EM-NANO2019 Schedule

Nagano Engineering Campus, Shinshu University, Japan

	NU2019 50					ing Campus, Shinshu	• • •
Time	June 19	Jun	e 20	Jun	ne 21	Jun	e 22
		Room A (AICS 2F)	Room B (SASTec 3F)	Room A (AICS 2F)	Room B (SASTec 3F)	Room A (AICS 2F)	Room B (SASTec 3F)
		Opening Remarks					
9:00		Plenary Talk 1		Plenary Talk 3		Plenary Talk 4	
		Shigeki Zaima		Gehan Amarthunga		Tsutomu Miyasaka	
		Meijo Univ.		University of Cambridge		Toin Univ. of Yokohama	
		Coffee Break		A3-1 Daniel Chua	1	A5-1 Donghwan Kim	
10:00		Plenary Talk 2		National University of Singapore		Korea Univ.	
		Takao Someya		Coffee Break		Coffee Break	
		The Univ. of Tokyo		A3-2 Kosuke Nagashio		A5-2 Yasuyoshi Kurokawa	
		A0–1 I. Hagen Klauk		The Univ. of Tokyo		Nagoya Univ.	
11:00		Max Plank Inst.		A3−3 Tomoki Machida		A5-3 Keisuke Ohdaira	
		Short Break		The Univ. of Tokyo		JAIST	
				A3–4 Atsushi Ando		A5–4 Md. Shahiduzzaman	
		Poster S	Session 1	AIST		Kanazawa Univ.	
		[Room P (SASTec 3F)] (with snack)					
12:00		-				Poster S	Session 3
		11:20-12:50		Poster Session 2 [Room P (SASTec 3F) ] (with snack)		[Room P (SASTec 3F) ] (with snack)	
		Short Break	Short Break		-13:30	11:45	-13:15
13:00		A1-1 Thomas D. Anthopoulos	B1-1 Nicolas Clement	12.00	10.00		
		King Abdullah Univ. of Sci. Tech.	LIMMS/CNRS-IIS			A6-1 Kentaro Ito	B3−1 Hiroshi Funakubo
		A1-2 Hiromichi Ohta	B1−2 Masateru Taniguchi	Short Break	Short Break	Shinshu Univ.	Tokyo Inst. of Tech.
		Hokkaido Univ.	Osaka Univ.			A6-2 Hitoshi Tampo	B3-2 P. D. Lemenzo
14:00		Short Break	B1−3 Keiji Sasaki			AIST	NaMLab, GmNI
		A1-3 Guorong Li	Hokkaido Univ.			A6–3 Atsushi Masuda	B3−3 Tomoaki Karaki
		Chinese Academy of Sciences	B1–4 Minghui Hong			AIST	Toyama Prefectural Univ.
		A1−4 Adbel Hadi Kassiba	National University of Singapore		Student Oral Session	A6–4 Hironori Nishihara	
		UMR-CNRS	Coffee Break	Student Oral Session (SA1-9)	(SB1-9)	Ryukoku Univ.	
15:00		A1-5 T. Makino	B2−1 Jun−ichi Nishida	13:55-16:10	13:40-16:10	Award Ceremony 3	
		Univ. of Fukui	University of Hyogo	10.00 10.10		& Closing Remarks	
		Coffee Break	B2-2 Hiroyoshi Naito				•
		A2–1 Hiroshi Kawarada	Osaka Prefecture Univ.				
16:00	Registration	- Waseda University	Short Break				
10.00	[AICS 1F]	A2-2 Katsumi Kaneko	B2−3 Hisao Ishii				
	_	Shinshu Univ.	Chiba Univ.	Coffee Break			
			B2-4 Shyam S. Pandy	A4-1 Jin Jang		Plenary Ta	alk : 45 min
17:00		Nagoya Inst. of Tech.	Kyushu Inst. of Tech	Kyung Hee University			alk : 30 min
17.00		Award Ceremony I		A4-2 Fumihiko Hirose	-		sentation : 20 min
				Yamagata Univ.		_	sentation : 15 min
				A4-3 Seiji Akita			discussion)
10.00				Osaka Prefecture Univ.		(	
18:00	Welcome			Award Ceremony 2		Poster Prese	ntation: 90 min
	Reception				T		
	[AICS 3F]						er size 18.88 cm and below)
	[רוט טר]						
		Dam	quet				
19:00		Ban					
19:00			kan Hotel				
19:00		Saihokuł	kan Hotel −20:30				
19:00		Saihokuł					

EM-NAN	O 2019		Program for Plenar	y and Invited speakers	
Conference program number	Place	Presentation Date and Time	Name	Affiliation	
PL1	AICS2F	6/20, 9:00	Shigeaki Zaima	Nagoya University	Research and Developme
PL2	AICS2F	6/20, 10:00	Takao Someya	The University of Tokyo	Stretchable Nanomesh E
PL3	AICS2F	6/21, 9:00	Gehan Amarthunga	University of Cambridge	Carbon Nanotubes and S
PL4	AICS2F	6/22, 9:00	Tsutomu Miyasaka	Toin University of Yokohama	Current Progress and Nex
A0-1	SASTec3F	6/20, 10:45	Hagen Klauk	Max Planck Institute for Solid State Research	Low-Voltage, High-Freq
A1-1	AICS2F	6/20, 13:00	Thomas D. Anthopoulos	King Abdullah University of Science and Technology (KAUST)	Metal Oxide Transistors
A1-2	AICS2F	6/20, 13:30	Hiromichi Ohta	Research Institute for Electronic Science (RIES), Hokkaido University	Electron Transport Prope
A1-3	AICS2F	6/20, 14:10	Guorong Li	Shanghai Institute of Ceramics of the Chinese Academy of Sciences	Actuactor Properties of F
A1-4	AICS2F	6/20, 14:40	Adbel Hadi Kassiba	Institute of Molecules and Materials of Le Mans – UMR-CNRS, France	Doping Effects on the Ph
A2-1	AICS2F	6/20, 15:50	Hiroshi Kawarada	Waseda University	High Frequency, High Po
A2-2	AICS2F	6/20, 16:20	Katsumi Kaneko	Shinshu University	Novel Aspects and Mater
A3-1	AICS2F	6/21, 9:45	Daniel HC Chua	National University of Singapore	New Generation of Chalo
A3-2	AICS2F	6/21, 10:35	Kosuke Nagashio	The University of Tokyo	2D Layered Semiconduct
A3-3	AICS2F	6/21, 11:05	Tomoki Machida	The University of Tokyo	Quantum Transport and I
A4-1	AICS2F	6/21, 16:30	Jin Jang	Kyung Hee University	Charge Generation Junct
A4-2	AICS2F	6/21, 17:00	Fumihiko Hirose	Yamagata University	Room Temperature Atom
A4-3	AICS2F	6/21, 17:30	Seiji Akita	Osaka Prefecture University	Nano-electro-mechanical
A5-1	AICS2F	6/22, 9:45	Donghwan Kim	Korea University	Perovskite/Silicon Tande
A5-2	AICS2F	6/22, 10:30	Yasuyoshi Kurokawa	Nagoya University	Silicon Nanostructures for
A6-1	AICS2F	6/22, 13:20	Kentaro Ito	Shinshu University	Development of Cu <sub>2</sub> SnZt
A6-2	AICS2F	6/22, 13:50	Hitoshi Tampo	Research Center for Photovoltaics, National Institute of Advanced Industrial Science and Technology	CZTS-based Solar Cells
B1-1	SASTec3F	6/20, 13:00	Nicolas Clement	LIMMS/CNRS-IIS & Institute of Industrial Science, The University of Tokyo	Quantum Transport and G
B1-2	SASTec3F	6/20, 13:30	Masateru Taniguchi	Osaka University	Single-molecule Quantum
B1-3	SASTec3F	6/20, 14:00	Keiji Sasaki	Research Institute for Electronic Science (RIES), Hokkaido University	Selective Trapping and T
B1-4	SASTec3F	6/20, 14:30	Minghui Hong	National University of Singapore	Microsphere Enhanced I
B2-1	SASTec3F	6/20, 15:20	Jun-ichi Nishida	University of Hyogo	Preparation and Photophy
B2-2	SASTec3F	6/20, 15:50	Hiroyoshi Naito	Osaka Prefecture University	Revisiting Modulated Ph
B2-3	SASTec3F	6/20, 16:30	Hisao Ishii	Chiba University	Operando- Photoelectron
B3-1	AICS2F	6/22, 13:20	Hiroshi Funakubo	Tokyo Institute of Technology	Property Control of Ferro
B3-2	AICS2F	6/22, 13:50	Uve Schroeder	NaMLab, GmbH	Unleashing Ferroelectrici
<b>PL</b> <i>x</i> : <b>Plenary</b>	Talks (45 mins,	Including discuss	sion);	Ax -x, Bx -x : Invited talks (30 mins, Including discussion);	

### Nagano Engineering Campus, Shinshu University, Japan

Presentation Title

ment of GeSn and Related-Group-IV Semiconductors for Future Nanoelectronic Applications

Electronics for Wearables and in vitro Characterizations

Si nanowires for photonics

Next Challenge of Perovskite Photovoltaics towards Industrialization

equency Organic Thin-Film Transistors for Flexible Electronics

rs with Multi-layer Channel Architectures

perties of Transparent Oxide Semiconductor, BaSnO<sub>3</sub>-SrSnO<sub>3</sub>: Epitaxial Films and Thin Film Transistors

f PMN-PT Ferroelectric Relaxor Ceramics With Polar Nano Region Structure

Photoactivity of Nanostructured Titanate and Vanadate Oxides

Power Diamond p-FETs Including Vertical Structures for High Voltage and High Speed Complementary Circuits

terials in Nanostructured Carbon Electrodes

alcogenide and Phosphide Materials for Clean Energy Applications

uctors

nd Robotic Fabrication of van der Waals Heterostructures of 2D Materials

ctions for Highly Efficient Quantum-dot Light Emitting Diodes

omic Layer Deposition and its Application to Gas Barrier Coating

cal Resonators Toward Highly Sensitive Force Sensing

dem Solar Cells: Conformal Perovskite on Textured Silicon Surface

for Energy Harvesting Applications

ZnS<sub>4</sub> thin films for photovoltaic applications

ls and Effect of Alkali Metal Incorporation

nd Chemistry for Smart Nanosensors

um Sequencer for Healthy Life Expectancy

Transport of Nanoparticles using Optical Forces

d Laser Nano-patterning and Optical Nano-imaging

physical Studies of Donor-acceptor-type Phthalimide Compounds Showing Triboluminescence

Photocurrent Spectroscopy: Characterization of Transport Properties in Working Organic Photovoltaics

on Yield Spectroscopy of Organic Field Effect Transistors to Investigate Negative Carrier States

rroelectric HfO<sub>2</sub> Films

icity in Hafnium and Zirconium Oxides for Next Generation Ferroelectric Devices

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Conference program number	Place	Presentation Date and Time	Author Names (including co-authors)	Author's Affiliations (including co-authors)	Presentation Title
A1-5	AICS2F	6/20, 15:10	T. Makino, T. Asai, T. Takeuchi, K. Kaminaga, D. Oka, T. Fukumura	Univ. Fukui and Tohoku Univ.	Temperature Dependence of Dielectric Functions in $Yb_2O_3$ and $Lu_2O_3$ Thin Films
A2-3	AICS2F	6/20, 16:50	Subash Sharma, Golap Kalita, Masaki Tanemura	Nagoya Institute of Technology	In-situ TEM Synthesis and Nano-soldering of Carbon Nanotubes (CNT) for Interconnects Based Application
A3-4	AICS2F	6/21, 11:35	1 Atsushi Ando, 1, 2 Hidekazu Komaki, 1, 2 Masaki Ogura, 1, 2 Kosuke Sakaguchi, 2 Shin-ichi Yamamoto, and 1 Toshifumi Irisawa	1 National Institute of Advanced Industrial Science and Technology (AIST) and 2 Department of Electronics and Informatics, Faculty of Science and Technology, Ryukoku University	Synthesis of Large-scale Two-dimensional MoS <sub>2</sub> Atomic Layers by Alkali-free Two-step Chemical Vapor Deposition
A5-3	AICS2F	6/22, 11:00	Keisuke Ohdaira1, Keitaro Hamada1, Daiki Kuwabara2, Tetsuya Taima2, Kohei Yamamoto3, and Tetsuhiko Miyadera3	<ol> <li>Japan Advanced Institute of Science Technology, 2 Kanazawa University,</li> <li>National Institute of Advanced Industrial Science and Technology</li> </ol>	Utilization of Amorphous Silicon Films for Carrier Transport Layers in MAPbI <sub>3</sub> Solar Cells
A5-4	AICS2F	6/22, 11:20	Md. Shahiduzzaman,1* Makoto Karakawa,1,2,3 Kazuaki Ninomiya,3 Kohshin Takahashi,2 and Tetsuya Taima1,2,3*	1Nanomaterials Research Institute (NanoMaRi), Kanazawa University, 2 Graduate School of Natural Science and Technology, Kanazawa University, 3Institute for Frontier Science Initiative (InFiniti), Kanazawa University,	Control Growth of CH <sub>3</sub> NH <sub>3</sub> PbI <sub>3</sub> Nanoparticle-based Planar Perovskite Solar Cells
A6-3	AICS2F	6/22, 14:20	Atsushi Masuda1, Chizuko Yamamoto1, Yukiko Hara1, Sachiko Jonai1, Yasushi Tachibana2, Takeshi Toyoda2, Toshiharu Minamikawa2, Seira Yamaguchi3, Keisuke Ohdaira3	1National Institute of Advanced Industrial Science and Technology, 2Industrial Research Institute of Ishikawa, 3Japan Advanced Institute of Science and Technology	Influence of Hygrothermal Stress on Potential-Induced Degradation for Homojunction and Heterojunction Crystalline Si Photovoltaic Modules
A6-4	AICS2F	6/22, 14:40	Hironori Nishihara and Takahiro Wada	Department of Materials Chemistry, Ryukoku University	First-principles Study of (Cu, Li)GaS <sub>2</sub> System
B2-4	SASTec3F	6/20, 17:00	Nikita Kumari1, Shuichi Nagamatsu2 and Shyam S. Pandey*1	1 Graduate School of Life Science and Systems Engineering, Kyushu Institute of Technology, 2 Department of Computer Science and Electronics, Kyushu Institute of Technology	Molecular Orientation and 2D Positional Mapping: A Facile and Powerful Approach for Organic Electronic Devices
B3-3	SASTec3F	6/22, 14:20	Tomoaki Karaki, Xu Wang, and Ken' ichi Koyanagi	Toyama Prefectural University, Japan	BaTiO <sub>3</sub> Piezoelectric Powder Blended Electrorheological Fluids
SA-1	AICS2F	6/21, 13:55	Mansoureh Keikhaei, Masaya Ichimura	Department of Electrical and Mechanical Engineering, Nagoya Institute of Technology	Fabrication of p-type Transparent CuZnO Thin Films by the Electrochemical Deposition Method
SA-3	AICS2F	6/21, 14:10	Khan, Biswajit Mandal, Myo Than	Hybrid Nanodevice Research Group (HNRG), Electrical Engineering, Indian Institute of Technology Indore; Hashimoto-Myo Laboratory, Department of Electrical and Computer Engineering, Shinshu University	Effect of Roughness on the Resistive Switching of Yttrium Oxide Based System
SA-4	AICS2F	6/21, 14:25	Nguyen Duy Hieu, Ngo Minh Chu, Yoshinori Tokoi, Thi-Mai-Dung Do, Tadachika Nakayama, Hisayuki Suematsu, and Koichi Niihara	Extreme Energy-Density Research Institute, Nagaoka University of Technology and Department of Electrical, Electronics Systems Engineering, National Institute of Technology	Preparation of Boron Nanoparticles Powder by Pulsed Wire Discharge of Compacted Powder
SA-5	AICS2F	6/21, 14:40	Paul Rossener Regonia, Christian Mark Pelicano, Ryosuke Tani, Atsushi Ishizumi, Hisao Yanagi and Kazushi Ikeda	Graduate School of Science and Technology, Nara Institute of Science and Technology	Predicting Optical Band Gap of ZnO Quantum Dots using Supervised Machine Learning
SA-6	AICS2F	6/21, 15:10	Ashenafi Abadi1, Myo Than Htay1, 2, Yoshio Hashimoto1, 2, Kentaro Ito1, Noritaka Momose3	1Faculty of Engineering, 2ICST, Shinshu University, 3NIT, Nagano coll.	Effect of Sb Doping in Pure Phase SnS Thin Films
SA-7	AICS2F	6/21, 15:25	Yuli Wen and Keisuke Ohdaira	Japan Advanced Institute of Science and Technology (JAIST)	Thickness Dependence of the Passivation Quality of Cat-CVD $SiN_x$ Films

### EM-NANO 2019Program for Regular and Student Oral Presentations

Nagano Engineering Campus, Shinshu University, Japan

SA-8	AICS2F	6/21, 15:40	Tomoyasu Suzuki, Seira Yamaguchi, Kyotaro Nakamura, Atsushi Masuda, and Keisuke Ohdaira	Japan Advanced Institute of Science Technology, Toyota Technological Institute, National Institute of Advanced Industrial Science and Technology	Effect of a $SiO_2$ film on the Potential-induced Degradation of n-type Front-emitter c-Si Photovoltaic Modules
SA-9	AICS2F	6/21, 15:55	T. Kurosaki, H. Suematsu, T. Kikuchi, G. Imada, T. Nakayama, K. Niihara, G. Thorogood	Nagaoka University of Technology, Niigata Institute of Technology, Australian Nuclear Science and Technology Organization	Development of a Cryostat for Color Center Introduction/detection in a Pulsed Intense Relativistic Electron Beam Accelerator
SB-1	SASTec3F	6/21, 13:40	Ke Xu, Ye Chen, Yuta Kurashina, Yoshitaka Kitamoto	Tokyo Institute of Technology	Synthesis of Iron-Oxide Nanoparticles/Thermoresponsive Polymer Composite Hydrogels with Controlled Porous Structure
SB-2	SASTec3F	6/21, 13:55	Ajendra Kumar Vats, Shuzi Hayase and Shyam S. Pandey	Graduate School of Life Science and Systems Engineering, Kyushu Institute of Technology	Implication of the Nature of Anchoring groups on Photophysical Behaviour of NIR Dyes for Dye-Sensitized Solar Cells
SB-3	SASTec3F	6/21, 14:10	Kanta Kobayashi1, Shinnosuke Sone1, Kazunari Shinbo2, Masahiro Minagawa1,2	1 National Institute of Technology, Nagaoka College, 2 Institute of Science and Technology, Niigata University	Improvement of OFET Characteristics due to Oxidation Treatment of Silver Nano-ink Electrode Surfaces
SB-4	SASTec3F	6/21, 14:25		Patrawadee Yaiwong, Chutiparn Lertvachirapaiboon, Kazunari Shinbo, Keizo Kato, Kontad Ounnunkad, and Akira Baba	In-situ Investigation of Surface Plasmon Resonance Enhanced Fluorescence Properties of Gold Quantum Dots on Polyelectrolyte Multilayers
SB-5	SASTec3F	6/21, 14:40	Atsuro Ohyama, Naomi Oguma, Naoki Hirata, Musubu Ichikawa	1 Interdisciplinary Graduate School of Science and Technology, Shinshu University. 2 Dainichiseika Color & Chemicals Mfg. Co., Ltg.	A Solvent-free Transfer-printing Process for Organic Semiconducting Layers
SB-6	SASTec3F	6/21, 15:10	Nguyen Chi Trung Ngo1, Wiff, Juan Paulo2, Tsuneo Suzuki1, Hisayuki Suematsu1 and Tadachika Nakayama1	1 Extreme Energy-Density Research Institute, Nagaoka University of Technology 2 Department of Science of Technology Innovation, Future Technology Research and Education Network, Nagaoka University of Technology	Development of (Ba,Ca)(Zr,Ti)O <sub>3</sub> Lead Free Pyroelectric Materials
SB-7	SASTec3F	6/21, 15:25	Ritsuko Sato[1, 2], Yasuo Chiba[2], Masayuki Chikamatsu[3], Yuji Yoshida[3], Makoto Kasu[1, 2], Tetsuya Taima[3, 4] and Atsushi Masuda[4, 5]	<ul> <li>[1] Department of Electrical and Electronic Engineering, Saga University,</li> <li>[2] Research Center for Photovoltaics, National Institute of Advanced</li> <li>Industrial Science and Technology, [3] Research Center for Photovoltaics,</li> <li>National Institute of Advanced Industrial Science and Technology, [4]</li> <li>Nanomaterials Research Institute, Kanazawa University, [5] Research</li> <li>Center for Photovoltaics, National Institute of Advanced Industrial Science</li> <li>and Technology</li> </ul>	Metastability of Power Generation Amount in Organic Photovoltaics Experienced by Different Temperature Conditions
SB-8	SASTec3F	6/21, 15:40	Haiwen Dai, Ashutosh Rath, Shu Hearn Yu, Stephen J. Pennycook, and Daniel H. C. Chua	National University of Singapore	Highly Conductive P-type Tuneable Reduced Molybdenum Oxides by Temperature-controlled Vapor Deposition
SB-9		6/21, 15:55	Koichi Tanaka, Koki Hojo, Aditya Deshpande, Pedro Arias, Angel Aleman, Hicham Zaid, Michael E. Liao, Mark S. Goorsky, Suneel Kodambaka	Department of Materials Science and Engineering, University of California Los Angeles; Department of Mechanical and Aerospace Engineering, University of California Los Angeles; Department of Micro-Nano Mechanical Science and Engineering, Graduate School of Engineering, Nagoya University	Two Dimensional Hexagonal Boron Nitride Layer Promoted Heteroepitaxy in Sputter-deposited Transition Metal Disulfide and Carbide Thin Films
$Ax - x : \mathbf{R}$	egular Oral	Presentaions	(20 mins, Including discussion);	SA-x, SB-x : Student Oral Presentaions (15 mins, Including discussion)	);

#### P1-1 (Poster)

### **Plasmonic Optical Phased Array Using Electro-Optic Polymer**

Yuji Kuwamura, Kyosuke Hibata and Takafumi Ogawa Kanazawa University Graduate School of Natural Science and Technology

#### P1-3 (Poster)

### Separation of blue fluorescent pigments contained in Fraxinus lanuginosa f. serrata using reverse-phase column chromatography and investigation of luminescent properties

Tomoya Ohtsu, Yusuke Kinou, and Naoki Ohtani Department of Electronics, Doshisha University

#### P1-4 (Poster)

## Hole Transport Dithiophene-benzene Copolymer (DTB) for Electroluminescence Devices

Hiroaki Tachibana, Naoya Toda, Noriyuki Takada, Masayuki Chikamatsu, Reiko Azumi AIST

P1-5 (Poster)

## Luminescent Properties of Copper(I)-bromide Complex in a PMMA Film

Chika Nanzan, Yorimasa Takazawa, Tomomi Sakata Department of Chemistry, Faculty of Science, Josai University

P1-6 (Poster)

# $\begin{array}{cccc} Luminescent & and & scintillation & properties & of \\ (C_6H_5(CH_2)_2NH_3)_2(Ba,Pb)Br_4 & self-organized & bi-dimensional \\ quantum-well structures & \end{array}$

Daisuke Nakauchi 1, Naoki Kawano 2, Noriaki Kawaguchi 1, Takayuki Yanagida 1

1. Nara Institute of Science and Technology, 2. Akita University

P1-7 (Poster)

## Effect of Very Fine H<sub>2</sub>O<sub>2</sub> Spray Alternated with Streamer Propagation from a Syringe Electrode on Gaseous Toluene Decomposition

Shinji Yudate, Ryosuke Tamada, Kanta Tamaru, Ryotaro Ozaki, Kazumori Kadowaki Ehime university

### P1-8 (Poster)

### Study of isolation method of green fluorescent pigments contained in cherry tomatoes using column chromatography

Aoi Noma, Naoki Ohtani

Department of Electronics, Doshisha University

P1-9 (Poster)

## Passive-Type Organic Temperature Sensor with Current-Voltage Conversion Modus

Takuto Matsumoto, Shigeki Naka, and Hiroyuki Okada University of Toyama

### P1-10 (Poster)

## **Optimizing the Wavelength of UVC-LED and the Water Flow Rate of Water Sterilizer for Flow Water Sterilization**

Wei-Zhang Li, Chun-Liang Lin

Department of Electro-Optical Engineering and the Green Energy Technology Research Center, Kun-Shan University

### P1-11 (Poster)

### Zeolitic imidazolate metal organic framework with nanosized pores for electrochemical or photoelectrochemical process

Cheol Hyoun Ahn, Hyung Koun Cho Sungkyunkwan University

### P1-12 (Poster)

### Fabrication of Donor-Acceptor Interfaces for Phase Transition Transistors

Yugo Okada 1, Daiki Yamamoto 2, Masatoshi Sakai 2, Hiroshi Yamauchi 3, Kazuhiro Kudo 21. Center for Frontier Science, Chiba University, 2. Graduate School of Engineering, Chiba University, 3. Department of Electronic Engineering, Tokyo Denki University

### P1-13 (Poster)

## Fabrication of organic-inorganic hybrid thin films by sol-gel process using metal-alkoxide

Ryota Kasuga, Naoki Ohtani Department of Electronics, Doshisha University

### P1-14 (Poster)

## On/Off Ratio of Pentacene Field-Effect Transistor with Discontinuous MoO<sub>3</sub> Layer

Yusaku Higuchi 1, Kota Hoshina 1, Shunsuke Hasegawa 1, Masahiro Minagawa 2, Akira Baba

1, Kazunari Shinbo 1, Keizo Kato 1

1. Niigata University, 2. National Institute of Technology, Nagaoka College

### P1-15 (Poster)

## Self-formed nanocatalyst layers on alloy substrates and their characteristics of electrochemical glucose oxidation

Kiyofumi Yamagiwa, Daisuke Satou

Department of Natural and Environmental Science, Teikyo University of Science

### P1-16 (Poster)

## Graphene-coated carbon fiber woven fabric and glucose fuel gel air exposure type biofuel cell

Tatsuki Ogino, Kenta Kuroishi, Satomitsu Imai College of Science and Technology, Nihon University

P1-17 (Poster)

## Ultra-thin organic light emitting diodes with electron injection layer of zinc-oxide and polyethyleneimine ethoxylated stack

Takumu Koike, Masahiro Morimoto, Shigeki Naka, Hiroyuki Okada Graduate School of Science & amp; Engineering, University of Toyama

P1-18 (Poster)

## Observation of cavity polariton in Fabry-Pérot microcavity made of metal mirrors containing with organic dye

K. Nishiyama, M. Suzuki, M. Kani, K. Uzumi, M. Funahashi, F. Shimokawa, N. Tsurumachi Faculty of Engineering and Design, Kagawa University

### P1-19 (Poster)

### **Regenerable Myoglobin Biosensor Based on Protein G' immobilized Interdigitated Electrodes**

S. Fujishiro, H. Ohnuki, D. Tsuya, H. Wu, H. Endo Tokyo University of Marine Science and Technology, National Institute for Materials Science

P1-20 (Poster)

### Hybrid organic-inorganic thin films based on thiol-ene reaction

Akira Miyashiro, Yusuke Jitsui, Naoki Ohtani Department of Electronics, Doshisha University

### P1-22 (Poster)

### Development of all printed, ultra-high-speed capacitive-type polyimide humidity sensors with CNT gas permeable electrode

Makoto Hatayama, Kosuke Takano, Eiji Itoh Shinshu University

P1-23 (Poster)

### Highly sensitive, fast room temperature acetone sensors based on low temperature processed reduced graphene oxide

Kosuke Takano 1, Hiroaki Sugiura 1, Eiji Itoh 1, Shun Goda, 2 Hironobu Ono 2

1. Department of Electrical and Computer Engineering, Faculty of Engineering, Shinshu University, 2. Nippon Shokubai Co.,Ltd.

P1-24 (Poster)

### Quick deposition of TIPS pentacene/polystylene blends deposited by thermal assisted meniscus coating onto the oxide-dielectrics for high-performance organic field effect transistors

Fumiya Aikawa, Toshiaki Kashiwagi, Eiji Itoh Shinshu University

#### P1-25 (Poster)

### Internal conversion rate in thermally activated delayed fluorescence emitters based on carbazol dicyanobenzene

Takashi Kobayashi 1,2, Daisuke Kawate 1, Akitsugu Niwa 1, Tomoya Ishii 1, Takashi Nagase 1,2, Kenichi Goushi 3,4, Chihaya Adachi 3,4, Hiroyoshi Naito 1,2

1. Department of Physics and Electronics, Osaka Prefecture University, 2. The Research Institute for Molecular Electronic Devices, Osaka Prefecture University, 3. Center for Organic Photonics and Electronics Research, Kyushu University, 4. Japan Science and Technology Agency, ERATO, Adachi Molecular Exciton Engineering Project.

#### P1-26 (Poster)

### **Preparation and Analysis of Precisely Patterned Organic Thin Film from Molten Organic Semiconductors**

Anoush Kanamori, Atsuro Ohyama, Musubu Ichikawa, Naoki Hirata, Naomi Oguma Shinshu University, Dainichiseika Color&Chemicals Mfg. CO., Ltd

P1-27 (Poster)

### Combined Excitation Emission Spectroscopy on CH<sub>3</sub>NH<sub>3</sub>Pb(Cl,I)<sub>3</sub>

T. Asai, T. Takeuchi, T. Yamade, T. Makino, S. Ito Univ. Fukui, Univ. Hyogo

### P1-28 (Poster)

### Photoluminescence properties of emissive polymer MEH-PPV affected by antioxidant effect of natural beta-carotene extracted from spinach

Yuuki Magata, Shun Imada, Naoki Ohtani Doshisha University

#### P1-29 (Poster)

## The Effect of Dye Structure and Electrolyte on Electron Transfer at ZnO/dye/electrolyte Interfaces

Masato Abe, Dai Morikawa, Mutsumi Kimura, Shogo Mori

Division of Chemistry and Materials, Faculty of Textile Science and Technology, Shinshu University

### P1-30 (Poster)

### Study of charge transport mechanism of organic semiconductors based on crystallization properties

Seongjib Cho, Eunju Lim Dankook University,Korea

P1-31 (Poster)

### Ultrasonication aided iontophoresis using microneedles

Moonjeong Bok 1,2, Zhi-Jun Zhao 2, Jun-Ho Jeong 2, Eunju Lim 1

1. Department of Science Education/Creative Convergent Manufacturing Engineering, Dankook University, 2. Department of Nano Manufacturing Technology, Korea Institute of Machinery and Materials,

### P1-32 (Poster)

### Laser-induced orientation transformation of a conjugated polymer thin film with enhanced vertical charge transport

Sangmin Chae, Ahra Yi, Hyo Jung Kim

Pusan National Universit, Department of Organic Material Science and Engineering

### P1-33 (Poster)

### Fabrication of Thin Film Transistors of Ph-BTBT-10 by Rapid Expansion of Supercritical Solutions (RESS) Using CO<sub>2</sub>

Yui SAKAMOTO 1, Takanori FUJITA 1, Yusuke SHIBA 1, Kazutoshi SHIMAMURA 2, Hirohisa UCHIDA 3

1. Graduate School of Natural Science and Technology, Division of Natural System, Kanazawa University, 2. Engineering and Technology Department, Kanazawa University, 3. Faculty of Frontier Engineering, Institute of Science and Engineering, Kanazawa University

P1-34 (Poster)

## FabricationofPolydimethylsiloxane-basedOrganic-inorganicHybrid/AluminaComposite on Metal via Electrophoretic Codeposition

Yusuke AOKI Mie University

P1-35 (Poster)

## FDTD-Bloch simulator for the analysis of energy transfer between localized surface plasmon and molecule

Hisaki Oka, Shota Terada Niigata University

P1-36 (Poster)

### Synthesis of Monoclinic Beta Molybdenum Trioxide Nanoparticles from Molybdenum Wires by Pulse Wire Discharge

Ngo Minh Chu, Nguyen Duy Hieu, Thi Mai Dung Do, Tadachika Nakayama, Hisayuki Suematsu, Koichi Niihara

Extreme Energy-Density Research Institute, Nagaoka University of Technology,

### P1-37 (Poster)

## Novel magneto-plasmonic materials interplayed by magneto-optical effects and nanostructured Au

Kanta Itsubo, Haruki Yamane, Yukiko Yasukawa Chiba Institute of Technology, Akita Industrial Technology Center

### P1-38 (Poster)

### An Analytic Solution of Plasmonic Superfocusing Modes in Metallic Conical Structure Based on Quasi-separation of Variables

Kazuyoshi Kurihara University of Fukui

P1-39 (Poster)

### Self-Assembly of Fluorescent Nanospheres on Nanostructured Azo Molecular Thin Films

Yasuo Ohdaira, Akira Baba, Kazunari Shinbo, Keizo Kato Niigata University

P1-40 (Poster)

### **High Frequency Caracteristic of SWCNT film**

Takafumi Nishizawa , Radovan Kukobat , Katsumi Kaneko, Makoto Sonehara , Toshiro Sato Shinshu University

### P1-41 (Poster)

### Synthesis and electronic transport property of hafnium diselenide

Takuma Ozawa, Yu Abe, Noriyuki Urakami, Yoshio Hashimoto Shinshu University

### P1-42 (Poster)

### Millimeter-wave Electromagnetic Simulation for Conductive Paste Bonding using Single Fullerene Shaped Model

Kousuke Hishida1, Nozomi Shimoishizaka2, Makoto Sonehara1, Toshiro Sato1 1Shinshu University, 2CONNECTEC JAPAN Corporation

P1-43 (Poster)

## Epitaxial synthesis of transition metal dichalcogenides via selenization of deposited metal films

Ren Hachiya , Noriyuki Urakami, Yoshio Hashimoto Shinshu University

### EM-NANO 2019

### P2-1 (Poster)

### Optical and scintillation properties of Pr-dope Y<sub>2</sub>Si<sub>2</sub>O<sub>7</sub> single crystal

Prom Kantuptim, Masaki Akatsuka, Noriaki Kawaguchi, Takayuki Yanagida Nara Institute of Science and Technology

#### P2-2 (Poster)

### Growth of Langasite-Type Ca<sub>3</sub>Nb(Ga<sub>1-x</sub>Al<sub>x</sub>)<sub>3</sub>Si<sub>2</sub>O<sub>14</sub> Single Crystals

Kiyoto Ito, Kousei Miyamoto, Tomoaki Karaki, Tadashi Fujii Toyama Prefectual University

P2-3 (Poster)

### Fabrication of Piezoelectric Ceramics with Three-Dimensional Shapes Using a Dispenser System

Matsuda Shuto1, Nakata Naoya1, Tomoaki Karaki1, Tadashi Fujii1, Tatsunori Kakuda2,

1. Toyama Prefectural University, 2, Toyama Prefecture Industrial Technology Research and Development Center

#### P2-4 (Poster)

### Nitrogen Doping of ZnO Films by NO Gas Decomposition on Heated Ir Wire Surface in a Catalytic Reaction-Assisted CVD

Ryuta Iba, Yuki Adachi, Abdul Manaf Hashim, Ariyuki Kato, Kanji Yasui Nagaoka University of Technology, MJIIT, Universiti Teknologi Malaysia

P2-5 (Poster)

## Selective hetero-epitaxial growth of $\beta$ -Ga<sub>2</sub>O<sub>3</sub> thin films by using water lift-off method

S. Ito 1, A. Matoba 2, Y. Yonezawa 2, S. Yamada 3, and T. Kawae 1

1. Graduate School of Natural Science & Technology, Kanazawa University, 2. Industrial Research Institute of Ishikawa, 3. National Institute of Technology, Ishikawa College

### P2-6 (Poster)

## Preparation of colloidal fluorescent quantum dot thin films by electrostatic spraying deposition

Ryo Yamada, DaeGwi Kim, and Naoki Ohtani

Department of Electronics, Doshisha University and Department of Applied Physics, Osaka City University Place: SASTec 3F; Date and Time: 2019/6/21, 12:00-13:30 (90 mins)

#### P2-7 (Poster)

### Photoluminescence and Scintillation of TlBr Crystals at Low Temperatures

Masanori Koshimizu, Keitaro Hitomi, Mitsuhiro Nogami, Takayuki Yanagida, Yutaka Fujimoto, Keisuke Asai

 Department of Applied Chemistry, Graduate School of Engineering, Tohoku University, 2.
 Department of Quantum Science and Energy Engineering, Graduate School of Engineering, Tohoku University, 3. Division of Materials Science, Nara Institute of Science and Technology

#### P2-8 (Poster)

## Preparation of Cr-Si-N-O thin films on MgO(001) by pulsed laser deposition

Yusuke Iwasaki, Yusei Mizuno, Tadachika Nakayama, Hisayuki Suematsu and Tsuneo Suzuki Nagaoka University of Technology

#### P2-9 (Poster)

## Preparation of Cu<sub>2</sub>O/ZnO Heterojunctions by Electrodeposition from Aqueous Solution

S. Shiomoto, D. Kiriya, T. Yoshimure, N. Fujimura, A. Ashida Osaka Prefecture University

#### P2-10 (Poster)

### Characterization of Thin-Film-Transistors Formed by Low Temperature Solution Process with Low-In-Ga IGZO

Hiroshi YAMAUCHI, Wataru KAKUTA, Yugo OKADA, Masatoshi SAKAI, Takashi TADOKORO, Kazuhiro KUDO

Department of Electronic Engineering Tokyo Denki University, Center for Frontier Science Chiba University, Graduate School of Engineering Chiba University

#### P2-11 (Poster)

## Simulation of molecular intercalation in $Sr_2CaCu_2O_y$ and $Bi_2Sr_2CaCu_2O_y$ by MOPAC

K. Kawai 1, H. Suematsu 1, A. Fujimoto 2, T. M. D. Do 1, T. Nakayama 1, K. Niihara 1

1. Nagaoka University of Technology, 2. National Institute of Technology, Numazu College

### P2-12 (Poster)

### Growth of Crystalline Tungsten Disulfide Thin Films at 350 °C Using Metallorganic and Organic Liquid Precursors

Yukihiro Ikeda, Keiji Ueno Saitama University

### P2-13 (Poster)

### **Evaluation of Ni-Fe Alloy Magnetostrictive Film Characteristics for Magnetostrictive Torque Sensor**

Kazuyuki Ishibashi 1, Makoto Sonehara 2, Takeyuki Kodaira 1, Takahiro Sasaki 1, Toshiro Sato 2

1. Motortoronics Laboratory, Tamagawa Seiki.Co.,Ltd, 2. Faculty of Engineering, Shinshu University

### P2-14 (Poster)

### A Simple Analysis of Polarization Reversal of Ferroelectric Capacitor Demonstrating Negative-Capacitance-like Behavior

Eisuke Tokumitsu

Japan Advanced Institute of Science and Technology

### P2-15 (Poster)

## Hardness of chromium nitride thin films prepared with the addition of ytterbium

Takashi Sekine, Yusei Mizuno, Tadachika Nakayama, Hisayuki Suematsu, and Tsuneo Suzuki Nagaoka University of Technology

#### P2-16 (Poster)

### Synthesis and scintillation properties of Ce-doped CaZrO<sub>3</sub> crystals

Hiroyuki Fukushima, Daisuke Nakauchi, Noriaki Kawaguchi, Takayuki Yanagida Nara Institute of Science and Technology

P2-17 (Poster)

## Crystallization and Time-Temperature-Transformation Diagram of B<sub>2</sub>O<sub>3</sub>-BaO-TiO<sub>2</sub> Glasses

Tomoharu Hasegawa

National Institute of Technology (KOSEN), Fukui College

### EM-NANO 2019 Program for Poster Session 2

Place: SASTec 3F; Date and Time: 2019/6/21, 12:00-13:30 (90 mins)

### P2-18 (Poster)

### Effects of Sodium Hydroxide on the Devitrification of Silica Glass

Naohiro Horii 1, Takashi Uno 1, Takeru Miyake 2, Nobu Kuzuu 2, Hideharu Horikoshi 3 1. National Institute of Technology, Fukui college, 2. University of Fukui, 3. Tosoh SGM Corp

#### P2-19 (Poster)

### X-ray induced optical absorption in fused quartz

Kento Nanbo 1, Akihiro Haruki 1, Hiroki Tanaka 1, Nobu Kuzuu 1 And Hideharu Horikoshi 2 1. University of Fukui, 2 Tosoh SGM Corp.

#### P2-20 (Poster)

### Scintillation properties of 30Rb<sub>2</sub>O-30BaO-10Al<sub>2</sub>O<sub>3</sub>-30P<sub>2</sub>O<sub>5</sub> glasses Daiki Shiratori, Noriaki Kawaguchi, Takayuki Yanagida

Nara Institute of Science and Technology

#### P2-21 (Poster)

### Scintillation and Dosimetric Properties of Sn-doped ZnO-P<sub>2</sub>O<sub>5</sub>-SiO<sub>2</sub> Glasses

Noriaki Kawaguchi, Takayuki Yanagida Nara Institute of Science and Technology

### P2-22 (Poster)

## Electrical transport characteristics of rhenium dichalcogenide crystals for nanoelectronics

Fumiaki Doi 1, Noriyuki Urakami 1,2, and Yoshio Hashimoto1,2

1. Department of electrical and computer Engineering, Faculty of Engineering, Shinshu University, 2. Institute of Carbon Science and Technology, Shinshu University

#### P2-23 (Poster)

## Photo and thermal reduction of Eu ions in KSrPO<sub>4</sub> and KBaPO<sub>4</sub> matrices

Masaya Tsuta 1, Susumu Nakamura 2, Ariyuki Kato 1

1. Nagaoka University of Technology, 2. National Institute of Technology

#### P2-24 (Poster)

### Conductive-Probe AFM and Kelvin-Probe Force Microscopy Characterization of OH-terminated Diamond (111) Surfaces with Step-Terrace Structures through Water Vapor Annealing

Masatsugu Nagai 1, Ryo Yoshida 1, Tatsuki Yamada 1, Taira Tabakoya 1, Christoph E. Nebel 2,3, Satoshi Yamasaki 2,4, Toshiharu Makino 4, Tsubasa Matsumoto 1,2, Takao Inokuma 1, Norio Tokuda 1,2,4

1. Graduate School of Natural Science and Technology, Kanazawa University, 2. Nanomaterials Research Institute, Kanazawa University, 3. Fraunhofer-Institute for Applied Solid State Physics, 4. National Institute of Advanced Industrial Science and Technology, Advanced Power Electronics Research Cente

#### P2-25 (Poster)

## Water diffusion in vitreous silica I - diffusion of $H_2O$ molecules in OH-containing and OH-free silica

Yusuke Aoki 1, Yuya Sugiyama 1, Nobu Kuzuu 1, Naohiro Horii 2, Hideharu Horikoshi 3 1. University of Fukui , 2. Nat'l Inst. Tech. Fukui Coll. , 3. Tosoh SGM Corp

#### P2-26 (Poster)

## Water diffusion in vitreous silica II -improvement and evaluation of the analysis method-

Yuya Sugiyama 1,Yusuke Aoki 1, Nobu Kuzuu 1, Naohiro Horii 2, Hideharu Horikoshi 3, 1. University of Fukui, 2. Nat'l Inst.Tech.Fukui Coll., 3.Tosoh SGM Corp

#### P2-27 (Poster)

## Surface planarization of diamond substrates using carbon solid solution into nickel

Kazuto Sakauchi

Taira Tabakoya, Masatsugu Nagai, Christoph E. Nebel, Tsubasa Matsumoto, Takao Inokuma, Norio Tokuda

P2-28 (Poster)

## Electrical characteristics of Ni/B-doped diamond (111) contact after annealing

Yuto Nakamura

Graduate School of Natural Science and Technology, Kanazawa University

#### P2-29 (Poster)

### Filament Temperature Dependence of Growth Rate for Diamond Film by Hot-Filament Chemical Vapor Deposition

Yue Takamori

Graduate School of Natural Science and Technology, Kanazawa University

#### P2-30 (Poster)

### Self-Separated Freestanding Diamond Films Grown on Ni Substrates by Microwave Plasma Chemical Vapor Deposition with Bias Application

Seiya Suzuki 1, Masatsugu Nagai 1, Taira Tabakoya 1, Christoph E. Nebel 2,3, Tsubasa Matsumoto 1,3, Takao Inokuma 1, and Norio Tokuda 1,3

1. Graduate School of Natural Science and Technology Kanazawa University, 2. Fraunhofer Institute for Applied Solid Physics IAF, Nanomaterials Research Institute Kanazawa University

#### P2-31 (Poster)

### **Reduction of Interface State Density for Diamond MOS structures** by Wet Annealing after Hydrogen Plasma Treatment

Ukyo Sakurai 1, Tsubasa Matsumoto 1, Masatsugu Nagai 1, Masahiko Ogura 2, Toshiharu Makino 2, Satoshi Yamasaki 1,2, Christoph. E. Nebel 1,3, Takao Inokuma1, Norio Tokuda 1,2 1. Graduate School of Natural Science and Technology, Kanazawa University, 2. National Institute of Advanced Industrial Science and Technology, 3. Fraunhofer Institute for Applied Solid State Physics

P2-32 (Poster)

#### **Preparation of Ag<sub>8</sub>SnS<sub>6</sub> thin films by a Evaporation method**

Yoji Akaki 1, Issei Hazama 1, Tomohiro Uchimura 1, Kyohei Yoshinaga 1, Shigeyuki Nakamura 2, Hedeaki Araki 3, Satoru Seto 4, Toshiyuki Yamaguch 5

1. National Institute of Technology (KOSEN), Miyakonojo College, 2. National Institute of Technology (KOSEN), Tsuyama College, 3. National Institute of Technology (KOSEN), Nagaoka College, 4. National Institute of Technology (KOSEN), Ishikawa College, 5 National Institute of Technology (KOSEN), Wakayama College

#### P2-33 (Poster)

### Fundamental Study of Aircraft Lightning Detection Sensor System using Optical Probe Magnetic Field Sensor with Nanogranular Film

Makoto Sonehara 1, Kenta Shiota 1, Kenta Yamazaki 1, Koki Iwami 1, Yuta Fujishiro 1, Minamisawa Toshitaka 1, Toshiro Sato 1, Mitsunori Miyamoto 2, Toshiya Kubo 2, Kosuke Miyaji 1

1. Faculty of Engeering, Shinshu University, 2. Citizen Finedevice Co.,Ltd.

#### P2-34 (Poster)

### Hall Mobility and Carrier Concentration of In(acac)<sub>3</sub> Precursor Derived Solution Processed In<sub>2</sub>O<sub>3</sub> and ITO Thin Films

Puneet Jain, Ken-ichi Haga, Eisuke Tokumitsu School of Materials Science, JAIST

#### P2-35 (Poster)

## Tunable electronic properties in bismuthene and two dimensional SiC van der Waals heterobilayer

Md. Sherajul Islam 1, J. D. Sarke r1, ASM Jannatul Islam 1, A. G. Bhuiyan 1, T. Makino 2, A. Hashomoto 2

1. Khulna University of Engineering & amp; Technology, 2. University of Fukui

#### P2-36 (Poster)

## Synthesis and spectral characteristics of Europium-ion doped CeO<sub>2</sub> nanophosphors for red-light emission

Rajan Kumar Singha,b, Sudipta Soma, and Chung-Hsin Lu Department of Chemical Engineering, National Taiwan University, Taipei, Taiwan, ROC

P2-37 (Poster)

## The effect of Co addition to Si-Cr solvent on the surface morphology in top-seeded solution growth of SiC

S. Ehara, N. Tsuchimoto, K. Suzuki, T. Taishi Faculty of Engineering, Shinshu University

P2-38 (Poster)

## Liquid-phase-based polycrystalline SiC coating by sublimation of Si and C from C-dissolved Si solution

Y. Yokobayashi, N. Tsuchimoto, Y. Kagami, S. Yamamoto, K. Suzuki, T. Taishi Faculty of Engineering, Shinshu University, Asuzac Inc.

### EM-NANO 2019Program for Poster Session 2

Place: SASTec 3F; Date and Time: 2019/6/21, 12:00-13:30 (90 mins)

#### P2-39 (Poster)

## SOI Surface Atomically Flattening by Ar/H<sub>2</sub> Annealing for MISFET with High-k HfN Gate Insulator

Shun-ichiro Ohmi, Yusuke Horiuchi, Shin Ishimatsu, and Sohya Kudoh Tokyo Institute of Technology

#### P2-40 (Poster)

## Elaboration and Piezoelectric Properties of High-Density Ceramics of the System Li<sub>0.85</sub>Ca<sub>0.15</sub>Ta<sub>0.85</sub>Zr<sub>0.15</sub>O<sub>3</sub> - SiO<sub>2</sub>

Yoshinobu Tsuzuki 1, Hideto Tanaka 2, Noriko Bamba1, Brahim Elouadi 3

1. Shinshu University, 2. National Institute of the Technology, Nagano College, 3. Laboratoire des Sciences de l'Ingénieur pour l'Environnement, L'université de La Rochelle

#### P2-41 (Poster)

### Effects of purification on optical properties of Si nanocrystals synthesised from rice husks

Kimihisa Matsumoto 1, Chihiro Saitou 1, Kazuhide Kamiya1, So Ito 1, Takao Sakata 2, Hidehiro Yasuda 2 and Shinya Suzuki 3

1. Department of Intelligent Systems Design Engineering, Toyama Prefectural University, 2. Research Center for Ultra-High Voltage Electron Microscopy, Osaka University, 3. Department of Electronics and Control Engineering, Nagano National College of Technology

#### P2-42 (Poster)

### Fabrication of LiNbO<sub>3</sub> Ceramics with SiO<sub>2</sub> Using Two-Step Firing

Kai Takamiya 1, Hironori Yokoyama 1, Takumi Sawano 1, Keishi Takasu 2, Noriko Bamba 1,2,Brahim Elouadi 3

 Faculty of Enginering, Shinshu University, 2. Graduate School of Science and Technology, Shinshu University, 3. Laboratoire des Sciences de l'Ingénieur pour l'Environnement, L'université de La Rochelle

#### P2-43 (Poster)

## Improvement of resistance of solution-processed ZnO Film by controlling annealing condition

Takumi Nojiri, Naoki Ohtani

Graduate School of Science and Engineering, Doshisha University

### P3-1 (Poster)

## Fabrication and investigation of CuCl1-XIX thin film by spin coating method

Yuhei Sato 1, Kunihiko Tanaka 2, Katsuhiko Moriya 1

1. National Institute of Technology, Tsuruoka College, 2. Nagaoka University of Technology

P3-2 (Poster)

### Fabrication of Cu<sub>2</sub>SnS<sub>3</sub> (CTS) by solution deposition method

Kazuhiro Sugai 1, Amane Abe1, Takuya Tomono 1, Kunihiko Tanaka 2, Katsuhiko Moriya 1 1. National Institute of Technology, Tsuruoka College , 2. Nagaoka Univercity of Technology

#### P3-3 (Poster)

## Application to characteristics investigation of Cu - Sn - S (CTS) by terahertz spectroscopy

Takuya Tomono 1, Amane Abe 1, Toshiki Hujita 2, Tetsuo Sasaki 3, Katsuhiko Moriya 1, Kunihiko Tanaka 2, Arata Yasuda1

1.National Institute of Technology, Tsuruoka College, 2. Department of Electrical, Electronics and Information Engineering, Nagaoka University of Technology, 3. National University Corporation Shizuoka University

#### P3-4 (Poster)

## Electrical Damage Introduced into p-GaN Films by Ar Plasma Treatments

Yoshitaka Nakano, Akira Toyotome Chubu University

P3-5 (Poster)

### Electrical Characterization of Si-Doped β-Ga<sub>2</sub>O<sub>3</sub> Homoepitaxial Films Grown by Halide Vapor Phase Epitaxy

Yoshitaka Nakano, Akira Toyotome Chubu University

P3-6 (Poster)

Fabrication and Characterization of Micropillar-Type Multiferroic Composite Thin Films Produced by Non-aqueous Sol-gel Method Using a Ferroelectric Microrod Structure

Ryoga Ito, Masafumi Kobune, Masamitsu Yoshii, Yusuke Haruna, Tsubasa Migita, Taiki Obayashi, Takeyuki Kikuchi, Kensuke Kanda, Kazusuke Maenaka University of Hyogo

#### P3-7 (Poster)

### Fabrication and Characterization of Micropillar-Type Multiferroic Composite Thin Films Produced by Metal Organic Chemical Vapor Deposition Using a Ferroelectric Microplate Structure

Tsubasa Migita, Masafumi kobune, Ryoga Ito, Taiki Obayashi, Takeyuki Kikuchi, Hironori Fujisawa, Kensuke Kanda, Kazusuke Maenaka University of Hyogo

#### P3-8 (Poster)

## **Enhancement of Optical Emission from Quantum Dots by Photonic Crystal Cavities Fabricated on SOI Substrates**

T. Matsutomi, S. Nakajima, T. Hayashi, K. Tanaka, K. Yasui Nagaoka University of Technology

#### P3-9 (Poster)

## Gas phase photocatalytic $H_2$ generation over $\alpha$ -Fe<sub>2</sub>O<sub>3</sub> nanotube arrays/Cu<sub>2</sub>O composite under visible light irradiation

Hikaru Masegi, Shivaji B. Sadale, Kei Noda

1.Department of Electronic Engineering, Keio University, 2.Department of Technology, Shivaji University

P3-10 (Poster)

## Fabrication and evaluation of Ag<sub>8</sub>SnS<sub>6</sub> photoelectrode by fine particle coating technique

Le Nguyen Gia Phuc, Kunihiko Tanaka Nagaoka University of Technology

P3-11 (Poster)

## Optical and scintillation properties of alkali metal doped Ga<sub>2</sub>O<sub>3</sub> single crystals prepared by the floating zone method

Takayuki Yanagida, Noriaki Kawaguchi Nara Institute of Science and technology

### P3-12 (Poster)

### Preparation of monoclinic Cu<sub>2</sub>SnS<sub>3</sub> thin film by mist CVD method

Mao Kowata, Fumitaka Yosihisa, Kunihiko Tanaka Nagaoka University of Technology

#### P3-13 (Poster)

### Fabrication of Cu<sub>2</sub>Sn<sub>1-x</sub>Ge<sub>x</sub>S<sub>3</sub> thin film by sol-gel sulfurization method

Kyouhei Yamamoto, Kunihiko Tanaka Nagaoka University of Technology

P3-14 (Poster)

## Effect of fine structure on $CuBr_{1-x}I_x$ / ZnO nanorod transparent pn junction

Ryota MORI, Naoto TEZUKA, Toshiki IMAMURA, Kunihiko TANAKA Nagaoka University of Technology

### P3-15 (Poster)

### Effect of annealing condition on perovskite thin film

Reiji Kudo 1, Hikaru Togashi 1, Kunihiko Tanaka 2, Katsuhiko Moriya 1

1. National Institute of Technology, Tsuruoka College, 2. Nagaoka University of Technology

P3-16 (Poster)

## $Characterization \quad of \quad (Na_{x}Cu_{1-x})_{y}SnS_{3} \quad by \quad photoluminescence \\ measurements$

Takahiro Maeda, Hideaki Araki, Kunihiko Tanaka

Nagaoka University of Technology, National Institute of Technology Nagaoka College, Nagaoka University of Technology

P3-17 (Poster)

## Fabrication of ZnO/NiO transparent solar cells by electrochemical deposition

Miki Koyama, Masaya Ichimura Nagoya Institute of Technology

### P3-18 (Poster)

### Effects of Chlorine Concentration on Photoelectric Conversion Efficiency of Perovskite Solar Cells

T. Makino, A. Maeda, T. Asai, S. Ito Univ. Fukui and Univ. Hyogo

P3-19 (Poster)

Modulation Spectroscopy on TiO<sub>2</sub> Thin Films Grown by Spray-Pyrolysis

E. Kobayashi 1, S. Shimmura 1, S. Ito 2, T. Makino 1

1. University of Fukui, 2. University of Hyogo

### P3-20 (Poster)

### Fabrication of nano-amorphous graphitic carbon nitride dispersion and preparation of thin films by electrostatic-spraying method

Takahiro Watanabe, Masaaki Hirai, Kenichi Takarabe, Naoki Ohtani

Doshisha University and Okayama University of Science

#### P3-21 (Poster)

## Quantitative Analysis of Oxygen Thin-Film Samples using ${}^{16}O(\alpha,\alpha){}^{16}O$ with an Electrostatic Accelerator

Daiki Kumamoto, Takashi Sekine, Yusei Mizuno, Akio Shida, Tsuneo Suzuki Nagaoka University of Technology

P3-22 (Poster)

### Electrolyzed-water treatment of Cu<sub>2</sub>SnS<sub>3</sub> absorber thin films

Maya Minamikawa, Myo Than Htay, Noritaka Momose, Kentaro Ito, Yoshio Hashimoto Shinshu University, National Institute of Technology, Nagano College

P3-23 (Poster)

## **Optimizing the Wavelength of UVC-LED and the Flow Rate for Water Sterilization**

Wei-Zhang Li and Chun-Liang Lin

Department of Electro-Optical Engineering and the Green Energy Technology Research Center, Kun-Shan University

#### P3-24 (Poster)

## Effects of Na<sub>2</sub>S treatment and post-annealing of Cu<sub>2</sub>ZnSnS<sub>4</sub>-based thin-film solar cells

Noritaka Momose 1, Myo Than Htay 2, Naoki, Mikoshiba 1, Yoshio Hashimoto 2, Kentaro Ito 2

1. Department of Electrical and Electronic Engineering, National Institute of Technology, Nagano College, 2. Department of Electrical and Computer Engineering, Faculty of Engineering, Shinshu University

#### P3-25 (Poster)

## Cu<sub>2</sub>(Sn,Si)S<sub>3</sub>-based thin-film solar cells prepared by closed-tube sulfurization of Cu-Sn-Si co-sputtered films

Noritaka Momose 1, Myo Than Htay 2, Masaki Aida 1, Yu Watanabe 1, Yoshio Hashimoto 2, Kentaro Ito 2

1. Department of Electrical and Electronic Engineering, National Institute of Technology, Nagano College, 2. Department of Electrical and Computer Engineering, Faculty of Engineering, Shinshu University

#### P3-26 (Poster)

## Optimization of $Cu_2Sn_{1-x}Ge_xS_3$ thin films fabricated by a feasible two-steps reaction process of metallic precursors

Jin Koumura, Myo Than Htay, Noritaka Momose, Kentaro Ito, Yoshio Hashimoto Shinshu University, Nagano College

P3-27 (Poster)

#### Photoelectric current in Fe-doped triglycine sulfate

Yuya OKUDA, Toshio KIKUTA

Graduate School of Science and Engineering, University of Toyama

#### P3-28 (Poster)

#### Effect of Ag/Sn ratio for Ag<sub>8</sub>SnS<sub>6</sub> thin films

Yoji Akaki 1, Tomohiro Uchimura 1, Issei Hazama 1, Shigeyuki Nakamura 2, Hedeaki Araki 3, Satoru Seto 4, Toshiyuki Yamaguch 5

1. National Institute of Technology (KOSEN), Miyakonojo College, 2. National Institute of Technology (KOSEN), Tsuyama College, 3. National Institute of Technology (KOSEN),

Nagaoka College, 4. National Institute of Technology (KOSEN), Ishikawa College, 5. National Institute of Technology (KOSEN), Wakayama College

#### P3-29 (Poster)

### Stability enhancement of Cu<sub>2</sub>S by Ag incorporation

Tatsunori Isobe, Myo Than Htay, Kentaro Ito, Yoshio Hashimoto Shinshu University

P3-30 (Poster)

## Fabrication of Cu<sub>2</sub>SnS<sub>3</sub> and (Cu,Ag)<sub>2</sub>SnS<sub>3</sub> thin-film solar cells on alkali-free glass substrates

Hideaki Araki, Ryota Ohashi, Kanata Watanabe, Shogo Otsuka National Institute of Technology, Nagaoka College

#### P3-31 (Poster)

### Effect of temperature and light insolation on electrolyzed-water battery

Kazuma Yazawa, Myo Than Htay, Yoshio Hashimoto

Department of Electrical and Computer Engineering, Faculty of Engineering, Shinshu University

#### P3-32 (Poster)

### Preparation and Electromagnetic Absorbing Properties of Ni-doped Iron Nanowires

Yuh-Jing Chiou, Ruey-Bin Yang, Pei-Jung Chang, Hong-Ming Lin, Chung-Kwei Lin

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### Solution-Processed Conductive Interconnecting Layer for Highly-Efficient and Long-Term Stable Monolithic Perovskite Tandem Solar Cells

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### Investigation of Gold Quantum Dot/Plasmonic Systems for Improvement of Organic Solar Cells

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#### P3-35 (Poster)

### Effect of Hybrid Au Nanospheres and Au Nanorods on Metallic Grating Surface on Organic Thin-film Solar Cells

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## **Controlling Molecular Orientation by Substrate Effect for Highly Efficient Organic Photovoltaic Cells**

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### Modified TiO<sub>2</sub> Interface for High-performance Perovskite Solar Cell

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### P3-38 (Poster)

### Fabrication of Organic Thin Film Photovoltaic Cells Using The Perylene Derivative by Wet Process

Naoki Hirohata, Hiroyasu Shimada, Yuki Nagaya, Yoshiyuki Seike, Tatsuo Mori Aichi Institute of Technology

### P3-39 (Poster)

## Manipulating the crystal structure of a conjugated polymer for efficient sequentially processed organic solar cells

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### P3-40 (Poster)

## Fabrication of Cu<sub>2</sub>GeS<sub>3</sub> thin-films by co-evaporation and annealing for solar cells

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