perovskite Solar Cells Employing CuSCN/ NPB Bilayer Structure as Hole Transport Layers, Zong-Liang Tseng, Lung-Chien Chen, Yu-Jen Lin and Yan-Rong Hung (National Taipei University of Technology, Taiwan)

PO2-11	(Withdrawn) Towards Colloidal Spintronics: Rashba Spin-Orbit Coupling in PbS Nanosheets , Mohammad Mehdi Ramin Moayed, Thomas Bielewicz, Martin Sebastian Zoellner, Carmen Herrmann, Christian Klinke (University of Hamburg, Germany)
PO2-12	Computer Aided-Molecular Design of Functionalized Fullerenes and Graphenes , Hiroto Tachikawa, Tetsuji Iyama, Hiroshi Kawabata (Hokkaido University, Japan)
PO2-13	Density Functional Theory (DFT) Study on the Interaction of H₂ with Metal Atoms on Graphene Surface , Tetsuji Iyama, Takahiro Fukuzumi, Hiroto Tachikawa (Hokkaido University, Japan)
PO2-14	Density Functional Theory (DFT) Study on the Interaction of Hydrogen Atom with Graphene Nano-Flakes , Hiroshi Kawabata, Tetsuji Iyama, Hiroto Tachikawa (Hokkaido University, Japan)
PO2-15	Optimization of Film Thickness in Organic Multi-function Diodes Based on Rubrene/PTCDI-C13 Stack , Masahiro Yamada, Shigeeki Naka, Hiroyuki Okada (University of Toyama, Japan)
PO2-16	Organic Light-Emitting Diodes with Printed Narrow Ag Auxiliary Wire , Hiroki Kuroda ¹ , Shigeeki Naka ¹ , Hiroyuki Okada ¹ , Hiroyuki Kitazawa ² , Masahito Okumura ³ , Tatsuya Nishimura ³ (¹ University of Toyama, Japan, ² SHASHIN KAGAKU CO., LTD., Japan, ³ SK-Electronics CO., LTD., Japan)
PO2-17	Characterizing In/Ga-doped ZnO Fabricated Using Sol-Gel Synthesis Method , Ji-Siou Huang, Leo Chau-Kuang Liao (Yuan Ze University, Taiwan)
PO2-18	Effect of Electrochemical Processing on the Fabrication of Cu₂O p-n Homo Junction Diode , Chin-Ming Chang, Leo Chau-Kuang Liao (Yuan Ze University, Taiwan)
PO2-19	CNT/Graphite/ZnO Composite for Supercapacitor Electrode , Agus Subagio ¹ , Istajib A. Hikam ¹ , Alfin Darari ¹ , Priyono ¹ , Pardoyo ¹ , Ahmad Subhan ² (¹ Diponegoro University, Indonesia, ² Center of Physics Research, LIPI, Indonesia)
PO2-20	Preparation of Cu₂(Sn,Si)S₃ Thin-film Solar Cells by Cu-Sn-Si Simultaneous Sputtering , Masaki Aida ¹ , Yusuke Wakui ¹ , Noritaka Momose ¹ , Myo Than Htay ² , Yoshio Hashimoto ² , Kentaro Ito ² (¹ National Institute of Technology, Nagano College, Japan, ² Shinshu University, Japan)
PO2-21	Density Functional Theory (DFT) Study on the Radical-Functionalized Graphenes and Fullerenes , Shigeaki Abe ¹ , Yuko Era ¹ , Yukari Nakagawa ¹ , Mariko Nakamura ² , Teruo Kusaka ¹ , Satoshi Inoue ¹ , Yasuhiro Yoshida ¹ , Hiroto Tachikawa ¹ (¹ Hokkaido University, Japan, ² Kyushu University of Health and Welfare, Japan)
PO2-22	Highly Crystalline Li₄Ti₅O₁₂ Material Synthesized using Salt Assisted-Solid State Reaction Method , Agus Purwanto ¹ , Hendri Widiyandari ² , Alfa Tegar Augusta ¹ , Rizqa Amalia Devi ¹ , Arif Jumari ¹ (¹ Sebelas Maret University, Indonesia, ² Diponegoro University, Indonesia)
PO2-23	Fabrication of Mold and Stamp for Micro Contact Print to Realize Flexible Liquid Crystal Devices , Masaki Kataoka, Hiroyuki Okada (University of Toyama, Japan)
PO2-24	Improved Performance of Multilayer Inverted Polymer Light-Emitting Diode with a Tantalum Oxide Nanosheet Electron Injection Layer , Eiji Itoh, Taichi Hasebe (Shinshu University, Japan)
PO2-25	Estimation of Carrier Mobility of Organic Semiconductor Films in MIS Diodes Consisting of High-κ Oxide/Organic Semiconductor Double Layers , Naoya Tyosei, Eiji Itoh (Shinshu University, Japan)
PO2-26	Fabrication of Three-Terminal Hanle Devices and its Evaluation Using Mn-Doped ZnSnAs₂ Thin Film Grown on InP(001) Substrates , Shiro Hidaka ¹ , Hideyuki Toyota ¹ , Masashi Akabori ² , Naotaka Uchitomi ¹ (¹ Nagaoka University of Technology, Japan, ² Japan Advanced Institute of Science and Technology, Japan)

PO2-27	Al₂O₃ Passivation of Amorphous IGZO Thin Film Transistors through Atomic Layer Deposition using Dimethylaluminum Hydride as Precursor , Dianne Corsino ¹ , Juan Paolo Bermundo ¹ , Kiyoshi Takahashi ² , Yasuaki Ishikawa ¹ , Yukiharu Uraoka ¹ (¹ Nara Institute of Science and Technology, Japan, ² Nippon Aluminum Alkyls, Ltd., Japan)
PO2-28	Formation Mechanism of Graphene-on-Diamond Using Nickel as a Catalyst , Yutaro Katagiri ¹ , Shohei Kanada ¹ , Taira Tabakoya ¹ , Masatsugu Nagai ¹ , Takahiro Yamamoto ¹ , Toshiharu Makino ² , Satoshi Yamasaki ² , Tsubasa Matsumoto ¹ , Norio Tokuda ¹ , Takao Inokuma ¹ (¹ Kanazawa University, Japan, ² National Institute of Advanced Industrial Science and Technology, Japan)
PO2-29	Effects of Non-Toxic Metal Element Addition into Perovskite Photovoltaic Devices , Yasuhiro Shirahata, Takeo Oku (University of Shiga Prefecture, Japan)
PO2-30	Formation of Epitaxial ReS₂ (0001) Thin-Film on c-Plane Sapphire Substrate , Noriyuki Urakami, Tetsuya Okuda, Yoshio Hashimoto (Shinshu University, Japan)
PO2-31	Photoluminescence Properties of Ce³⁺ and Eu²⁺ Co-Doped CaY₂Si₂S₈ Phosphors , Yasuhiro Nemoto, Tomu Tanabe, Ariyuki Kato (Nagaoka University of Technology, Japan)
PO2-32	Phase Control of Eu-doped Sr₂SiO₄ Phosphor by Eu Concentration and Sintering Temperature , Siti Sarina Binti Nasir, Kouta Yakura, Noriyuki Horiuchi, Ariyuki Kato (Nagaoka University of Technology, Japan)
PO2-33	Structural and Optical Properties of Silicon Spheres and Anti-Reflection Films for Spherical Silicon Solar Cells , Yasuhiro Shirahata ¹ , Takeo Oku ¹ , Youichi Kanamori ² , Mikio Murozono ² (¹ University of Shiga Prefecture, Japan, ² Clean Venture 21 Corp., Japan)
PO2-34	Effect of ¹⁰B Isotope Doping on Phonon Modes of 2D h-BN , Md. Sherajul Islam ¹ , Akihiro Hashimoto ² (¹ Khulna University of Engineering and Technology, Bangladesh, ² University of Fukui, Japan)
PO2-35	The Nozzle Shape Stereographic Microstructure Produced by Direct Laser writing on Dual Layer Resists , Chun-Ming Chang, Wen-Tse Hsiao, Chih-Chung Yang, Shih-Feng Tseng, Donyau Chiang (National Applied Research Laboratories, Taiwan)
PO2-36	Particle Size Control of Magnesium Submicron Particles Prepared by Pulsed Wire Discharge , Nguyen Duy Hieu ¹ , Yoshinori Tokoi ² , Kenta Tanaka ¹ , Tsuneo Suzuki ¹ , Tadachika Nakayama ¹ , Hisayuki Suematsu ¹ , Koichi Niihara ¹ (¹ Nagaoka University of Technology, Japan, ² Nagaoka National College of Technology, Japan)
PO2-37	Fabrication of SnS Films Deposited by the Sol-Gel Method , Hiroto Oomae ¹ , Takahito Eguchi ¹ , Kunihiro Tanaka ² (¹ National Institute of Technology, Kushiro College, Japan, ² Nagaoka University of Technology, Japan)
PO2-38	NIR-Responsive Photocatalytic Activity and Mechanism of Upconversion Nanoparticles/Anatase Phase of TiO₂ Aerogel , Fu-Chih Li, Yoshitaka Kitamoto (Tokyo Institute of Technology, Japan)
PO2-39	Demonstration of Motion Control of Micro ZrO₂ Particles in Uniform/Non-Uniform Electric Field , Genki Onishi, Naoto Matsutani, Tadachika Nakayama, Tsuneo Suzuki, Hisayuki Suematsu, Koichi Niihara (Nagaoka University of Technology, Japan)
PO2-40	Optical and Electrical Characteristics of ZnO Nanoparticle Electrode and Silica-Based Gel Type Solvents for Solid-State Electroluminescence Cells , Buranid Dammai ¹ , Somchai Arunrungrusmi ¹ , Pakpoom Chansri ¹ , Toshifumi Yuji ² , Narong Mungkung ¹ (¹ King's Mongkut University of Technology Thonburi, Thailand, ² University of Miyazaki, Japan)
PO2-41	Effects of Sequential Ultraviolet and Thermal Treatment on Performances and Stability in High-Mobility ZnON TFT , Hwan-Seok Jeong, Dae-Hwan Kim, Hyuck-In Kwon (Chung-Ang University, Korea)

PO2-42	Influence of Moisture on the Electrical instability of Zinc Oxynitride Thin-Film Transistors, Dae-Hwan Kim, Hwan-Seok Jeong, Hyuck-In Kwon (Chung-Ang University, Korea)
PO2-43	Improved Heterodyne Terahertz Electro-Optic Sampling by Using DAST Crystal, Hiroyuki Kato ¹ , Hideaki Kitahara ¹ , Daiki Goto ¹ , Takuro Yasumoto ¹ , Kohji Yamamoto ¹ , Takashi Furuya ¹ , Takashi Notake ² , Hiroaki Minamide ² , Michael Bakunov ³ , Masahiko Tani ¹ (¹ University of Fukui, Japan, ² RIKEN, Japan, ³ University of Nizhny Novgorod, Russia)
PO2-44	Investigation of Dye-Sensitized Solar Cell Used by MnO₂:C Counter Electrode, Noritsugu Kamata ¹ , Pakpoom Chansri ¹ , Somchai Arunrungrusmi ¹ , Toshifumi Yuji ² , Narong Mungkung ¹ (¹ King's Mongkut University of Technology Thonburi, Thailand, ² University of Miyazaki, Japan)
PO2-45	Time-Resolved Differential Transmissivity in CH₃NH₃PbI₃ and CH₃NH₃Pb(I, Cl)₃ Thin Films, Ryuichi Ito, Yuto Yamazaki, Takayuki Makino (University of Fukui, Japan)
PO2-46	Fabrication of the Mechanism for Mixing Micro-Fluid by Using the Micro-Pump, K. Moriya ¹ , N. Matsutani ¹ , Maria Guadalupe del Rocio Herrera Salazar ² , H. Suematsu ¹ , T. Nakayama ¹ , T. Suzuki ¹ , K. Niihara ¹ (¹ Nagaoka University of Technology, Japan, ² Aarhus University, Denmark)
PO2-47	Introduction of Ferroelectric Domain Walls into a BiFeO₃ Thin Film on a Vicinal SrTiO₃ (110) Substrate, Yuta Kurokawa, Shota Seto, Seiji Nakashima, Hironori Fujisawa, Masaru Shimizu (University of Hyogo, Japan)
PO2-48	Carrier Transport Mechanism in Realistic Operating Condition of p-Channel SnO Thin- Film Transistors, Hee-Joong Kim, Sae-Young Hong, Chan-Yong Jeong, Sang-Dae Bae, Jeong-Hwan Lee, Hyuck-in Kwon (Chung-Ang University, Korea)
PO2-49	Investigation on Bulk and Interface Trap Densities in p-type High-Mobility Tungsten Diselenide Thin-Film Transistors, Hee-Joong Kim, Sae-Young Hong, Dae-Hwan Kim, Chan-Yong Jeong, Jeong-Hwan Lee, Hyuck-in Kwon (Chung-Ang University, Korea)
PO2-50	Optical Properties of Vacuum Evaporated Metal Films on Moth-Eye Structure, Kazunari Shinbo, Yu Tsumura, Chutiparn Lertvachirapaiboon, Yasuo Ohdaira, Akira Baba, Keizo Kato, Futao Kaneko (Niigata University, Japan)
PO2-51	Effect of Argon Plasma Surface Treatment on the Physical and Chemical Properties of p-Type SnO Thin-Films for Thin-Film Transistor Applications, Sang-Dae Bae, Soo-Hun Kwon, Hwan-Seok Jeong, Hyuck-In Kwon (Chung-Ang University, Korea)
PO2-52	CO₂ Laser-Induced Breakdown Spectroscopy Applied to Cr Speciation Analysis Using Surfactant, Takuya Matsumoto, Seiji Kitayama, Kazuma Takauchi, Kazuyoshi Kurihara (University of Fukui, Japan)
PO2-53	Electrocatalytic Activity of Manganese Oxide Modified Carbon Nanotube Supported Platinum Based Catalysts for Ethanol Oxidation, Chatchawan Panrod, Burapat Inceesungworn, Suwaphid Themsirimongkon, Paralee Weankeaw, Surin Saipanya (Chiang Mai University, Thailand)
PO2-54	Electrochemical Deposition of ZnO/Magnetic-Metal Hybrid Core/Shell nanowires, Huyen T. Pham, Dat Q. Tran, Md. Earul Islam, Masashi Akabori (Japan Advanced Institute of Science and Technology, Japan)

Poster session 3 (June 21, 12:00 - 13:30)

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| PO3-1 | Effects of Element Addition to Perovskite-Type Photovoltaic Devices, Takeo Oku,
Yuya Ohishi, Atsushi Suzuki (University of Shiga Prefecture, Japan) |
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PO3-2	Fabrication and Characterization of Perovskite Solar Cells with TiO₂ Nanoparticle layers, Naoki Ueoka ¹ , Takeo Oku ¹ , Atsushi Suzuki ¹ , Hiroki Sakamoto ² , Masahiro Yamada ² , Satoshi Minami ³ , Shinsuke Miyauchi ³ (¹ University of Shiga Prefecture, Japan ² Osaka Gas Co. Ltd., Japan ³ Osaka Gas Chemicals Co. Ltd., Japan)
PO3-4	Passivation Effect of Ultra-Thin SiN_x Films Formed by Cat-CVD for Crystalline Silicon Surfaces, Hao Song, Keisuke Ohdaira (Japan Advanced Institute of Science and Technology, Japan)
PO3-5	(Withdrawn) Bipolar Resistive Switching of Ag-doped NiO-Based RRAM devices, Chia-Hang Cheng, Hsien-Heng Tang, Ricky W. Chuang, Yan-Kuin Su, Thou-Jen Whang (National Cheng Kung University, Taiwan)
PO3-6	Tin Monoxide-Based Gallium Nitride Heterostructure Field Effect Transistor (HFET), Cheng-Yu Hsieh, Ricky W. Chuang, Shyh-Jer Huang (National Cheng Kung University, Taiwan)
PO3-7	Microstructure Analysis of Spherical Silicon Solar Cells with SnO_x:F Anti-Reflection Films, Takeo Oku ¹ , Youichi Kanamori ² , Mikio Murozono ² (¹ University of Shiga Prefecture, Japan ² Clean Venture 21 Corp., Japan)
PO3-8	Fabrication and Characterization of Cs-Doped Perovskite Solar Cells, Naoki Ueoka, Takeo Oku, Atsushi Suzuki (University of Shiga Prefecture, Japan)
PO3-9	Study on Comparison of Lamination Interfaces in Organic Light-Emitting Diodes, Yuya Ozawa, Shigeki Naka, Hiroyuki Okada (University of Toyama, Japan)
PO3-10	Oriented Thin Films of Mixture of a Low-Band-Gap Polymer and a Fullerene Derivative Prepared by Friction Transfer Method, Nobutaka Tanigaki ¹ , Toshiko Mizokuro ¹ , Tetsuhiko Miyadera ¹ , Yousei Shibata ¹ , Tomoyuki Koganezawa ² (¹ National Institute of Advanced Industrial Science and Technology, Japan, ² Japan Synchrotron Radiation Research Institute, Japan)
PO3-11	Growth of Heavily Nitrogen-Doped Diamond Films, Shinji Ikeda, Tsubasa Matsumoto, Tokuda Norio, Takao Inokuma (Kanazawa University, Japan)
PO3-12	Influence of Al/Cu-doped ZnO on Energy Level Variations Fabricated by Sol-Gel Synthesis Methods, Leo Chau-Kuang Liao, Yi-Chen Yang (Yuan Ze University, Taiwan)
PO3-13	(Withdrawn) Air-Processed Semitransparent Organic Solar Cells with Tunable Color, Shunjiro Fujii, Yuki Kuwahara, Takeshi Saito (National Institute of Advanced Industrial Science and Technology, Japan)
PO3-14	Fabrication of Ferroelectric Nanowire Capacitors by MOCVD, Yohei Takeuchi, Hironori Fujisawa, Masaru Shimizu, Seiji Nakashima (University of Hyogo, Japan)
PO3-15	Rubrene-Based Ultra-Thin Organic Light-Emitting Diodes, Takumu Koike, Shigeki Naka, Hiroyuki Okada (University of Toyama, Japan)
PO3-16	Evaluation of Electron Injection at Oxide Electrode/Organic Layer Interface Using Polyethylenimine-Ethoxylated as Electron Injector, Taishi Yoshida, Shigeki Naka, Hiroyuki Okada (University Toyama, Japan)
PO3-17	Electronic Structures in Oxide- and Halide-Based Natural Superlattice Structures, Takahiro Watanabe, Takayuki Makino (University of Fukui, Japan)
PO3-18	Electrochemical Determination of Caffeic Acid in Beverages Using MWCNT/PEDOT:PSS-Modified Electrodes, Kulrisa Kuntamung, Padchanee Sangthong, Jaroon Jakmune, Kontad Ounnunkad (Chiang Mai University, Thailand)
PO3-19	Change of Phase Transition Temperature on the Bismuth Titanate with Various Doping Ratio Measured by Dielectric Measurement, Rui Tang, Chung Wung Bark (Gachon University, Korea)
PO3-20	Ar/O₂ Flow Ratio Dependence for Hf_{1-x}Zr_xO₂ Ferroelectric Thin Films Deposited by RF Magnetron Sputtering, J. J. Liao ^{1,2} , Q. X. Peng ² , Y. C. Zhou ² , S. Ohmi ¹ (¹ Tokyo Institute of Technology, Japan, ² Xiangtan University, China)

PO3-21	The Electronic Planting Technology Utilizing Solar Power Generation and Inorganic Material have an Influence on Plant Growth , Atsuko Fukuyama ¹ , Kazuhisa Hasegawa ² , Teruo Hori ¹ , Masaaki Kuzuhara ¹ , Susumu Yonezawa ¹ , Keely Brandon ³ , Yoshiyuki Masumura ⁴ , Daisuke Mori ⁴ , Hiroshi Kanamaru ⁴ (¹ University of Fukui, Japan, ² Ishikawa Prefectural University, Japan, ³ OIST, Japan, ⁴ Nihon Shinko Co. Ltd., Japan)
PO3-22	Characteristics of X-ray-Induced Absorption in Various Types of Silica Glasses , Hiroki Sakakibara ¹ , Nobu Kuzuu ¹ , Naoya Sato ¹ , Hideharu Horikoshi ² , Yu Arakawa ¹ (¹ University of Fukui, Japan, ² Tosoh SGM Corp., Japan)
PO3-23	Effect of Metal Oxides on Graphene Oxide Support for Methanol Oxidation , Supannisa Rattanakansang, Burapat Inceesungvorn, Surin Saipanya, Paralee Waenkaew (Chiang Mai University, Thailand)
PO3-24	Analysis of THz Plasmonic Superfocusing Mode in Metallic V-Groove Tapered Waveguides , Kiwamu Kusama ¹ , Kazuyoshi Kurihara ¹ , Fumiyoshi Kuwashima ² , Osamu Morikawa ³ , Kohji Yamamoto ¹ , Masahiko Tani ¹ (¹ University of Fukui, Japan, ² Fukui University of Technology, Japan, ³ Japan Coast Guard Academy, Japan)
PO3-25	Increase in Photo-Voltage of Inverted Polymer Solar Cells by Applying Forward Bias under UV-Cut Light Irradiation , Takayuki Kuwabara, Takuji Kusumi, Makoto Karakawa, Tetsuya Taima, Kohshin Takahashi (Kanazawa University, Japan)
PO3-26	Experimental Analysis of Pixel-Shrinkage in Organic Light-Emitting Diodes , Takuma Tanabe ¹ , Eiki Kondo ¹ , Munehiro Kimura ² , Masahiro Minagawa ¹ (¹ National Institute of Technology, Nagaoka College, Japan, ² Nagaoka University of Technology, Japan)
PO3-27	Thermal Conductivity in Suspended h-BN Flake of Variable Shapes , Muhaiminul Islam, Imam-Ul-Ferdous, Ashraful Ghani Bhuiyan, Md. Sherajul Islam (Khulna University of Engineering and Technology, Bangladesh)
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