

Content List of 16th International Conference on Nanotechnology

Technical Program for Tuesday August 23, 2016

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TuAM16	Room 6
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Co-Chair: Nagahara, Larry	Johns Hopkins Univ
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Lin, Wei-Jiun (National Tsing Hua Univ), Chang, Kuo Wei (National Tsing Hua Univ), Chiang, Min-Yu (National Chiao Tung Univ), Fan, Shih-Kang (National Taiwan Univ), Liu, Cheng-Hsaien (National Tsing Hua Univ)	
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Nano-Energy 1 (Oral Session)	
Chair: Amezawa, Koji	Tohoku Univ
Co-Chair: Goodnick, Stephen	Arizona State Univ
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Yokota, Takeshi (Nagoya Inst. of Tech)	
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Poster Session 1 (Poster Session)	
13:00-14:00	TuPo1.1
<i>A Three-Dimensional ZnO Nanowires Photodetector</i> , pp. 67-69.	
Lu, Chun-Liang (Inst. of Microelectronics and Department of Electrical Engin), Chen, Yi-Hao (Inst. of Microelectronics and Department of Electrical Eng), Chang, Shoou-Jinn (National Cheng Kung Univ), Hsueh, Ting-Jen (National Nano Devices Lab. Tainan 741, Taiwan)	
13:00-14:00	TuPo1.2
<i>Hydrogen Exposure Effects on Anodically Etched GaAs Nanowires in Liquid Electrolyte</i> , pp. 70-73.	
Aikawa, Shinya (Kogakuin Univ)	
13:00-14:00	TuPo1.3
<i>Nanopore Cavity Arrays on Silicon-On-Sapphire Substrates for Optical Studies of Transport across Lipid Membranes</i> , pp. 74-76.	
Nguyen, Quoc Hung (TU München), Urban, Michael (Inst. of Biochemistry, Biocenter, Goethe-Univ. Frankfu), Tampé, Robert (Inst. of Biochemistry, Biocenter, Goethe-Univ. Frankfu), Tornow, Marc (TU München)	

13:00-14:00	TuPo1.4
<i>Raman Spatial Mapping on a Single CuO Nanowire</i> , pp. 77-78.	
Wu, Sheng Yun (National Dong Hwa Univ)	
13:00-14:00	TuPo1.5
<i>Altering the Microtubule Kinesin Nanomechanics in the Presence of Metallic Ions</i> , pp. 79-81.	
Bhattacharyya, Sanjib (Res. Associate)	
13:00-14:00	TuPo1.6
<i>Antibacterial Characteristics of Si Nano-Pillar Array</i> , pp. 82-84.	
Ito, Takeshi (Kansai Univ), Nakade, Kazuki (Kansai Univ), Asai, Naoto (Kansai Univ), Shimizu, Tomohiro (Kansai Univ), Shingubara, Shoso (Kansai Univ)	
13:00-14:00	TuPo1.7
<i>Preparation and Characterization of Silica-Titania Aerogel Monoliths by Sol-Gel Method</i> , pp. 85-88.	
Liu, Guangwu (Shanghai Jiao Tong Univ), Liu, Yangang (School of Pharmacy, Shanghai Jiao Tong Univ)	
13:00-14:00	TuPo1.8
<i>Inertial Force-Driven Synthesis of Near-Infrared Plasmonic Nanosphere Composites</i> , pp. 89-90.	
Jin-Woo, Kim (Univ. of Arkansas)	
13:00-14:00	TuPo1.9
<i>High-Efficiency Vertical-Type InGaN/GaN Multiple Quantum Well Solar Cells Using Aluminum Reflectors</i> , pp. 91-93.	
Zheng, Zhi-Wei (Xiamen Univ), Lai, M. H. (Xiamen Univ), Ying, L. Y. (Xiamen Univ), Zhang, B. P. (Xiamen Univ)	
13:00-14:00	TuPo1.10
<i>Acousto-Optic Coupling in Phoxonic-Plasmonic Crystal Nanobeam Cavities</i> , pp. 94-97.	
Lin, Tzy-Rong (NATIONAL TAIWAN OCEAN Univ), Chang, Shu-Yu (National Taiwan Ocean Univ), Shih, Cong-Yuan (National Taiwan Ocean Univ), Shih, Jheng-Hong (National Taiwan Ocean Univ), Lu, Tsung-Yi (National Taiwan Ocean Univ), Hsu, Jin-Chen (National Yunlin Univ. of Science and Tech)	
13:00-14:00	TuPo1.11
<i>Optomechanical Coupling in Photonic-Plasmonic Nanocavities with Acoustic Waves</i> , pp. 98-100.	
Hsu, Jin-Chen (National Yunlin Univ. of Science and Tech), Shih, Jheng-Hong (National Taiwan Ocean Univ), Chang, Shu-Yu (National Taiwan Ocean Univ), Lin, Chiang-Hsin (National Taiwan Ocean Univ), Lin, Tzy-Rong (NATIONAL TAIWAN OCEAN Univ)	
13:00-14:00	TuPo1.12
<i>Solution-Processed Perovskite for Direct X-Ray Detection</i> , pp. 101-104.	
Chen, Chenggan (Peking Univ), Zhou, Hang (PEKING Univ. SHENZHEN GRADUATE SCHOOL), Li, Chi (National Center of Nano Science and Tech), Dai, Qing (National Centre of Nanoscience and Tech), Zhang, Huan (Peking Univ)	
13:00-14:00	TuPo1.13
<i>Single-Walled Carbon Nanotubes As Efficient Charge Extractors in Perovskite Solar Cell</i> , pp. 105-108.	
Zhang, Huan (Peking Univ), Zhou, Hang (PEKING Univ. SHENZHEN GRADUATE SCHOOL), Du, Songnan (Peking Univ. Shenzhen Graduate School), Liu, Chuan (Sun Yat-Sen Univ), Luo, Wen (Peking Univ. ShenZhen Graduate School), Chen, Chenggan (Peking Univ)	
13:00-14:00	TuPo1.14
<i>Low-Loss Single-Crystal Silver Thin Films for Nanoplasmonics and Metamaterials</i> , pp. 109-112.	

Koiwa, Tasuku (Tohoku Inst. of Tech), Fedotov, Vassili (Univ. of Southampton), Ou, Jun-Yu (Univ. of Southampton), Uchino, Takashi (Tohoku Inst. of Tech)	13:00-14:00	TuPo1.15
<i>Engineering Photonic Nanojets by Core-Shell Micro-Cuboids</i> , pp. 113-115. Liu, Cheng-Yang (Tamkang Univ), Chang, Li-Jen (Tamkang Univ)	13:00-14:00	TuPo1.16
<i>Nanostructured Asymmetric Dual-Grating-Gate Plasmonic THz Detectors: Enhancement of External Coupling Efficiency by Array Configuration and Silicon-Lens Integration</i> , pp. 116-118. Kasuya, Fuzuki (Tohoku Univ), Taniguchi, Hiroki (Tohoku Univ), Watanabe, Takayuki (Tohoku Univ), Suemitsu, Tetsuya (Tohoku Univ), Otsuji, Taiichi (Tohoku Univ), Takida, Yuma (RIKEN Sendai), Ito, Hiromasa (RIKEN Sendai), Minamide, Hiroaki (RIKEN Sendai), Ishibashi, Tadao (NTT Electronics Tech), Shimizu, Makoto (NTT Electronics), Satou, Akira (Tohoku Univ)	13:00-14:00	TuPo1.17
<i>Evaluation of Serially Coupled Triple Quantum Dots with a Compact Device Structure by a Simultaneous Voltage-Sweeping Method</i> , pp. 119-122. Uchida, Takafumi (Hokkaido Univ), Jo, Mingyu (Hokkaido Univ), Tsurumaki-Fukuchi, Atsushi (Hokkaido Univ), Arita, Masashi (Hokkaido Univ), Fujiwara, Akira (NTT), Takahashi, Yasuo (Hokkaido Univ)	13:00-14:00	TuPo1.18
<i>Lowering of Effective Work Function Induced by Metal Carbide/HfO₂ Interface Dipole for Advanced CMOS</i> , pp. 123-126. Mizubayashi, Wataru (National Inst. of Advanced Industrial Science and Tech), Ota, Hiroyuki (National Inst. of Advanced Industrial Science and Tech), Migita, Shinji (National Inst. of Advanced Industrial Science and Tech), Morita, Yukinori (National Inst. of Advanced Industrial Science and Tech), Endo, Kazuhiko (Inst. of Advanced Industrial Science and Tech)	13:00-14:00	TuPo1.19
<i>Evaluation of Etching Property in C₃H₇F(6-X) Plasma</i> , pp. 127-130. Omori, Hiroyuki (Central Glass Co., Ltd), Kikuchi, Akiou (Central Glass Co.Ltd), Yao, Akifumi (Central Glass Co. Ltd), Mori, Isamu (Central Glass Co., LTD)	13:00-14:00	TuPo1.20
<i>Fabrication of High Temperature Capacitively and Resistively-Coupled Single Electron Transistors Using Gold Nanoparticles</i> , pp. 131-134. Tran, Huong (The Univ. of Electro-Communications), Matsumoto, Kazuhiko (The Univ. of Electro-Communications), Moriya, Masataka (Univ. of Electro-Communications), Shimada, Hiroshi (The Univ. of Electro-Communications), Kimura, Yasuo (Tokyo Univ. of Tech), Hirano-Iwata, Ayumi (Tohoku Univ), Mizugaki, Yoshinao (The Univ. of Electro-Communications)	13:00-14:00	TuPo1.21
<i>Thermal Dry-Etching of Nickel Using Oxygen and 1, 1, 1, 5, 5, 5-Hexafluoro-2, 4-Pentanedione (Hhfac)</i> , pp. 135-138. Umezaki, Tomonori (Central Glass Co., LTD), Gunji, Isao (Tokyo Electron LTD), Takeda, Yuta (Central Glass Co., LTD), Mori, Isamu (Central Glass Co., LTD)	13:00-14:00	TuPo1.22
<i>Phonon Limited Electron Mobility Calculation of Transition Metal Dichalcogenide Monolayer</i> , pp. 139-141. Chen, Kuan-Ting (National Chung Hsing Univ), Chang, Jia-Bin (National Chung Hsing Univ), Chang, Shu-Tong (National Chung Hsing Univ)	13:00-14:00	TuPo1.23
<i>Integration of Hetero-Structure Body-Tied Ge FinFET Using Retrograde-Well Implantation</i> , pp. 142-144. Chou, Yu-Che (National Chiao Tung Univ), Hsu, Chung-Chun (National Chiao Tung Univ), Chun, Cheng-Ting (National Chiao Tung Univ), Chou, Chen-Han (National Chiao Tung Univ), Tsai, Ming-Li (National Chiao Tung Univ), Tsai, Yi-He (National Chiao Tung Univ), Lee, Wei-Li (National Chiao Tung Univ), Wang, Shin-Yuan (National Chiao Tung Univ), Luo, Guang-Li (National Nano Device Lab), Chien, Chao-Hsin (National Chiao Tung Univ)	13:00-14:00	TuPo1.24
<i>VerilogA Based Compact Model of a Three-Terminal ME-MTJ Device</i> , pp. 145-148. Sharma, Nishtha (Univ. of Texas at Dallas), Marshall, Andrew (Univ. of Texas at Dallas), Bird, Jonathan (Univ. at Buffalo)	13:00-14:00	TuPo1.25
<i>Efficient Nanostructure Construction on Polymer Substrates by Plasma Treatment for Tissue Engineering</i> , pp. 149-152. Michaljaničová, Iva (Department of Solid State Engineering, the Univ. of Chemist), Slepicka, Petr (Department of Solid State Engineering, the Univ. of Chemist), Vesely, Martin (The Univ. of Chemistry and Tech. Prague (UCT), 166 28), Svorcik, Vaclav (Department of Solid State Engineering, the Univ. of Chemist)	13:00-14:00	TuPo1.26
<i>Study of Ballasting Carbon Nanotube Field Emitter Arrays with Coaxial Gate Using Doped Silicon Resistor</i> , pp. 153-156. Li, Yunhan (Univ. of Waterloo), Sun, Yonghai (Univ. of Waterloo), Yeow, John T.W. (Univ. of Waterloo)	13:00-14:00	TuPo1.27
<i>Nano-Steganography Using Atomic Force Microscopy</i> , pp. 157-159. Kudelka, Josef (Tomas Bata Univ. in Zlin), Martinek, Tomas (Tomas Bata Univ. in Zlin, Faculty of Applied Informatics), Navratil, Milan (Tomas Bata Univ. in Zlin), Kresalek, Vojtech (Tomas Bata Univ. in Zlin)	13:00-14:00	TuPo1.28
<i>Design and Fabrication of Electrothermal SiC Nanoresonators for High-Resolution Nanoparticle Sensing</i> , pp. 160-163. Dinh, Toan Khac (Griffith Univ), Phan, Hoang-Phuong (Griffith Univ), Kozeki, Takahiro (Univ. of Hyogo), Qamar, Afzaal (Griffith Univ), Namazu, Takahiro (Univ. of Hyogo), Zhu, Yong (Griffith Univ), Nguyen, Nam-Trung (Griffith Univ), Dao, Dzung Viet (Griffith Univ)	13:00-14:00	TuPo1.29
<i>Hydrogen Diffusion Characterization of Amorphous Yttrium Stabilized Zirconia Dielectrics</i> , pp. 164-166. Shekholeslam, Seyed Arash (Univ. of British Columbia), Grecu, Cristian (Univ. of British Columbia), Manzano, Hegoi (Univ. of the Basque Country, UPV/EHU), Ivanov, André (Univ. of British Columbia)	13:00-14:00	TuPo1.30
<i>Comparative Study on Photocatalytic and Bactericidal Activity between Ag@TiO₂ Core-Shell Nanoparticles and Ag@TiO₂ Surface Doped Nanostructures</i> , pp. 167-170. Yang, Xiaohong (Northeastern Univ), Fu, Haitao (School of Metallurgy, Northeastern Univ), An, Xizhong (Northeastern Univ)	13:00-14:00	TuPo1.31
<i>Neutral Beam Oxidation for Oxide-Based Nanodevice</i> , pp. 171-173. Ohno, Takeo (Tohoku Univ), Nakayama, Daiki (IFS, Tohoku Univ), Samukawa, Seiji (Tohoku Univ)		

13:00-14:00	TuPo1.32
<i>High Performance Silicon N-Channel Gate-All-Around Junctionless Field Effect Transistors by Strain Technology</i> , pp. 174-175.	
Lee, Yao-Jen (National Nano Device Lab), Samukawa, Seiji (Tohoku Univ), Li, Yiming (National Chiao Tung Univ), Yeh, W.-K (National Nano Device Lab), Wu, Wen-Fa (National Nano Device Lab), Sung, P.-J (National Nano Device Lab), Cho, T.-C. (Dept. of Electrophysics, National Chiao Tung Univ), Chen, P.-C. (National Nano Device Lab), Hou, F.-J. (National Nano Device Lab), Lai, C.-H (Dept. of Electronics Engineering, Chuang Hua Univ. Hsinchu), Chao, T.-S. (Dept. of Electrophysics, National Chiao Tung Univ)	
13:00-14:00	TuPo1.33
<i>Investigation of Microwave Assisted Annealing on AP-PECVD Fabricated In-Ga-Zn-O Thin Film Transistors under Positive Bias Temperature Stress</i> , pp. 176-179.	
Wu, Chien-Hung (Department of Electronics Engineering, Chung Hua Univ), Huang, Bo-Wen (National Chiao Tung Univ. Institute of Electronics Engineer), Chang, Kow-Ming (National Chiao Tung Univ. Inst. of Electronics Engineer), Cheng, Chia-Yao (National Chiao Tung Univ. Institute of Electronics Engineer), Chen, Hsin-Ying (National Chiao Tung Univ. Inst. of Electronics Engineer), Lee, Yao-Jen (National Nano Device Lab), Lin, Jian-Hong (National Chiao Tung Univ), Hsu, Jui-Mei (Mechanical and Systems Res. Lab. Industrial Tech)	
13:00-14:00	TuPo1.34
<i>Mobility Enhancement and Hysteresis Phenomenon in WSe₂ FETs</i> , pp. 180-183.	
Liu, Chunsen (Fudan Univ), Yan, Xiao (Fudan Univ), Zhou, Peng (Fudan Univ)	
13:00-14:00	TuPo1.35
<i>High Thermal Stability of SiC Packaging with Thermosetting Imide-Based Nanocomposite Encapsulating Materials Combined with Sintered Ag Paste Die-Attach</i> , pp. 184-187.	
Sugioka, Takuo (Nippon Shokubai Co. Ltd.,)	
13:00-14:00	TuPo1.36
<i>Graphene Based Single Molecule Detection Based on Thermoelectric Power</i> , pp. 188-190.	
Jiang, Liming (The Univ. of Melbourne), Hossain, Md Sharafat (Univ. of Melbourne), Qiu, Wanzhi (The Univ. of Melbourne), Al-Dirini, Feras (Univ. of Melbourne), Skafidas, Efstratios (Univ. of Melbourne)	
13:00-14:00	TuPo1.37
<i>An Nanocomposite Transducer with a Laser Ultrasound Transmitter and a Piezoelectric Receiver</i> , pp. 191-192.	
Kim, Jinwook (North Carolina State Univ), Chang, Wei-Yi (North Carolina State Univ), Huang, Shujin (North Carolina State Univ), Jiang, Xiaoning (North Carolina State Univ)	
13:00-14:00	TuPo1.38
<i>Enhanced Gas Selectivity by P-N Type Competition of ZnO Nanorods with Varied CuO Shells</i> , pp. 193-195.	
Hou, Yuan-Ru (Department of Chemical and Materials Engineering, National Univ), Chen, Hi-Wen (Department of Chemical and Materials Engineering, National Univ), Shu-Jen, Chen (Department of Chemical and Materials Engineering, National Kaohs), Wang, Ruey-Chi (National Univ. of Kaohsiung)	
13:00-14:00	TuPo1.39
<i>Development of an Acetone Detection Method Using 2, 4-Dinitrophenylhydrazine Impregnated Porous Glass</i> , pp. 196-198.	
Tachibana, Kenta (Tohoku Inst. of Tech), Yamamoto, Mio (Tohoku Inst. of Tech), Yamada Maruo, Yasuko (Tohoku Inst. of Tech)	
13:00-14:00	TuPo1.40

<i>Enhancement of Carbon Dioxide Sensitivity by Silver Additive and Nanorod Structure</i> , pp. 199-201.	
Juang, Feng-Renn (National Sun Yat-Sen Univ), Li, Yueh-Che (National Sun Yat-Sen Univ), Tsai, Ming-Yuan (National Sun Yat-Sen Univ), Sung, Wei-Cheng (National Sun Yat-Sen Univ)	
13:00-14:00	TuPo1.41
<i>Development of Nitrogen Monoxide Sensing Element Using 2-Phenyl-4, 4, 5, 5-Tetramethylimidazoline-3-Oxide-1-Oxyl Impregnated Porous Glass</i> , pp. 202-205.	
Hino, Shinji (Tohoku Inst. of Tech), Suzuki, Yoshifumi (Tohoku Inst. of Tech), Yamada Maruo, Yasuko (Tohoku Inst. of Tech)	
13:00-14:00	TuPo1.42
<i>Structural and Gas Sensing Characteristics of ZnO Nanorods Grown on Different Substrates</i> , pp. 206-209.	
Wang, Fang-Hsing (National Chung Hsing Univ), Tsai, Chih-En (National Chung Hsing Univ)	
13:00-14:00	TuPo1.43
<i>Scanning Probe with Nitrogen Vacancy Centers in Diamond Particle for Magnetic Resonance Imaging</i> , pp. 210-213.	
Zhu, Minjie (Graduate School of Engineering, Tohoku Univ), Toda, Masaya (Tohoku Univ), Ono, Takahito (Tohoku Univ)	
13:00-14:00	TuPo1.44
<i>Mass Measurement of Single Nanoparticle by Trapping in Water Droplet</i> , pp. 214-217.	
Goto, Kosuke (Univ. of Hyogo), Moritani, Kousuke (Univ. of Hyogo), Inui, Norio (Univ. of Hyogo)	
13:00-14:00	TuPo1.45
<i>Dynamics of Oxygen Scattering on Ionomer Surface in Catalyst Layer of PEFC</i> , pp. 218-221.	
Nakauchi, Masataka (Graduate School of Engineering, Tohoku Univ)	
13:00-14:00	TuPo1.46
<i>A Microfluidic Device for Single Cell Isolation from Rare Samples</i> , pp. 222-223.	
Yeh, Chuan-Feng (National Health Res. Inst), He, Cheng-Kun (Univ), Hsu, Chia-Hsien (National Health Res. Inst)	
13:00-14:00	TuPo1.47
<i>RNA As a Nanoscale Data Transmission Medium: Error Analysis</i> , pp. 224-227.	
Eckford, Andrew (York Univ), Furubayashi, Taro (Osaka Univ), Nakano, Tadashi (Osaka Univ)	
13:00-14:00	TuPo1.48
<i>Effect of Short Term Exposure of ZnO and TiO₂ Nanoparticles on Algae: Chlorella Pyrenoidosa & Crustacean: Daphnia Sp</i> , pp. 228-231.	
K, Akhil (SASTRA Univ), S, Sudheer Khan (SASTRA Univ)	
13:00-14:00	TuPo1.49
<i>Hydrogel-Based Electrical Stimulation Culture System to Control the Engineered Cellular Activities Driven by Nano Biomolecules</i> , pp. 232-233.	
Nagamine, Kuniaki (Tohoku Univ)	
13:00-14:00	TuPo1.50
<i>Bioelectric Signal Detection and Stimulation Based on Transparent Oxide Microelectrodes</i> , pp. 234-237.	
Li, Xuesi (The Univ. of Tokyo), Yamahara, Hiroyasu (The Univ. of Tokyo), Tabata, Hitoshi (The Univ. of Tokyo)	
13:00-14:00	TuPo1.51
<i>Development of Cell Microarray by Using Superhydrophilic Silicon Dioxide Nano Structure</i> , pp. 238-240.	
Zhou, Xiaofeng (Shanghai Inst. of Microsystem and Information	

Tech)	
13:00-14:00	TuPo1.52
<i>Layered Assembly of Chitosan Nanoparticles and Alginate Gel for Management of Post-Surgical Pain and Infection</i> , pp. 241-244. Pawar, Vaishali (Indian Inst. of Tech. Bombay), Srivastava, Rohit (Indian Inst. of Tech. Bombay)	
13:00-14:00	TuPo1.53
<i>Niclosamide Loaded Cationic Solid Lipid Nanoparticles for Treatment of Cancer</i> , pp. 245-248. Jain, Nishant Kumar (Indian Inst. of Tech. Bombay (IIT-B)), Srivastava, Rohit (Indian Inst. of Tech. Bombay), Naidu, Vgm (National Inst. of Pharmaceutical Education and Res. Hyd)	
13:00-14:00	TuPo1.54
<i>Development of Drug Delivery Bioceramics Cement for Vital Pulp Therapy</i> , pp. 249-252. Lin, Wei-Chih (National Sun Yat-Sen Univ), Hung, Pei-Hsuan (National Sun Yat-Sen Univ), Lin, Chun-Pin (National Taiwan Univ)	

TuPM11	Room 1
Nano-Materials 2 (Oral Session)	
Chair: Kaji, Hirokazu	Tohoku Univ
Co-Chair: Hayashi, Yamato	Tohoku Univ
15:15-15:30	TuPM11.1
<i>Characterization and Modeling of the Thermal and Electrical Properties of Transparent Silver Nanowire Thin-Film Heaters</i> , pp. 253-256. Bobinger, Marco Rudolf (Tech. Univ. of Munich), Angeli, Diego (Univ. of Modena and Reggio Emilia), Colasanti, Simone (Tech. Univ. Munich), La Torraca, Paolo (Univ. of Modena and Reggio Emilia), Larcher, Luca (Univ. of Modena and Reggio Emilia), Lugli, Paolo (Tech. Univ. Muenchen)	
15:30-15:45	TuPM11.2
<i>Synthesis and Optimization of Silver Nanowire Transparent Conductive Film by Organic Needle-Shaped Precursor Painting Reduction Method</i> , pp. 257-260. Hayashi, Yamato (Tohoku Univ)	
15:45-16:00	TuPM11.3
<i>Preparation of Magnesium Nanowires by Physical Vapor Deposition</i> , pp. 261-263. Song, Xiping (Univ. of Science and Tech. Beijing), Wang, Han (Univ. of Science and Tech. Beijing), Zhang, Bei (Univ. of Science and Tech. Beijing)	
16:00-16:15	TuPM11.4
<i>Electric Field-Based Organization of Cytoskeletal Nanowires Using Metallic Glass Wire Electrodes</i> , pp. 264-266. Kim, Kyongwan (WPI-AIMR, Tohoku Univ), Nakayama, Koji (Tohoku Univ), Umetsu, Mitsuo (Tohoku Univ), Hwang, Wonmuk (Texas A&M), Teizer, Winfried (Texas A&M Univ)	
16:15-16:30	TuPM11.5
<i>Injectable Polymeric Nanosheets for Subretinal Cell Delivery</i> , pp. 267-269. Kaji, Hirokazu (Tohoku Univ)	
16:30-16:45	TuPM11.6
<i>Confined Water in Nanoporous Silica: Application to Humidity Sensors</i> , pp. 270-272. Bonnaud, Patrick Alain (Tohoku Univ), Miura, Ryuji (Tohoku Univ. NiChe), Suzuki, Ai (Tohoku Univ. NiChe), Miyamoto, Naoto (Tohoku Univ. NiChe), Hatakeyama, Nozomu (Tohoku Univ. NiChe), Miyamoto, Akira (Tohoku Univ. NiChe)	

TuPM12	Room 2
Special Session: Neuromorphic Cognitive Systems with Nanotechnology 1 (Oral Session)	
Chair: Katayama, Yasunao	IBM Res. - Tokyo
Co-Chair: Narayanan, Pritish	IBM Res. Almaden
15:15-15:45	TuPM12.1
<i>Nanotechnology Requirements and Challenges for Large-Scale Brain Computing (Invited)</i> , pp. 273-275. Kumar, Arvind (IBM Thomas J. Watson Res. Center)	
15:45-16:15	TuPM12.2
<i>Experimental Analog Implementation of Neural Networks on Integrated Metal-Oxide Memristive Crossbar Arrays (Invited)</i> , pp. 276-279. Prezioso, Mirko (Univ. of California, Santa Barbara)	
16:15-16:45	TuPM12.3
<i>Unconventional Computing with Emerging RRAM Nanodevices (Invited)</i> , pp. 280-283. Suri, Manan (Indian Inst. of Tech. - Delhi)	

TuPM13	Room 3
Nano-Sensors, Nano-Actuators 2 (Oral Session)	
Chair: Zhang, Qing	Nanyang Tech. Univ
15:15-15:30	TuPM13.1
<i>Highly Sensitive Reduce Graphene Oxide-Molecular Imprinted Polymer Organic Thin Film Transistor Rgo MIP-OTFT for Serine Detection</i> , pp. 284-287. Mohd Noor, Anas (Univ. Malaysia Perlis)	
15:30-15:45	TuPM13.2
<i>Sampling Micro-Nano Size Aerosol by Droplet Formation and Using Liquid-Based Gating Mechanism</i> , pp. 288-290. Sakata, Kenshiro (Tokyo Inst. of Tech), Yamamoto, Takatoki (Tokyo Inst. of Tech)	
15:45-16:00	TuPM13.3
<i>Polynomial Prandtl-Ishlinskii Hysteresis Modeling for Nanorobot Motion Control</i> , pp. 291-292. Song, Bo (Department of Electrical Andcomputerengineering, MichiganState Un), Sun, Zhiyong (Northeastern Univ. (CN), Michigan State Univ), Xi, Ning (Michigan State Univ), Chen, Liangliang (Michigan State Univ), Yang, Yongliang (Michigan State Univ), Zhou, Zhanxin (Michigan State Univ)	
16:00-16:15	TuPM13.4
<i>Simultaneous Detection of Multiple Charged Particles Using a Borosilicate Nanopore-Based Sensor</i> , pp. 293-296. Zhang, Yuqian (1993), Esfandiari, Leyla (Univ. of Cincinnati)	

TuPM14	Room 4
Carbon Materials 1 (Oral Session)	
Chair: Okada, Takeru	Tohoku Univ
Co-Chair: Nagase, Masao	Tokushima Univ
15:15-15:30	TuPM14.1
<i>Effect of Flux and Energy of Hydrogen Neutral Beam on Hydrogenation Process of Graphene</i> , pp. 297-298. Okada, Takeru (Tohoku Univ), Meyyappan, M. (NASA Ames Res. Center), Samukawa, Seiji (Tohoku Univ), Thomas, Cedric (Inst. of Fluid Science)	
15:30-15:45	TuPM14.2
<i>Fully Transparent Solution-Processed Carbon Nanotube Thin Film Transistors on a Flexible Substrate</i> , pp. 299-302. Deng, Yanyan (Peking Univ. Shenzhen Graduate School), Chan, Mansun (Hong Kong Univ. of Science and Tech), Zhang,	

Min (Peking Univ)	
15:45-16:00	TuPM14.3
<i>Self-Assembled C60 Fullerene Cylindrical Nanotubes by LLIP Method</i> , pp. 303-306.	
Rama, Venkata Krishna Rao (Okayama Univ), Paneer Selvam, Karthik (Okayama Univ), K, Venkata Abhinav (Okayama Univ), Lin, Zaw (Okayama Univ), Zar Myint, May Thu (Okayama Univ), Takeshi, Nishikawa (Okayama Univ), Masaki, Hada (Okayama Univ), Yoshifumi, Yamashita (Okayama Univ), Yasuhiko, Hayashi (Okayama Univ), Singh, Surya Prakash (Indian Inst. of Chemical Tech)	
16:00-16:15	TuPM14.4
<i>Current-Voltage Behavior of Nanocrystalline Graphite/p-Si Schottky Diode</i> , pp. 307-310.	
Mohamed Sultan, Suhana (UTM), Pu, Suan Hui (Univ. of Southampton), Fishlock, Sam (Univ. of Southampton), Lee, Hing Wah (MIMOS Berhad), Chong, Harold (Univ. of Southampton), McBride, John (Univ. of Southampton)	
16:15-16:30	TuPM14.5
<i>3D Architecture of Amine Functionalized Graphene – MWCNT Composite Foam As Efficient Electrode Material for Energy Storage</i> , pp. 311-314.	
K, Mohanapriya (Inst. of Chemical Tech), Jha, Neetu (Inst. of Chemical Tech. Mumbai)	
16:30-16:45	TuPM14.6
<i>Laser Direct Writing Micro-Supercapacitors from Graphene Oxide Films</i> , pp. 315-317.	
Cai, Jinguang (Tohoku Univ), Lv, Chao (Inst. of Multidisciplinary Res. for Advanced Materials.), Watanabe, Akira (Tohoku Univ)	
TuPM15	Room 5
Nano-Optics, Nano-Optoelectronics, Nano-Photonics 2 (Oral Session)	
Chair: Higo, Akio	Tohoku Univ
15:15-15:30	TuPM15.1
<i>Release Agent-Free Low-Cost Double Transfer Nanoimprint Lithography for Moth-Eye Structure</i> , pp. 318-320.	
Hashimoto, Yuki (Tokyo Inst. of Tech), Mogi, Katsuo (Tokyo Inst. of Tech), Yamamoto, Takatoki (Tokyo Inst. of Tech)	
15:30-15:45	TuPM15.2
<i>Photoluminescence Emission from As-Etched Quantum Nanodisks Fabricated by Bio-Template and Neutral Beam Etching Process</i> , pp. 321-322.	
Ohuri, Daisuke (Univ. of Miyazaki), Kondo, Kiyofumi (Univ. of Miyazaki), Sakai, Kentaro (Univ. of Miyazaki), Higo, Akio (Tohoku Univ), Thomas, Cedric (Inst. of Fluid Science), Samukawa, Seiji (Tohoku Univ), Ikari, Tetsuo (Univ. of Miyazaki), Fukuyama, Atsuhiko (Univ. of Miyazaki)	
15:45-16:00	TuPM15.3
<i>Tunable Plasmonic Au-Film Over Nanosphere SERS Substrate by Rapid Thermal Annealing</i> , pp. 323-324.	
Purwidyantri, Agnes (Chang Gung Univ)	
16:00-16:15	TuPM15.4
<i>Nonlinear Optical Properties of Colloidal ZnO-Au Nanostructures for Optical Limiting Applications</i> , pp. 325-328.	
Walden, Sarah (Queensland Univ. of Tech), Fernando, Joseph Francis Susith (Queensland Univ. of Tech), Waclawik, Eric (Queensland Univ. of Tech. (QUT)), Shortell, Matthew Paul (Queensland Univ. of Tech), Jaatinen, Esa (Queensland Univ. of Tech)	
16:15-16:30	TuPM15.5

<i>Study of Annealing Induced Nanoscale Morphology Change in Organic Solar Cells with Machine Learning</i> , pp. 329-332.	
Lan, Fei (Univ. of Pittsburgh), Jiang, Minlin (Univ. of Pittsburgh), Wei, Fanan (Shenyang Inst. of Automation, CAS), Tao, Quan (Univ. of Pittsburgh), Li, Guangyong (Univ. of Pittsburgh)	
16:30-16:45	TuPM15.6
<i>Angular Dependent Optical Wavelength Selection in Hybrid Cavity-Channel Structure by Coupled Plasmon Resonance</i> , pp. 333-336.	
Yin, Shichen (The Univ. of Tokyo), Wang, Zhiyu (The Univ. of Tokyo), Ho, Ya-Lun (The Univ. of Tokyo), Delaunay, Jean-Jacques (The Univ. of Tokyo), Takakura, Yoshitane (Univ. of Strasbourg)	
TuPM16	Room 6
Nano-Biology and Nano-Medicine 2 (Oral Session)	
Chair: Nagahara, Larry	Johns Hopkins Univ
Co-Chair: Yao, Da-Jeng	National Tsing Hua Univ
15:15-15:30	TuPM16.1
<i>Atomic-Layer-Deposited Al₂O₃-Nano-Coated Segmented Polyurethane Sheet and Its Blood Compatibility</i> , pp. 337-338.	
Zama, Hideaki (ULVAC, Inc), Ohgoe, Yasuharu (Tokyo Denki Univ), Sakurai, Hajime (Tokyo Denki Univ), Shiraishi, Yasuyuki (Inst. of Development, Aging and Cancer, Tohoku Univ), Miura, Hidekazu (Inst. of Development, Aging and Cancer, Tohoku Univ), Yambe, Tomoyuki (Inst. of Development, Aging and Cancer, Tohoku Univ), Homma, Akihiko (Tokyo Denki Univ)	
15:30-15:45	TuPM16.2
<i>Influence of Micro-Scale Substrate Curvature on Subcellular Behaviors of Vascular Cells</i> , pp. 339-342.	
Sun, Baoce (City Univ. of Hong Kong), Lam, Raymond H. W. (City Univ. of Hong Kong)	
15:45-16:00	TuPM16.3
<i>Green Synthesis and Characterization of Silver Nanoparticles and Its Impact on the Germination of SOLANUM LYCOPERSICUM L</i> , pp. 343-346.	
Selvaraj, Malathi (Univ. of Madras), Perumal, Palani (Univ. of Madras)	
16:00-16:15	TuPM16.4
<i>Isothermal Amplification and Graphene Based Detection of Circulating Multiplex Mirnas</i> , pp. 347-350.	
Treeratrakoon, Kiatnida (National Nanotechnology Center), Luksirikul, Patraporn (Kasetsart Univ), Dharakul, Tararaj (Mahidol Univ. National Nanotechnology Center), Japrungr, Deanpen (National Nanotechnology Center)	
TuPM17	Room 7
Nano-Energy 2 (Oral Session)	
Chair: Amezawa, Koji	Tohoku Univ
Co-Chair: Goodnick, Stephen	Arizona State Univ
15:15-15:45	TuPM17.1
<i>Development of H⁺ Emission Gun Using a Proton Conducting Glass Fiber (Invited)</i> , pp. 351-353.	
Daiko, Yusuke (Nagoya Inst. of Tech)	
15:45-16:00	TuPM17.2
<i>The Influence of the Thickness of Nanographitic Coatings Fabricated by Electrophoretic Deposition on Ethanol Electro-Oxidation</i> , pp. 354-356.	
Ahmadi Daryakenari, Ahmad (Nanomaterials)	
16:00-16:15	TuPM17.3

Novel Light Trapping Structure by Alkaline Etching Using a Ge Dot Mask for Crystalline Si Solar Cells, pp. 357-360.

Hombe, Atsushi (Nagoya Univ), Kurokawa, Yasuyoshi (Nagoya Univ), Usami, Noritaka (Nagoya Univ)

16:15-16:30 TuPM17.4

Numerical Simulation of Physical and Electrical Characteristics of Ge/Si Quantum Dots Based Intermediate Band Solar Cell, pp. 361-364.

Lee, Ming-Yi (National Chiao Tung Univ), Tsai, Yi-Chia (National Chiao Tung Univ), Li, Yiming (National Chiao Tung Univ), Samukawa, Seiji (Tohoku Univ)

16:30-16:45 TuPM17.5

Modification of Oxygen Surface Exchange Kinetics on a Dense Film of La_{0.6}Sr_{0.4}CoO_{3-δ} by Application of Porous (La, Sr)₂CoO₄, pp. 365-366.

Tatsuya, Kawada (Tohoku Univ)

TuPM18 Room 8
Nano-Packaging (Oral Session)

Chair: Endo, Kazuhiko Inst. of Advanced Industrial Science and Tech

Co-Chair: Suganuma, Osaka Univ
Katsuaki

15:15-15:45 TuPM18.1

NanoCopper As a Soldering Alternative: Solder-Free Assembly (Invited), pp. 367-370.

Zinn, Alfred (Lockheed Martin Corp.)

15:45-16:15 TuPM18.2

Review of Current Progress of Thermal Interface Materials for Electronics Thermal Management Applications (Invited), pp. 371-374.

Hansson, Josef (Chalmers Univ. of Tech), Zandén, Carl (Chalmers Univ), Ye, Lilei (Chalmers Univ), Liu, Johan (Chalmers Univ. of Tech)

16:15-16:30 TuPM18.3

Effect of Conductive Nanomaterial Dimensions on Radio-Wave Transmission Performance of Printed Antennas, pp. 375-376.

Goya, Yusuke (Osaka Univ), Koga, Hirotaka (Osaka Univ), Nogi, Masaya (Osaka Univ), Suganuma, Katsuaki (Osaka Univ)

16:30-16:45 TuPM18.4

Die-Bonding Performance and Mechanism Based on the Sintering of Micro Ag Paste for High Power Devices, pp. 377-380.

Takemasa, Tetsu (Senju Metal Industry Co., Ltd), Ueshima, Minoru (Senju Metal Industry Co., Ltd), Jiu, Jinting (The Inst. of Scientific and Industrial Res. (ISIR), Osak), Suganuma, Katsuaki (Osaka Univ)

TuPM21 Room 1
Nano-Materials 3 (Oral Session)

Chair: Hayashi, Yamato Tohoku Univ

17:00-17:15 TuPM21.1

Development of Non-Contact Hardness Measurements with Crater Formations by Gas Cluster Ions, pp. 381-382.

Toyoda, Noriaki (Univ. of Hyogo)

17:15-17:30 TuPM21.2

Growth of SnO₂ Nanosheet on Mesoporous SiC Nanofibers for Enhanced Photocatalytic H₂ Evolution, pp. 383-386.

Wang, Bing (National Univ. of Defense Tech), Wang, Yingde (National Univ. of Defense Tech)

17:30-17:45 TuPM21.3

The Influence on Peak Emission Intensity Ratio between Free-Exciton Recombination and Deep Defect Recombination of ZnO Morphology Evolution from Nanorods to Nanotubes, pp. 387-389.

Tsai, Wan-Hsuan (Feng-Chia Univ), Lo, Shih-Shou (Feng-Chia Univ)

TuPM22 Room 2

Special Session: Neuromorphic Cognitive Systems with Nanotechnology 2 (Oral Session)

Chair: Narayanan, Pritish IBM Res. Almaden

Co-Chair: Katayama, IBM Res. - Tokyo
Yasunao

17:00-17:30 TuPM22.1

Spike-Based Time-Domain Weighted-Sum Calculation Using Nanodevices for Low Power Operation (Invited), pp. 390-392.

Morie, Takashi (Kyushu Inst. of Tech), Liang, Haichao (Kyushu Inst. of Tech), Tohara, Takashi (Kyushu Inst. of Tech), Tanaka, Hirofumi (Kyushu Inst. of Tech), Igarashi, Makoto (Inst. of Fluid Science), Samukawa, Seiji (Tohoku Univ), Endo, Kazuhiko (Inst. of Advanced Industrial Science and Tech), Takahashi, Yasuo (Hokkaido Univ)

17:30-17:45 TuPM22.2

Hybrid CMOS-OxRAM RNG Circuits, pp. 393-396.

Sahay, Shubham (Indian Inst. of Tech. Delhi), Suri, Manan (Indian Inst. of Tech. - Delhi), Kumar, Ashwani (IIT-Delhi), Parmar, Vivek (IIT Delhi)

17:45-18:00 TuPM22.3

Pulse-Coupled Spin Torque Nano Oscillators with Dynamic Synapses for Neuromorphic Computing, pp. 397-400.

Nakada, Kazuki (Hiroshima City Univ), Miura, Keiji (Kwansei Gakuin Univ)

TuPM23 Room 3

Special Session of Nanotechnology and Industrial Applications (Oral Session)

Chair: Endo, Kazuhiko Inst. of Advanced Industrial Science and Tech

17:00-17:30 TuPM23.1

Au-Nanoarray by Nanosphere Lithography Sensors for Staphylococcus Aureus 16S Rrna (Invited), pp. 401-404.

Lai, Chao Sung (Chang Gung Univ)

17:30-18:00 TuPM23.2

The Investigation for In-Ga-Zn-O TFTs with Post Deposition of In-Situ Ar/H₂ Plasma Treatment by Atmospheric Pressure Plasma Jet (Invited), pp. 405-407.

Chang, Kow-Ming (National Chiao Tung Univ. Inst. of Electronics), Huang, Bo-Wen (National Chiao Tung Univ. Institute of Electronics Engineer), Wu, Chien-Hung (Department of Electronics Engineering, Chung Hua Univ), Chen, Hsin-Ying (National Chiao Tung Univ. Inst. of Electronics Engineer), Zheng, You-Xian (National Chiao Tung Univ), Lee, Ming-Chuan (National Chiao Tung Univ. Institute of Electronics Engineer), Zhang, Yu-Xin (National Chiao Tung Univ. Institute of Electronics Engineer), Lin, Chuang-Ju (Department of Electronics Engineering, Chung Hua Univ), Cheng, Yu-Hsuan (National Chiao Tung Univ. Inst. of Electronics Engineer), Wang, Shui-Jinn (National Cheng Kung Univ), Hsu, Jui-Mei (Mechanical and Systems Res. Lab. Industrial Tech), Lin, Yu-li (Coll. of Engineering, Chung Hua Univ)

TuPM25	Room 5
Nano-Optics, Nano-Optoelectronics, Nano-Photonics 3 (Oral Session)	

Chair: Higo, Akio Tohoku Univ

17:00-17:15 TuPM25.1

Characterizing Nanomaterial Photoelectric Properties Using Two Photon Laser Scanning Microscopy, pp. 408-411.

Chen, Liangliang (Michigan State Univ), Xi, Ning (Michigan State Univ), Song, Bo (Department of Electrical Andcomputerengineering, MichiganState Un), Yang, Yongliang (Michigan State Univ)

17:15-17:30 TuPM25.2

Imaging of Nanoscale Particles in Microfluidic Devices Using Super-Lens Manipulated by Optically-Induced Dielectrophoresis, pp. 412-414.

Lai, Hok Sum Sam (City Univ. of Hong Kong), Zhang, Guanglie (City Univ. of Hong Kong), Li, Wen Jung (City Univ. of Hong Kong)

17:30-17:45 TuPM25.3

Nano Holes on Micro Pyramids; Broadband Optical Light Trapping in Thin Wafer Based Si (<100 μm) Solar Cells, pp. 415-418.

Halubai, Sekhar (Fukushima Renewable Energy Inst. AIST)

17:45-18:00 TuPM25.4

Computational Study of Second and Third-Harmonic Generation in Periodically Patterned 2D-3D Heteromaterials, pp. 419-422.

Weismann, Martin (Univ. Coll. London), Panoiu, Nicolae (UCL)

TuPM27	Room 7
Nano-Energy 3 (Oral Session)	

Chair: Amezawa, Koji Tohoku Univ
Co-Chair: Goodnick, Stephen Arizona State Univ

17:00-17:15 TuPM27.1

Flexible Thermoelectric Power Generator Based on Electrochemical Deposition Process, pp. 423-425.

Nguyen Huu, Trung (Tohoku Univ), Van Toan, Nguyen (Tohoku Univ), Ono, Takahito (Tohoku Univ)

17:15-17:30 TuPM27.2

Nitrogen-Incorporated Ultrananocrystalline Diamond and Graphene Nanowalls Coated Graphite and Silicon Anodes for Long-Life Lithium Ion Batteries, pp. 426-428.

Tzeng, Yonhua (National Cheng Kung Univ), Pan, Yen-Ting (National Cheng Kung Univ)

17:30-17:45 TuPM27.3

Chemically-Induced Structural Deformation of Layered Perovskite Oxides, pp. 429-430.

Nakamura, Takashi (Tohoku Univ), Amezawa, Koji (Tohoku Univ)

Technical Program for Wednesday August 24, 2016

WeAM11	Room 1
Nano-Materials 4 (Oral Session)	
Chair: Frielinghaus, Henrich	Forschungszentrum Jülich GmbH
10:45-11:00	WeAM11.1
<i>Green Synthesis of Gold Nanoparticles from the Rind Extract of Garcinia Mangostana and Its Synergistic Effect with Antibiotics against Human Pathogenic Bacteria</i> , pp. 431-434.	
Ramasami, Nishanthi (Univ. OF MADRAS), Perumal, Palani (Univ. of Madras)	
11:00-11:15	WeAM11.2
<i>Cassia Fistula L. Mediated Florisynthesis and Characterisation of Silver Nanoparticles – a Paradigm for Antimicrobial Surface Functionalized PLA Matrix</i> , pp. 435-437.	
Karikalan, Priadharsini (Univ. of Madras), Perumal, Palani (Univ. of Madras), Ahmed Basha, Samina Sulthana (Univ. of Madras), Chinnadurai, Gandhi Shree (Univ. of Madras)	
11:15-11:30	WeAM11.3
<i>Co-Benefit of Silver Nanoparticle and Titanium Dioxide for Elemental Mercury Adsorption</i> , pp. 438-441.	
Chaleawlerumpon, Saowaluk (National Science and Tech. Development Agency), Sitthisuwannakul, Kannika (National Science and Tech. Development Agency), Khemthong, Pongtanawat (National Science and Tech. Development Agency), Khamdahsag, Pummarnin (Benvironmental Res. Inst. Chulalongkorn Univ. Ban), Grisdanurak, Nurak (Center of Excellence in Environmental Catalysis and Adsorption.), Rungnim, Chompoonut (National Science and Tech. Development Agency), Namuangruk, Supawadee (National Science and Tech. Development Agency), Pimpha, Nuttapon (National Science and Tech. Development Agency)	
11:30-11:45	WeAM11.4
<i>Size Distribution Control of Copper Nanoparticles by Optimization of Precursor Morphology</i> , pp. 442-445.	
Shiomi, Shohei (Kyoto Municipal Inst. of Industrial Tech. and Culture), Maruoka, Tomoki (Kyoto Municipal Inst. of Industrial Tech. and Culture), Minami, Hideaki (Kyoto Municipal Inst. of Industrial Tech. and Culture), Kadono, Jun-ichiro (Kyoto Municipal Inst. of Industrial Tech. and Culture), Kikuuchi, Yasumasa (Kyoto Municipal Inst. of Industrial Tech. and Culture)	
11:45-12:00	WeAM11.5
<i>Characterization of Magnetite Nanoparticle / Polymer Nanocomposite Materials in Gel and Dry State</i> , pp. 446-447.	
Frielinghaus, Henrich (Forschungszentrum Jülich GmbH)	
WeAM12	Room 2
Special Session: Challenge for Production Technology of NANO (Scale) Device 1 (Oral Session)	
Chair: Nemoto, Takenao	Tokyo Electron Limited
Co-Chair: Toyoda, Noriaki	Univ. of Hyogo
10:45-11:15	WeAM12.1
<i>Etch Challenges and Evolutions for Atomic-Order Control (Invited)</i> , pp. 448-451.	
Honda, Masanobu (Tokyo Electrom Miyagi Limited)	
11:15-11:45	WeAM12.2
<i>Pattern Fidelity Control in Multi-Patterning towards 7nm Node (Invited)</i> , pp. 452-455.	
Yaegashi, Hidetami (Tokyo Electron Liited)	

WeAM13	Room 3
Nems/mems 1 (Oral Session)	
Chair: Wang, Max Zenghui	Univ. of Electronic Science and Tech. of China
Co-Chair: Toda, Masaya	Tohoku Univ
10:45-11:15	WeAM13.1
<i>A Key More-Than-Moore Technology: CMOS-MEMS Resonant Transducers (Invited)</i> , pp. 456-459.	
Li, Sheng-Shian (National Tsing Hua Univ)	
11:15-11:30	WeAM13.2
<i>Ion-Sensitive Field-Effect Transistors with Multiple Ω-Haped Nano Channels Fabricated by Nanoimprint Lithography and NEMS Process</i> , pp. 460-463.	
Lee, Tzu-Nien (National Tsing Hua Univ)	
11:30-11:45	WeAM13.3
<i>Design of a Hybrid Piezoelectric-Electromagnetic Vibration Power Generator</i> , pp. 464-467.	
Lin, Hongyun (Jiangsu Provincial Key Laboratory of Advanced Robotics & Coll), Po-Lin, Hsu (Jiangsu Provincial Key Laboratory of Advanced Robotics & Coll), Chen, Tao (Soochow Univ), Liu, Huicong (Soochow Univ), Huang, Haibo (Robotics and Microsystem Center, SuZhou Univ), Sun, Lining (Soochow Univ), Cui, Lijuan (Harbin Inst. of Tech)	
11:45-12:00	WeAM13.4
<i>In-Silico Constructing Three-Dimensional Hollow Structure Via Self Organization of Vascular Mesenchymal Cells</i> , pp. 468-471.	
Zhu, Xiaolu (Hohai Univ), Yang, Hao (Hohai Univ)	
WeAM14	Room 4
Carbon Materials 2 (Oral Session)	
Chair: Nagase, Masao	Tokushima Univ
Co-Chair: Zhang, Qing	Nanyang Tech. Univ
10:45-11:00	WeAM14.1
<i>Single-Walled Carbon Nanotubes Based Sensors and Amplifier Circuit Integrated on Flexible Substrates</i> , pp. 472-474.	
Zhang, Kang (Nanyang Tech. Univ), Zou, Jianping (Nanyang Tech. Univ), Zhang, Qing (Nanyang Tech. Univ)	
11:00-11:15	WeAM14.2
<i>Multi Ion-Sensor Arrays: Towards an "Electronic Tongue"</i> , pp. 475-478.	
Melzer, Katharina (Inst. for Nanoelectronics, TU München), Bhatt, Vijay Deep (Inst. for Nanoelectronics, TU München), Schuster, Tobias (Inst. for Nanoelectronics, TU München), Jaworska, Ewa (Faculty of Chemistry, Univ. of Warsaw), Maksymiuk, Krzysztof (Faculty of Chemistry, Univ. of Warsaw), Michalska, Agata (Faculty of Chemistry, Univ. of Warsaw), Scarpa, Giuseppe (Inst. for Nanoelectronics, TU München), Lugli, Paolo (Tech. Univ. Muenchen)	
11:15-11:30	WeAM14.3
<i>AFM Study of 2D Resonators Based on Diamond-Like-Carbon</i> , pp. 479-482.	
Thibert, Sebastien (CEA-LETI), Ghis, Anne (CEA-LETI), Delaunay, Marc (CEA-INAC-PHELIQS)	
11:30-11:45	WeAM14.4
<i>Porphyrim Induced Changes in Charge Transport of Graphene FET</i> , pp. 483-486.	
Gajarushi, Ashwini (Indian Inst. of Tech. Bombay), Pathan, Dawuth (Indian Inst. of Tech. Bombay), Naik, Tejas (Indian Inst. of Tech. Bombay), Walawalkar, Mrinalini (Indian Inst. of Tech. Bombay), Mangalampalli, Ravikanth (Department of Chemistry, IIT Bombay, Mumbai 400076, Maharashtra.), Kottantharayil, Anil (Centre for Excellence in Nanoelectronics, Electrical Engg	

Depart), Rao, Ramgopal V (Centre for Excellence in Nanoelectronics, Electrical Engg Depart)

11:45-12:00

WeAM14.5

Optimization of Process Parameters for Inkjet Printing of CNT Random Networks on Flexible Substrates, pp. 487-490.

Falco, Aniello (Inst. for Nanoelectronics, Tech. Univ. München), Salmerón, José F. (Tech. Univ. of Munich), Loghin, Florin (Tech. Univ. of Munich), Abdelhalim, Ahmed (Tech. Univ. of Munich), Lugli, Paolo (Tech. Univ. Muenchen), Rivadeneyra, Almudena (Tech. Univ. of Munich)

WeAM15

Room 5

Nano-Optics, Nano-Optoelectronics, Nano-Photonics 4 (Oral Session)

Chair: De Angelis, Francesco Istituto Itlaiano Di Tecnologia
Co-Chair: Higo, Akio Tohoku Univ

10:45-11:15

WeAM15.1

3D Plasmonic Nanostructures for In-Vitro Applications in Neuroscience and Cell Biology (Invited), pp. 491-493.

De Angelis, Francesco (Istituto Itlaiano Di Tecnologia)

11:15-11:30

WeAM15.2

Detection of Mid-Infrared by HgTe Colloidal Quantum Dots at Room Temperature, pp. 494-497.

Tang, Xin (City Univ. of Hong Kong), Lai, King Wai Chiu (City Univ. of Hong Kong)

11:30-11:45

WeAM15.3

Analysis of Nanoscale Voids in Nanorod Plasmonic Clusters for Imaging Applications, pp. 498-500.

Alkhezraji, Emad (King Fahd Univ. of Petroleum and Minerals), Alsunaidi, Mohammad (KFUPM)

WeAM16

Room 6

Nano-Fabrication 1 (Oral Session)

Chair: Hara, Kenji Tokyo Univ. of Tech
Co-Chair: Lee, Yao-Jen National Nano Device Lab

10:45-11:15

WeAM16.1

Grain Size and Plasma Doping Effects on CVD-Based 2D Transition Metal Dichalcogenide (Invited), pp. 501-504.

Lin, Chih-Pin (National Chiao Tung Univ), Lin, Ching-Ting (National Chiao Tung Univ), Liu, Pang-Shuan (National Chiao Tung Univ), Yu, Ming-Jiue (National Chiao Tung Univ), Hou, Tuo-Hung (National Chiao Tung Univ)

11:15-11:30

WeAM16.2

Thermal Conductivity of 10nm-Diameter Silicon Nanowires Array Fabricated by Bio-Template and Neutral Beam Etching, pp. 505-507.

Kikuchi, Akiou (Central Glass Co.Ltd), Yao, Akifumi (Central Glass Co. Ltd), Iizuka, Sachihiko (Central Glass Co.Ltd), Mori, Isamu (Central Glass Co., LTD), Yamashita, Ichiro (Nara Inst. of Science and Tech), Ono, Takahito, Ono (Tohoku Univ), Samukawa, Seiji (Tohoku Univ)

11:30-11:45

WeAM16.3

Regulation of Cell Adhesion to Poly(ethylene Glycol) Diacrylate Film by Modification with Polystyrene Nano-Spheres, pp. 508-510.

Yang, Wenguang (Shenyang Institute of Automation, Chinese Acad. of Sciences), Yu, Haibo (Chinese Acad. of Sciences), Wang, Yuechao (State Key Lab. of Robotics, Shenyang Institute of Automation), Liu, Lianqing (Shenyang Inst. of Automation, Chinese Acad. of Sciences)

11:45-12:00

WeAM16.4

Multi-Layer Coated Nanorobot End-Effector for Efficient Drug Delivery, pp. 511-514.

Yu, Jing (Michigan State Univ), Yang, Yongliang (Michigan State Univ), Seiffert-Sinha, Kristina (Div. of Dermatology and Cutaneous Sciences, Center for Inves), Lee, Ilsoon (Michigan State Univ), Xi, Ning (Michigan State Univ), Sinha, Animesh A. (Univ. at Buffalo), Yang, Ruiguo (Northwestern Univ), Song, Bo (Department of Electrical and Computer Engineering, Michigan State Univ), Chen, Liangliang (Michigan State Univ), Sun, Zhiyong (Northeastern Univ. (CN), Michigan State Univ)

WeAM17

Room 7

Nano-Energy 4 (Oral Session)

Chair: Amezawa, Koji Tohoku Univ
Co-Chair: Goodnick, Stephen Arizona State Univ

10:45-11:15

WeAM17.1

Magneto-Optical Properties of Waveguide Structures Containing Magnetic Nanoparticles Using Femtosecond Laser (Invited), pp. 515-518.

Nakashima, Seisuke (Shizuoka Univ), Okabe, Ryohei (Shizuoka Univ), Ishida, Akihiro (Shizuoka Univ)

11:15-11:45

WeAM17.2

InGaAs/GaAsP Quantum Wells and Wires for High-Efficiency Photovoltaic Applications (Invited), pp. 519-520.

Sugiyama, Masakazu (The Univ. of Tokyo)

WeAM18

Room 8

Nano-Circuits, Nano-Architectures (Oral Session)

Chair: Lombardi, Fabrizio Northeastern Univ

10:45-11:00

WeAM18.1

Designs of PMC-Based Non-Volatile Memory Circuits for Data Restoring, pp. 521-524.

Junsangri, Pilin (Northeastern Univ), Han, Jie (Univ. of Alberta), Lombardi, Fabrizio (Northeastern Univ)

11:00-11:15

WeAM18.2

A Non-Volatile Low-Power TCAM Design Using Racetrack Memories, pp. 525-528.

Junsangri, Pilin (Northeastern Univ), Han, Jie (Univ. of Alberta), Lombardi, Fabrizio (Northeastern Univ)

11:15-11:30

WeAM18.3

Optimization of Dual-Threshold Independent-Gate FinFETs for Compact Low Power Logic Circuits, pp. 529-532.

Zhang, Xuqiang (Ningbo Univ), Hu, Jianping (Ningbo Univ), Luo, Xiaoyan (Ningbo Univ)

11:30-11:45

WeAM18.4

Design and Evaluation of Content Addressable Memory Using Redox Memristive Devices, pp. 533-536.

Wang, Peng (Univ. of Adelaide), Braden, Phillips (Univ. of Adelaide)

11:45-12:00

WeAM18.5

Design of Ultra-Low-Leakage Near-Threshold Dynamic Circuits in Nano CMOS for IoT Applications, pp. 537-540.

Chou, Peiyuan (Department of Electrical Engineering, National Chung-Cheng Univ), Chen, Bo-Hao (National Chung Cheng Univ)

WePo2

Exhibition room

Poster Session 2 (Poster Session)

13:00-14:00

WePo2.1

Facile Synthesis and Ultraviolet Absorption of Ordered Mesoporous ZnTiO₃, pp. 541-542.

Li, Zhen-Xing (China Univ. of Petroleum (Beijing))

13:00-14:00	WePo2.2	<i>Synthesis and Characterization of Ph-Sensitive Magnetic Nanoparticles As Drug Carriers for Sustained and Controlled Release of MTX</i> , pp. 543-546. Wu, Juan (Nanjing Univ. of Science and Tech), Jiang, Wei (Nanjing Univ. of Science and Tech)	<i>Synthesis and Characterization of Oleylamine-Capped PbSe Quantum Dots</i> , pp. 577-580. Sohel, Mohammad (The City Univ. of New York)
13:00-14:00	WePo2.3	<i>Layer-By-Layer Self-Assembly for Fabrication of Recyclable Magnetic Antimicrobial Nanocomposites</i> , pp. 547-550. Wang, Xi (Nanjing Univ. of Science and Tech), Xing, Xiaodong (Nanjing Univ. of Science and Tech)	13:00-14:00 WePo2.12 <i>Formation of Composite Nanoparticles behind Shock Waves Generated by Dual Pulsed Laser Ablation</i> , pp. 581-584. Ueno, Eri (Hitachi Zosen Corp), Takiya, Toshio (Hitachi Zosen Corp), Fukuda, Naoaki (Kyoto Univ)
13:00-14:00	WePo2.4	<i>Highly Substituted Cyclacenes and Short Zigzag Nanotubes: A Theoretical Comparison of Stability</i> , pp. 551-554. Soleimani-Amiri, Somayeh (Department of Chemistry, Karaj Branch, Islamic Azad Univ), Koochi, Maryam (Young Res. and Elites Club, North Tehran Branch, Islamic)	13:00-14:00 WePo2.13 <i>Study of γ-Fe₂O₃/Au Core/Shell Nanoparticles As the Contrast Agent for High-Tc SQUID-Based Low Field Nuclear Magnetic Resonance</i> , pp. 585-586. Chen, Kuen-Lin (National Chung Hsing Univ), Yeh, Yao-Wei (National Chung Hsing Univ), Liao, Shu-Hsien (National Taiwan Normal Univ), Wu, Chiu-Hsien (National Chung Hsing Univ. Taichung 402, Taiwan), Wang, Li-Min (National Taiwan Univ)
13:00-14:00	WePo2.5	<i>Electrical and Thermoelectric Properties of Ge-Sb-Te Thin Films for Nanoelectronics</i> , pp. 555-558. Sherchenkov, Alexey (National Res. Univ. of Electronic Tech. MIET), Lazarenko, Petr (National Res. Univ. of Electronic Tech. MIET), Kozyukhin, Sergey (Kurnakov Inst. of General and Inorganic Chemistry, RAS), Babich, Alexey (National Res. Univ. of Electronic Tech. MIET), Korobova, Natalia (National Res. Univ. of Electronic Tech. MIET), Timoshenkov, Sergey (National Res. Univ. of Electronic Tech. MIET), Kalugin, Viktor (National Res. Univ. of Electronic Tech. MIET), Terekhov, Dmitry (National Res. Univ. of Electronic Tech. MIET), Yakubov, Alexey (National Res. Univ. of Electronic Tech. MIET)	13:00-14:00 WePo2.14 <i>Enhanced Magnetic Properties of Carbon Nanotubes and Multilayer Graphene Decorated with Co₃O₄</i> , pp. 587-590. Seifu, Dereje (Morgan State Univ. PHYSICS), Giri, Lily (Army Res. Lab), Hong, Haiping (South Dakota School of Mines and Tech), Mallick, Govind (U.S. Army Res. Lab), Karna, Shashi (US Army Res. Lab), Seehra, Mohindar Singh (West Virginia Univ)
13:00-14:00	WePo2.6	<i>Effect of TiO₂ Crystal Structure on CO₂ Photoreduction Using Au Nanoparticles on TiO₂ Catalyst</i> , pp. 559-562. Yamada Maruo, Yasuko (Tohoku Inst. of Tech), Sasaki, Masafumi (Tohoku Inst. of Tech), Hino, Shinji (Tohoku Inst. of Tech), Sato, Atsushi (Tohoku Inst. of Tech)	13:00-14:00 WePo2.15 <i>Behavior of Al₇₀Si₃₀ Nanocomposite Prepared by Warm High Velocity Compaction</i> , pp. 591-593. Atrian, Amir (Najafabad Branch, Islamic Azad Univ)
13:00-14:00	WePo2.7	<i>Enhanced Dielectric Material of Multi-Functional PVDF/RGO Composites</i> , pp. 563-565. Zhang, Xiaojuan (Beihang Univ), Wang, Guangsheng (Beihang Univ)	13:00-14:00 WePo2.16 <i>Synthesis and Characterization of Si-Based Nanostructured Semiconductors by DC Arc-Discharge Plasma</i> , pp. 594-597. Gao, Jian (Dalian Univ. of Tech), Yu, Jieyi (Dalian Univ. of Tech), Dong, Xing Long (Dalian Univ. of Tech)
13:00-14:00	WePo2.8	<i>Structure and Thermoelectric Properties of PbTe Films Deposited by Thermal Evaporation Method</i> , pp. 566-568. Nguyen, Mai Phuong (Tohoku Univ)	13:00-14:00 WePo2.17 <i>The Properties of Metamaterials Based on Gold Thin Film and Nanoparticles</i> , pp. 598-599. Deng, Zu-Yin (National Chung Hsing Univ), Lin, Chin-Wei (Inst. of Nano-Science, National Chung Hsing Univ. Taic), Kuo, Yu-Tin (Inst. of Nano-Science, National Chung Hsing Univ. Taic), Chen, Kuen-Lin (National Chung Hsing Univ), Wu, Chiu-Hsien (National Chung Hsing Univ. Taichung 402, Taiwan)
13:00-14:00	WePo2.9	<i>Purification of Cellulose from Rice Husk for the Synthesis of Nanocellulose</i> , pp. 569-572. Castro-Guerrero, Carlos (Consejo Nacional De Ciencia Y Tecnologia-INEEL), Diaz-Guillen, Mario (Inst. Nacional De Electricidad Y Energías Limpias), Delgado-Arroyo, Filemon (Inst. Nacional De Electricidad Y Energías Limpias), Rodas, Arturo (Inst. Nacional De Electricidad Y Energías Limpias), Godavarthi, Srinivas (Inst. De Ciencias Físicas, Univ. Nacional Autónoma De)	13:00-14:00 WePo2.18 <i>Nanocrystalline and Amorphous FeAlSn Alloy Prepared by Mechanical Alloying</i> , pp. 600-603. Zineb, Hamlati (Aeronautic Department, Univ. Obf Blida1)
13:00-14:00	WePo2.10	<i>Characterisation of Carbonaceous Deposition in Oil Exposed Surfaces at the Nanoscale</i> , pp. 573-576. Kaimaki, Domna-Maria (Univ. of Cambridge), Smith, Ben E (BP Exploration Operating Company Limited), Filip, Sorin Vasile (BP), Durkan, Colm (Univ. of Cambridge)	13:00-14:00 WePo2.19 <i>A Facile Approach to the Hydrothermal Synthesis of Graphene</i> , pp. 604-607. Ke, Xiang (Nanjing Univ. of Science and Tech), Hao, Ga-zi (Nanjing Univ. of Science and Tech), Rong, Yuan-bo (Nanjing Univ. of Science and Tech), Zhou, Xiang (School of Chemical Engineering, Nanjing Univ. of Science An), Jie, Liu (Nanjing Univ. of Science and Tech), Lei, Xiao (Nanjing Univ. of Science and Tech), Jiang, Wei (Nanjing Univ. of Science and Tech)
13:00-14:00	WePo2.11	<i>Effective Tuning and Application of Graphene-Based Au</i>	13:00-14:00 WePo2.20 <i>Synthesis and Evaluation of Fluorinated Nano Diamond for Application of Polymer Composite</i> , pp. 608-611. Yao, Akifumi (Central Glass Co. Ltd), Mori, Isamu (Central Glass Co., LTD)

Nanocomposites As SERS Substrates, pp. 612-615.

Liang, Xiu (Beihang Univ), Yin, Penggang (Beihang Univ)

13:00-14:00

WePo2.22

Tribological Properties of Polycrystalline Diamond Films Prepared by Hot-Filament Chemical Vapor Deposition Methods, pp. 616-619.

Nagasaka, Hiroshi (Tokyo Metropolitan Industrial Tech. Res. Inst), Ito, Keita (Tokyo Univ. of Science), Mori, Jo (Tanken Seal Seiko Co., Ltd), Shimizu, Tetsuhide (Tokyo Metropolitan Univ), Sasaki, Shinya (Tokyo Univ. of Science)

13:00-14:00

WePo2.23

Mass Production of Narrow Chirality Distributed Single-Walled Carbon Nanotubes by Pulse Plasma CVD, pp. 620-621.

Xu, Bin (Tohoku Univ), Kato, Toshiaki (Tohoku Univ), Kaneko, Toshiro (Tohoku Univ)

13:00-14:00

WePo2.24

In Situ TEM Visualization of Pd Assisted Graphene Growth in Nanoscale, pp. 622-623.

Rosmi, Mohamad Saufi (Nagoya Inst. of Tech), Yaakob, Yazid (Nagoya Inst. of Tech), Sharma, Subash (Nagoya Inst. of Tech), Yusop, Mohd Zamri (Univ. Teknologi Malaysia), Kalita, Golap (Nagoya Inst. of Tech), Tanemura, Masaki (Nagoya Inst. of Tech)

13:00-14:00

WePo2.25

Deposition and Micromachining of Graphene Nanowall towards High-Performance Microsystems, pp. 624-626.

Li, Jinhua (Graduate School of Engineering, Tohoku Univ), Wang, Zhuqing (Tohoku Gakuin Univ), Ono, Takahito (Tohoku Univ)

13:00-14:00

WePo2.26

Spin Injection Loss in Self-Assembled InAs/GaAs Quantum Dot Structures from Disordered Barrier Layers, pp. 627-629.

Huang, Yuqing (Linköping Univ), Püttisong, Yuttapoom (Linköping Univ), Buyanova, Irina (Linköping Univ), Chen, Weimin (Linköping Univ)

13:00-14:00

WePo2.27

Transient Photoluminescence Study on Spin Dynamics in InGaAs-Based Coupled Nanostructures of Quantum Dots with Quantum Wells, pp. 630-632.

Takeishi, Kazuki (Hokkaido Univ), Chen, Shula (Hokkaido Univ), Takayama, Junichi (Hokkaido Univ), Itabashi, Kodai (Hokkaido Univ), Urabe, Masayuki (Hokkaido Univ), Murayama, Akihiro (Hokkaido Univ)

13:00-14:00

WePo2.28

Growth Optimization of Spin-Transport Barriers Used for Spin-Polarized Light-Emitting Diodes Based on InGaAs Quantum Dots, pp. 633-635.

Itabashi, Kodai (Hokkaido Univ), Takeishi, Kazuki (Hokkaido Univ), Urabe, Masayuki (Hokkaido Univ), Takayama, Junichi (Hokkaido Univ), Chen, Shula (Hokkaido Univ), Murayama, Akihiro (Hokkaido Univ)

13:00-14:00

WePo2.29

Transient Photoluminescence in InGaN Nano-Disks Fabricated by Nano-Scale Neutral-Beam Etching Utilizing Bio-Nano Templates, pp. 636-637.

Chen, Yafeng (Hokkaido Univ), Chen, Shula (Hokkaido Univ), Kiba, Takayuki (Kitami Inst. of Tech), Lee, ChangYong (Tohoku Univ), Thomas, Cedric (Inst. of Fluid Science), Lai, Yi-Chun (WPI-AIMR, Tohoku Univ), Higo, Akio (Tohoku Univ), Samukawa, Seiji (Tohoku Univ), Murayama, Akihiro (Hokkaido Univ)

13:00-14:00

WePo2.30

Ultrahigh-Density Self-Assembled Quantum Dots of InGaAs and Suppression of Optical State-Filling Effect, pp.

638-639.

Urabe, Masayuki (Hokkaido Univ), Takeishi, Kazuki (Hokkaido Univ), Takayama, Junichi (Hokkaido Univ), Itabashi, Kodai (Hokkaido Univ), Chen, Shula (Hokkaido Univ), Murayama, Akihiro (Hokkaido Univ)

13:00-14:00

WePo2.31

Electric-Field Control of Spin States in InGaAs-Based Coupled Nanostructures of Quantum Dots and Well, pp. 640-641.

Akei, Yuto (Hokkaido Univ), Takayama, Junichi (Hokkaido Univ), Takeishi, Kazuki (Hokkaido Univ), Itabashi, Kodai (Hokkaido Univ), Urabe, Masayuki (Hokkaido Univ), Murayama, Akihiro (Hokkaido Univ)

13:00-14:00

WePo2.32

Pump-Probe Study of Temperature-Dependent Spin Relaxation in GaAs Quantum Disks Fabricated by Fully Top-Down Lithography Using Bio-Templates, pp. 642-643.

Kiba, Takayuki (Kitami Inst. of Tech), Tanaka, Toru (Graduate School of Information Science and Tech. Hokkaido), Higo, Akio (Tohoku Univ), Thomas, Cedric (Inst. of Fluid Science), Tamura, Yosuke (Tohoku Univ), Samukawa, Seiji (Tohoku Univ), Murayama, Akihiro (Hokkaido Univ)

13:00-14:00

WePo2.33

Light-Driven Self-Assembly of Two Gold Nanorods, pp. 644-645.

Liaw, Jiunn-Woei (Chang Gung Univ), Kuo, Mao-Kuen (National Taiwan Univ), Lin, Wu-Chun (National Taiwan Univ), Chao, Hsueh-Yu (National Taiwan Univ)

13:00-14:00

WePo2.34

Surface Plasmon-Enhanced Photoluminescence of DCJTB by Using Silver Hybrid Nanostructures, pp. 646-647.

Liaw, Jiunn-Woei (Chang Gung Univ), Fang, Meng-Han (National Taiwan Ocean Univ), Huang, Yu-Hsiang (National Taiwan Ocean Univ), Tsai, Kai-Hong (National Taiwan Ocean Univ), Lin, Chieh-Jen (National Taiwan Ocean Univ), Chiang, Hai-Pang (National Taiwan Ocean Univ)

13:00-14:00

WePo2.35

Microwave Plasma Modification of the Electronic Properties of Silicon Heterostructures, pp. 648-650.

Yafarov, Rafil (Saratov Branch of the Kotel'nikov Inst. of Radio Engineering), Timoshenkov, Valeri (National Res. Univ. of Electronic Tech. MIET), Orlov, Sergey (Molecular Electronics Res. Inst. JSC), Korobova, Natalia (National Res. Univ. of Electronic Tech. MIET), Timoshenkov, Sergey (National Res. Univ. of Electronic Tech. MIET)

13:00-14:00

WePo2.36

Two Resistive Switching Behaviors in Ag/SiO₂/Pt Memristors, pp. 651-654.

Liu, Dongqing (National Univ. of Defense Tech), Cheng, Haifeng (National Univ. of Defense Tech), Peng, Renfu (National Univ. of Defense Tech), Yin, Yimin (National Univ. of Defense Tech)

13:00-14:00

WePo2.37

Analysis, Modeling, and Applications of the Straintronics Devices for Future Spin-Based Integrated Circuits, pp. 655-658.

Barangi, Mahmood (Univ. of Michigan), Mazumder, Pinaki (Univ. of Michigan)

13:00-14:00

WePo2.38

Fast and Accurate Evaluation of Delay in CNFET Circuits, pp. 659-662.

Ali, Muhammad (Portland State Univ), Ahmed, Mohammad A (Portland State Univ), Chrzanowska-Jeske, Malgorzata (Portland State Univ)

13:00-14:00

WePo2.39

Electrical-Thermal Characterization of Carbon Nanotube

Based through Glass Vias for 3-D Integration, pp. 663-666.
 Qian, Libo (Ningbo Univ), Shi, Ge (The Coll. of Mechanical and Electrical Engineering, China Jili), Ye, Yidie (The School of Information Science and Engineering, Ningbo Univ)

13:00-14:00 WePo2.40

Power-Gating Schemes for Super-Threshold FinFET CML Circuits, pp. 667-670.
 Zhang, Xia (Ningbo Univ), Hu, Jianping (Ningbo Univ)

13:00-14:00 WePo2.41

Inter-Particle Potential Fluctuation of Two Fine Particles Suspended in Ar Plasmas, pp. 671-673.
 Soejima, Masahiro (Kyushu Univ), Koga, Kazunori (Kyushu Univ), Shiratani, Masaharu (Kyushu Univ)

13:00-14:00 WePo2.42

Relationship between Electric Property and Surface Flatness of (ZnO)_x(InN)_{1-x} Films on ZnO Templates, pp. 674-675.
 Matsushima, Koichi (Kyushu Univ), Itagaki, Naho (Kyushu Univ), Shiratani, Masaharu (Kyushu Univ)

13:00-14:00 WePo2.43

Fabrication and Evaluation of CVD Diamond Resonators, pp. 676-677.
 Mohimaru Yuya, Yuya (Tohoku Univ), Toda, Masaya (Tohoku Univ), Ono, Takahito (Tohoku Univ)

13:00-14:00 WePo2.44

Piezoresistive Cantilever for Measuring Mass of Airborne Particles, pp. 678-680.
 Chen, Sheng-Jui (Industrial Tech. Res. Inst), Lin, Yen-Liang (Industrial Tech. Res. Inst), Wu, Chung-Lin (Industrial Tech. Res. Inst)

13:00-14:00 WePo2.45

Protein Addressing in Packaged Multi-Channel by Electro-Click Chemistry for Calorimetry Biosensor, pp. 681-682.
 Wang, Zhuqing (Tohoku Gakuin Univ), Li, Jinhua (Graduate School of Engineering, Tohoku Univ), Kimura, Mitsuteru (Tohoku Gakuin Univ), Ono, Takahito (Tohoku Univ)

13:00-14:00 WePo2.46

Optical Control of Adhesion Property of Magnetic Nanosensor Using Photochromism for Effective Manipulation and Cell Injection, pp. 683-686.
 Hashim, Hairulazwan (Nagoya Univ), Lei, Wu (Nagoya Univ), Maruyama, Hisataka (Nagoya Univ), Masuda, Taisuke (Nagoya Univ), Arai, Fumihito (Nagoya Univ)

WePM11 Room 1
Nano-Materials 5 (Oral Session)

Chair: Cai, Jinguang Tohoku Univ

15:15-15:30 WePM11.1

Growth of ~3-Nm ZnO Nano-Islands Using Atomic Layer Deposition, pp. 687-689.
 El-Atab, Nazek (Masdar Inst. of Science and Tech), Chowdhury, Farsad (Masdar Inst. of Science and Tech), Ulusoy, Turkan Gamze (Bilkent Univ), Ghobadi, Amir (Bilkent Univ), Nazirzadeh, Amin (Bilkent Univ), Okyay, Ali (Bilkent Univ), Nayfeh, Ammar (Masdar Inst. of Science and Tech)

15:30-15:45 WePM11.2

Control of Electron Coupled State in Superlattice of PbS Quantum Dots by Replacing Ligands, pp. 690-693.
 Suetsugu, Fumimasa (Yokohama National Univ), Niwa, Keisuke (Yokohama National Univ), Mukai, Kohki (Yokohama National Univ)

15:45-16:00 WePM11.3

Control of VW and SK Growth Modes in Ge Quantum Dot Formation on Si(100) Via Carbon Mediation, pp. 694-696.
 Itoh, Yuhki (Tohoku Univ), Kawashima, Tomoyuki (Tohoku Univ), Washio, Katsuyoshi (Graduate School of Engineering, Tohoku Univ)

16:00-16:15 WePM11.4

Laser Direct Writing of Conductive 3D Micropatterns Using Metal Nanoparticle Ink, pp. 697-698.
 Watanabe, Akira (Tohoku Univ), Cai, Jinguang (Tohoku Univ)

16:15-16:30 WePM11.5

Cu₂ZnSn(S, Se)₄ Thin Films Prepared Using Cu₂ZnSnS₄ Nanoparticles, pp. 699-702.
 Taki, Shunya (Waseda Univ), Umejima, Yuto (Waseda Univ), Uruno, Aya (Waseda Univ), Zhang, Xianfeng (Waseda Univ), Kobayashi, Masakazu (Waseda Univ)

16:30-16:45 WePM11.6

Investigation the Plating and Wetting Ability of Reactive Sputtered Molybdenum-Tungsten Multi-Layers for Advanced Cu Metallization, pp. 703-705.
 Kuo, Tai-Chen (National Cheng Kung Univ), Shih, Tzu-Lang (National Cheng Kung Univ), Su, Yin-Hsien (National Cheng Kung Univ), Lee, Wen-Hsi (National Cheng Kung Univ), Wang, Yeong-Her (National Cheng Kung Univ), Liao, Wei-Hsiang (National Cheng Kung Univ)

WePM12 Room 2
Special Session: Challenge for Production Technology of NANO (Scale) Device 2 (Oral Session)

Chair: Nemoto, Takenao Tokyo Electron Limited
 Co-Chair: Toyoda, Noriaki Univ. of Hyogo

15:15-15:45 WePM12.1

Current Status and Prospects of Nanoimprint Technology (Invited), pp. 706-709.
 Matsui, Shinji (Univ. of Hyogo)

15:45-16:15 WePM12.2

Accelerated Neutral Atom Beam (ANAB) Technology for Nanoscale Surface Processing (Invited), pp. 710-713.
 Kirkpatrick, Sean (Exogenesis Corp), Walsh, Michael (Exogenesis Corp), Svrluga, Richard (Exogenesis Corp), Khoury, Joseph (Exogenesis Corp)

16:15-16:45 WePM12.3

Evolution of Oxide Semiconductors for Novel Functional Device Applications (Invited), pp. 714-717.
 Fujita, Shizuo (Kyoto Univ)

WePM13 Room 3
Nems/mems 2 (Oral Session)

Chair: Toda, Masaya Tohoku Univ
 Co-Chair: Wang, Max Univ. of Electronic Science and Zenghui Tech. of China

15:15-15:45 WePM13.1

Production of Nanoemulsion Using a Microchannel Device Oscillated by Piezoelectric Transducer (Invited), pp. 718-719.
 Kanda, Takefumi (Okayama Univ)

15:45-16:00 WePM13.2

High Aspect Silicon Structures Using Metal Assisted Chemical Etching, pp. 720-723.
 Van Toan, Nguyen (Tohoku Univ), Toda, Masaya (Tohoku Univ), Ono, Takahito (Tohoku Univ)

16:00-16:15 WePM13.3

Feasibility Study of Ingestible Sensor Platform Powered by Gastric Acid Battery for Daily Health Care, pp. 724-727.

Yoshida, Shinya (Tohoku Univ), Miyaguchi, Hiroshi (Tohoku Univ), Nakamura, Tsutomu (Tohoku Univ)

16:15-16:30 WePM13.4

Micro Bubble Generation Using Monolayer Graphene Heating Elements, pp. 728-730.

Wu, Zhi (City Univ. of Hong Kong; Harbin Inst. of Tech. Sh), Chan, Ho-yin (The City Univ. of Hong Kong), Zhou, Yu (Harbin Inst. of Tech. Shenzhen Graduate School), Li, Wen Jung (City Univ. of Hong Kong)

16:30-16:45 WePM13.5

An AlN-Based Piezoelectric Micro-Machined Ultrasonic Transducer (pMUT) Array, pp. 731-734.

Zhu, Qifeng (Soochow Univ), Sun, Lining (Soochow Univ), Chen, Tao (Soochow Univ), Liu, Huicong (Soochow Univ), Le, Xianhao (Zhejiang Univ), Xie, Jin (Zhejiang Univ), Lee, Chengkuo (National Univ. of Singapore), Wang, Tao (National Univ. of Singapore)

16:45-17:00 WePM13.6

A MEMS Metamaterial for Dynamic Terahertz Wave Switching, pp. 735-738.

Han, Zhengli (Riken)

17:00-17:15 WePM13.7

Flexible Metamaterial Device for Terahertz-Wave Imaging System, pp. 739-742.

Han, Zhengli (Riken), Takida, Yuma (RIKEN Sendai), Ogata, Yoichi (Japan Advanced Inst. of Science and Tech. (JAIST)), Minamide, Hiroaki (RIKEN Sendai)

WePM14

Carbon Materials 3 (Oral Session)

Chair: Nagase, Masao Tokushima Univ

Co-Chair: Zhang, Qing Nanyang Tech. Univ

15:15-15:30 WePM14.1

Electrical Properties of Chemically Doped Graphene with Aluminum Ions, pp. 743-746.

Jain, Prashant (TSINGHUA Univ), Zhang, Cheng (TSINGHUA Univ), Huang, Jing'ao (Tsinghua Univ), Ahmad, Kamal (TSINGHUA Univ), Xie, Dan (TSINGHUA Univ), Liu, Zewen (Tsinghua Univ)

15:30-15:45 WePM14.2

Analysis of Transport in a Graphene Ribbon with an Antidot Lattice, Based on the Scattering Matrix Solution of the Dirac Equation, pp. 747-750.

Marconcini, Paolo (Univ. Di Pisa), Macucci, Massimo (Univ. Di Pisa)

15:45-16:00 WePM14.3

Surface Characterization of a Au/CNT Composite for a MEMS Switching Application, pp. 751-754.

Liu, Hong (Univ. of Southampton Malaysia Campus), McBride, John (Univ. of Southampton), Yusop, Mohd Zamri (Univ. Teknologi Malaysia)

16:00-16:15 WePM14.4

Comparative Study of Piezoresistance Effect of Semiconducting Carbon Nanotube-Polydimethylsiloxane Nanocomposite Strain Sensor, pp. 755-758.

Lim, Meehyun (Samsung Electronics), Lee, Jieun (Kookmin Univ), Kim, Dae Hwan (Kookmin Univ), Kim, Dong Myong (Kookmin Univ), Kim, Sungho (Sejong Univ), Choi, Sung-Jin (Kookmin Univ)

16:15-16:30 WePM14.5

Independently Controlled Etching and Growth of Graphene

Quantum Dots and Their SERS Applications, pp. 759-762.

Chen, Ying Ren (National Cheng Kung Univ), Tzeng, Yonhua (National Cheng Kung Univ)

16:30-16:45 WePM14.6

Electrical Modeling of Copper/carbon Nanotubes for 3D Integration, pp. 763-766.

Rao, Madhav (International Inst. of Information Tech. Bangalore)

WePM15

Room 5

Nano-Electronics (inorganic) 1 (Oral Session)

Chair: Takahashi, Yasuo Hokkaido Univ

Co-Chair: Naitoh, Yasuhisa National Inst. of Advanced Industrial Science and Tech. (AIST)

15:15-15:45 WePM15.1

Novel III-N Heterostructure Devices for Low-Power Logic and More (Invited), pp. 767-769.

Fay, Patrick (Univ. of Notre Dame)

15:45-16:00 WePM15.2

Design and Simulation of Steep-Slope Silicon-On-Insulator FETs Using Negative Capacitance: Impact of Buried Oxide Thickness and Remnant Polarization, pp. 770-772.

Ota, Hiroyuki (National Inst. of Advanced Industrial Science and Tech), Migita, Shinji (National Inst. of Advanced Industrial Science and Tech), Hattori, Junichi (National Inst. of Advanced Industrial Science and Tech), Fukuda, Koichi (National Inst. of Advanced Industrial Science and Tech), Toriumi, Akira (The Univ. of Tokyo)

16:00-16:15 WePM15.3

Investigation of High-K/metal Gate MOS Capacitors Annealed by Microwave Annealing As a Post-Metal Annealing Process, pp. 773-776.

Su, Yin-Hsien (National Cheng Kung Univ), Kuo, Tai-Chen (National Cheng Kung Univ), Lee, Wen-Hsi (National Cheng Kung Univ), Lee, Yao-Jen (National Nano Device Lab)

16:15-16:30 WePM15.4

Investigation of Abnormal Off-Current in P-Channel Double Diffused Drain Metal-Oxide-Semiconductor Transistors after Hot Carrier Stress, pp. 777-779.

Ting-Chang, Chang (Nation Sun Yat-Sen Univ), Chen, Ching-En (National Chiao Tung Univ), Lu, Ying-Hsin (National Sun Yat-Sen Univ), Hua-Mao, Chen (National Chiao Tung Univ), Bo-Wei, Chen (Nation Sun Yat-Sen Univ), Pan, Chih-Hung (National Sun-Yat-Sen Univ), Yu-Ju, Hung (National Sun-Yat-Sen Univ)

16:30-16:45 WePM15.5

Abnormal Transconductance Enhancement Effects Induced by Negative Bias-Stress at High Temperature in Amorphous-InGaZnO Thin-Film Transistors, pp. 780-782.

Bo-Wei, Chen (Nation Sun Yat-Sen Univ), Ting-Chang, Chang (Nation Sun Yat-Sen Univ), Pan, Chih-Hung (National Sun-Yat-Sen Univ), Huang, Shin Ping (National Sun Yat-Sen Univ), Yu-Ju, Hung (National Sun-Yat-Sen Univ)

16:45-17:00 WePM15.6

Identical Off-State Current Raise Induced by Photo-Induced Schottky Barrier Lowering in A-InGaZnO₄ Thin Film Transistors, pp. 783-786.

Pan, Chih-Hung (National Sun-Yat-Sen Univ), Ting-Chang, Chang (Nation Sun Yat-Sen Univ), Chen, Ching-En (National Chiao Tung Univ), Bo-Wei, Chen (Nation Sun Yat-Sen Univ), Hua-Mao, Chen (National Chiao Tung Univ), Hsiao-Cheng, Chiang (National Sun Yat-Sen Univ), Po-Yung, Liao (National Sun Yat-Sen Univ), Yu-Ju, Hung (National Sun-Yat-Sen Univ)

17:00-17:15 WePM15.7

Investigating Non-Filament Type Conduction Mechanism of Indium-Tin-Oxide Resistance Random Access Memory by Varying Forming Current Compliance, pp. 787-789.

Pan, Chih-Hung (National Sun-Yat-Sen Univ), Bo-Wei, Chen (Nation Sun Yat-Sen Univ), Ting-Chang, Chang (Nation Sun Yat-Sen Univ), Chang, Kuan-Chang (National Sun-Yat Sen Univ), Tsai, Tsung-Ming (National Sun-Yat Sen Univ), Shih, Chih-Cheng (National Sun-Yat Sen Univ), Shih, Lin-Yi (National Sun-Yat Sen Univ), Yu-Ju, Hung (National Sun-Yat-Sen Univ)

17:15-17:30 WePM15.8

Study on Lateral ReRAM by the Use of In-Situ TEM, pp. 790-791.

Yonesaka, Ryota (Hokkaido Univ), Muto, Satoshi (Graduate School of Information Science and Tech. Hokkaido), Tsurumaki-Fukuchi, Atsushi (Hokkaido Univ), Arita, Masashi (Hokkaido Univ), Takahashi, Yasuo (Hokkaido Univ)

17:30-17:45 WePM15.9

STM Observation of Resistance Switching of Nanogap Structure, pp. 792-794.

Naitoh, Yasuhisa (National Inst. of Advanced Industrial Science and Tech)

WePM16 Room 6
Nano-Fabrication 2 (Oral Session)

Chair: Lee, Yao-Jen National Nano Device Lab
Co-Chair: Hara, Kenji Tokyo Univ. of Tech

15:15-15:30 WePM16.1

Fabrication Process of Fluidic Devices for Producing Fine Droplets Using a Focused Ion Beam System, pp. 795-798.

Nozaki, Yoshito (Waseda Univ), Kanai, Toshimitsu (Yokohama National Univ), Matsuo, Aya (Yokohama National Univ), Tanaka, Daiki (Waseda Univ), Yuito, Isamu (Waseda Univ), Takeuchi, Teruaki (Waseda Univ), Sekiguchi, Tetsushi (Waseda Univ), Shoji, Shuichi (Waseda Univ)

15:30-15:45 WePM16.2

Enhancement-Mode AlGaIn/GaN MIS-HEMTs with Low Threshold Voltage Hysteresis Using Damage-Free Neutral Beam Etched Gate Recess, pp. 799-801.

Lin, Yen-Ku (National Chiao Tung Univ), Noda, Shuichi (Tohoku Univ), Lee, Ruey-Bor (National Chiao Tung Univ), Huang, Chia-Ching (National Chiao Tung Univ), Luc, Quang Ho (National Chiao Tung Univ), Samukawa, Seiji (Tohoku Univ), Chang, Edward Yi (National Chiao Tung Univ)

15:45-16:00 WePM16.3

Fabrication of PVD-TiN Metal-Gate SOI-CMOS Integrated Circuits Using Minimal-Fab and Mega-Fab Hybrid Process, pp. 802-805.

Liu, Yongxun (National Inst. of Advanced Industrial Science and Tech), Khumpuang, Sommawan (National Inst. of Advanced Industrial Science and Tech), Nagao, Masayoshi (National Inst. of Advanced Industrial Science and Tech), Matsukawa, Takashi (National Inst. of Advanced Industrial Science and Tech), Hara, Shiro (National Inst. of Advanced Industrial Science and Tech)

16:00-16:15 WePM16.4

Development of a New Methodology for Building Three-Dimensional Nanostructures, pp. 806-808.

Ventrici de Souza, Joao Francisco (Univ. of California, Davis), Kuhl, Tonya (Univ. of California, Davis), Liu, Gang-yu (Univ. of California, Davis)

16:15-16:30 WePM16.5

Nano-Scale Oxide Layer Prepared by Plasma Oxidation on Single-Crystalline Aluminum Film, pp. 809-811.

Chen, Peng-Yu (National Chiao Tung Univ), Wu, Chu Chun

(National Chiao Tung Univ), Fan, Yen-Ting (National Chiao Tung Univ), Lin, Sheng-Di (National Chiao Tung Univ)

16:30-16:45 WePM16.6

Process Technological Analysis for Dynamic Characteristic Improvement of 16-Nm HKMG Bulk FinFET CMOS Circuits, pp. 812-815.

Su, Ping-Hsun (National Chiao Tung Univ), Li, Yiming (National Chiao Tung Univ)

16:45-17:00 WePM16.7

Defect-Free Germanium Etching for 3D Fin MOSFET Using Neutral Beam Etching, pp. 816-818.

Lee, En-Tzu (Tohoku Univ), Noda, Shuichi (Tohoku Univ), Mizubayashi, Wataru (National Inst. of Advanced Industrial Science and Tech), Endo, Kazuhiko (Inst. of Advanced Industrial Science and Tech), Samukawa, Seiji (Tohoku Univ)

WePM17 Room 7
Nano-Energy 5 (Oral Session)

Chair: Amezawa, Koji Tohoku Univ
Co-Chair: Honma, Itaru Tohoku Univ

15:15-15:30 WePM17.1

Thermoelectric Properties of Inorganic/Organic Hybrid Thin-Film with Various ZnO Nanostructures Embedded in PMMA, pp. 819-822.

Wang, Cheng-How (Feng Chia Univ), Lo, Shih-Shou (Feng-Chia Univ)

15:30-15:45 WePM17.2

Direct Formation of Thermochromic Composite Films of VO₂ Nanoparticles in SiO₂ Hosts, pp. 823-825.

Ji, Yuxia (Uppsala Univ)

15:45-16:00 WePM17.3

Performance Analysis of Molecular Communication Model, pp. 826-829.

Al-Krizi, Athraa (Univ. of Liverpool), Kowalski, Dariusz R. (Univ. of Liverpool), Lisitsa, Alexei (Univ. of Liverpool)

16:00-16:15 WePM17.4

Evaluation of Li Chemical Potential of Mechanically Stressed LiCoO₂, pp. 830-831.

Kimura, Yuta (Tohoku Univ), Mahunnop, Fakkao (Graduate School of Engineering, Tohoku Univ), Keita, Funayama (Graduate School of Engineering, Tohoku Univ), Nakamura, Takashi (Tohoku Univ), Naoaki, Kuwata (IMRAM, Tohoku Univ), Tatsuya, Kawada (Tohoku Univ), Junichi, Kawamura (IMRAM, Tohoku Univ), Amezawa, Koji (Tohoku Univ)

16:15-16:30 WePM17.5

Carrier Relaxation and Impact Ionization in Core-Shell III-V Nanowires, pp. 832-835.

Hathwar, Raghuraj (ASU), Saraniti, Marco (Arizona State Univ), Goodnick, Stephen (Arizona State Univ)

16:30-16:45 WePM17.6

All Solid State LIB for Mobile Applications, pp. 836-837.

Honma, Itaru (Tohoku Univ)

WePM18 Room 8
Nano-Electronics (organic) (Oral Session)

Chair: Chu, Henry K The Hong Kong Pol. Univ
Co-Chair: Tanaka, Tetsu Tohoku Univ

15:15-15:45 WePM18.1

Recent Progress of Fully-Printed and Ultra-Flexible Integrated Circuits (Invited), pp. 838-841.

Fukuda, Kenjiro (RIKEN)

15:45-16:00 WePM18.2

A Nanogap Electrode Platform for Organic Monolayer-Film Devices, pp. 842-844.

Pfaehler, Simon (TU München), Keim, Kevin (TU München), Csiki, Réka (TU München), Nguyen, Quoc Hung (TU München), Liao, Kung-Ching (Princeton Univ), Stutzmann, Martin (TU München), Schwartz, Jeffrey (Princeton Univ), Cattani-Scholz, Anna (TU München), Tornow, Marc (TU München)

16:00-16:15 WePM18.3

THz Analog to Digital Converter Using Single Sided Spoof Surface Plasmon Polariton Waveguide, pp. 845-848.

Aghadjani, Mahdi (Univ. of Michigan), Mazumder, Pinaki (Univ. of Michigan)

16:15-16:30 WePM18.4

Adhesion Property of Carbon Nanotube Micelles for High-Quality Printed Transistors, pp. 849-852.

Numata, Hideaki (Tech. Res. Association for Single Wall CarbonNanotubes), Asano, Satoshi (Tech. Res. Association for Single Wall CarbonNanotubes), Sasaki, Fusako (Tech. Res. Association for Single Wall CarbonNanotubes), Saito, Takeshi (National Inst. of Advanced Industrial Science and Tech), Nihey, Fumiyuki (Tech. Res. Association for Single Wall Carbon Nanotubes), Kataura, Hiromichi (National Inst. of Advanced Industrial Science and Tech)

16:30-16:45 WePM18.5

Dielectrophoresis-Induced Cell Patterning Using a New PLA Scaffold Made by 3D Printing, pp. 853-856.

Huan, Zhijie (CityU), Chu, Henry K (The Hong Kong Pol. Univ), Yang, Jie (Univ. of Science and Tech. of China), Sun, Dong (City Univ. of Hong Kong)

Technical Program for Thursday August 25, 2016

ThAM11	Room 1
Nano-Materials 6 (Oral Session)	
Chair: Chua, Daniel	National Univ. of Singapore
Co-Chair: Tanemura, Masaki	Nagoya Inst. of Tech
10:45-11:00	ThAM11.1
<i>Power Spectrum Analysis of Lateral Friction of MoS₂: A Theoretical and Experimental Study</i> , pp. 857-860.	
Li, Meng (Shenyang Inst. of Automation Chinese Acad. of Sciences)	
11:00-11:15	ThAM11.2
<i>Novel Continuously-Tunable Memristor Based on Few-Layers Black Phosphorus/MoS₂ Heterojunction</i> , pp. 861-864.	
Xu, Jian-Bin (The Chinese Univ. of Hong Kong), Li, Hao (The Chinese Univ. of Hong Kong), Ye, Lei (The Chinese Univ. of Hongkong)	
11:15-11:30	ThAM11.3
<i>Effect of the HfO₂ Passivation on HfS₂ Transistors</i> , pp. 865-867.	
Kanazawa, Toru (Tokyo Inst. of Tech), Amemiya, Tomohiro (Tokyo Inst. of Tech), Upadhyaya, Vikrant (Tokyo Inst. of Tech), Ishikawa, Atsushi (Okayama Univ), Tsuruta, Kenji (Okayama Univ), Tanaka, Takuo (RIKEN), Miyamoto, Yasuyuki (Tokyo Inst. of Tech)	
11:30-11:45	ThAM11.4
<i>Growth of Atomic-Scale Aluminum Film on GaAs Substrate</i> , pp. 868-870.	
Lo, Ming Cheng (National Chiao Tung University), Fan, Yen-Ting (National Chiao Tung Univ), Wu, Chu Chun (National Chiao Tung Univ), Chen, Peng-Yu (National Chiao Tung Univ), Lin, Sheng-Di (National Chiao Tung Univ)	
ThAM13	Room 3
Special Session: Challenges of NEMS/MEMS 1 (Oral Session)	
Chair: Wang, Max Zenghui	Univ. of Electronic Science and Tech. of China
Co-Chair: Toda, Masaya	Tohoku Univ
10:45-11:15	ThAM13.1
<i>NEMS Switches for Ultra-Low-Power Digital Logic: Challenges and Opportunities (Invited)</i> , pp. 871-874.	
Munoz-Gamarra, Jose L. (CEA-LETI), Hutin, Louis (CEA-Leti)	
11:15-11:45	ThAM13.2
<i>Nanoelectromechanical Systems Based on Low Dimensional Nanomaterials: Beyond Carbon Nanotube and Graphene Nanomechanical Resonators - a Brief Review (Invited)</i> , pp. 875-878.	
Wang, Max Zenghui (Univ. of Electronic Science and Tech. of China)	
ThAM14	Room 4
Multiscale Modelling 1 (Oral Session)	
Chair: Kubo, Momoji	Tohoku Univ
10:45-11:15	ThAM14.1
<i>Molecular Simulation Approach to Better Understand Action Mode of Boundary Additives at the Nano Scale (Invited)</i> , pp. 879-880.	
Loehle, Sophie (Total M&s)	
11:15-11:30	ThAM14.2
<i>Influences of Surface Effect and Nonlocal Effect on</i>	

Nanobridges Bent by a Force at an Arbitrary Axial Position, pp. 881-883.

He, Jin (Nanjing Tech. Univ)

11:30-11:45 ThAM14.3

A Theoretical Study on Sintering of Ni Nanoparticles in the Anode of Solid Oxide Fuel Cell under Water Vapor Environment, pp. 884-887.

Xu, Jingxiang (Inst. for Materials Res. Tohoku Univ), Bai, Shandan (New Industry Creation Hatchery Center, Tohoku Univ), Higuchi, Yuji (Inst. for Materials Res. Tohoku Univ), Ozawa, Nobuki (Inst. for Materials Res. Tohoku Univ), Kubo, Momoji (Tohoku Univ)

ThAM15 Room 5
Nano-Electronics (inorganic) 2 (Oral Session)

Chair: Takahashi, Yasuo Hokkaido Univ

Co-Chair: Shinada, Takahiro Tohoku Univ

10:45-11:15 ThAM15.1

Deterministic Doping to Silicon and Diamond Materials for Quantum Processing (Invited), pp. 888-890.

Shinada, Takahiro (Tohoku Univ)

11:15-11:30 ThAM15.2

Miniband Formulation of Bilayer Type II Ge/Si Quantum Dot Superlattices, pp. 891-894.

Tsai, Yi-Chia (National Chiao Tung Univ), Lee, Ming-Yi (National Chiao Tung Univ), Li, Yiming (National Chiao Tung Univ), Samukawa, Seiji (Tohoku Univ)

11:30-11:45 ThAM15.3

Atomistic Approach for Modeling Metal-Semiconductor Interfaces, pp. 895-898.

Blom, Anders (QuantumWise), Stokbro, Kurt (QuantumWise), Martinez Pozzoni, Umberto (QuantumWise), Stradi, Daniele (QuantumWise), Brandbyge, Mads (DTU Nanotech)

ThPM11 Room 1
Nano-Materials 7 (Oral Session)

Chair: Tanemura, Masaki Nagoya Inst. of Tech

Co-Chair: Chua, Daniel National Univ. of Singapore

15:15-15:45 ThPM11.1

Multifunctional Metal Oxides and 2D Materials Utilizing Carbon Nanotubes As a Base Template for Clean Energy and Other Applications (Invited), pp. 899-900.

Chua, Daniel (National Univ. of Singapore)

15:45-16:00 ThPM11.2

Synthesis of Broad Photoluminescence Carbon Nanodots by Femtosecond Laser Ablation in Liquid, pp. 901-903.

Nguyen, Vanthan (Xian Jiaotong Univ), Yan, Lihe (Key Lab. for Physical Electronics and Devices of the Minis), Si, Jinhai (Key Lab. for Physical Electronics and Devices of the Minis)

16:00-16:15 ThPM11.3

Electrodeposition and Characterization of Nickel-Carbon Nanotube Composite Thin Films with High Carbon Nanotube Content, pp. 904-906.

An, Zhonglie (Tohoku Univ), Toda, Masaya (Tohoku Univ), Ono, Takahito (Tohoku Univ), Akhtar, Muhammad Shahrukh (Tohoku Univ)

16:15-16:30 ThPM11.4

PVDF Composite Films Including Graphene/ZnO Nanostructures and Its Antimicrobial Activity, pp. 907-910.

Bregnocchi, Agnese (Sapienza Univ. of Rome), Chandraiahgari, Chandrakanth Reddy (Sapienza Univ. of Rome), Zanni, Elena (Sapienza Univ. of Rome), De Bellis,

Giovanni (Sapienza Univ. of Rome, DIAEE, CNIS), Uccelletti, Daniela (Sapienza Univ. of Rome), Sarto, Maria Sabrina (Sapienza Univ. of Rome)

16:30-16:45 ThPM11.5

Piezoelectricity of Portland Cement Hydrates Cured under the Influence of Electric Field, pp. 911-914.

Lim Yaphary, Yohannes (City Univ. of Hong Kong), Hu, Shuhuan (City Univ. of Hong Kong), Lau, Denvid (City Univ. of Hong Kong), Lam, Raymond H. W. (City Univ. of Hong Kong)

ThPM12 Room 2

Special Session: COI TOHOKU Symposium on Unobtrusive Sensing and Daily Health Screening (Organized by Center of Innovation, Tohoku University) (Oral Session)

Chair: Nishizawa, Matsuhiko Tohoku Univ

Co-Chair: Shiku, Hitoshi Tohoku Univ

15:15-15:45 ThPM12.1

Disposable Wireless Bio-Sensor for Daily Health Examination System (Invited), pp. 915-916.

Tsukamoto, Takashiro (Tohoku Univ), Yanjun, Zhu (Tohoku Univ), Tanaka, Shuji (Tohoku Univ)

15:45-16:15 ThPM12.2

Stretchable Patches and Devices Toward Electronics on the Skin (Invited), pp. 917-920.

Kai, Hiroyuki (Tohoku Univ), Nagamine, Kuniaki (Tohoku Univ), Nishizawa, Matsuhiko (Tohoku Univ)

16:15-16:30 ThPM12.3

Flexible Organic Batteries for Health Care Devices, pp. 921-922.

Honma, Itaru (Tohoku Univ)

16:30-16:45 ThPM12.4

Eyeglasses-Type Retinal Imaging System Using MEMS Scanner, pp. 923-924.

Sasaki, Takashi (Tohoku Univ), Nakazawa, Toru (Tohoku Univ), Hane, Kazuhiro (Tohoku Univ)

16:45-17:00 ThPM12.5

Resonant Acoustic Microsensor for Photoacoustic Detection, pp. 925-927.

Latif, Imran (Tohoku Univ), An, Zhonglie (Tohoku Univ), Ono, Takahito (Tohoku Univ)

ThPM13 Room 3

Special Session: Challenges of NEMS/MEMS 2 (Oral Session)

Chair: Toda, Masaya Tohoku Univ

15:15-15:45 ThPM13.1

Harvesting the Hidden Energy for Self-Powered Systems (Invited), pp. 928-930.

Hu, Youfan (Peking Univ)

15:45-16:15 ThPM13.2

Evaluation of Insect Locomotion Using MEMS Piezoresistive Force Sensors (Invited), pp. 931-932.

Takahashi, Hidetoshi (The Univ. of Tokyo)

16:15-16:45 ThPM13.3

Micro/nanoscale Needle Technology for Brain (Invited), pp. 933-936.

Kawano, Takeshi (Toyohashi Univ. of Tech)

ThPM14 Room 4

Multiscale Modelling 2 (Oral Session)

Chair: Kubo, Momoji Tohoku Univ

15:15-15:30 ThPM14.1

Transition Metal Complex Reaction Etching with Neutral Beam and Its Mechanism Investigated by First-Principles Calculation, pp. 937-940.

Kubota, Tomohiro (Tohoku Univ), Kikuchi, Yoshiyuki (Tokyo Electron Limited), Samukawa, Seiji (Tohoku Univ)

15:30-15:45 ThPM14.2

Computational Study on Low Friction Mechanism of Diamond-Like Carbon Induced by Oxidation Reaction, pp. 941-943.

Bai, Shandan (New Industry Creation Hatchery Center, Tohoku Univ), Xu, Jingxiang (Inst. for Materials Res. Tohoku Univ), Higuchi, Yuji (Inst. for Materials Res. Tohoku Univ), Ozawa, Nobuki (Inst. for Materials Res. Tohoku Univ), Adachi, Koshi (Department of Nanomechanics, Graduate School of Engineering, Toh), Mori, Shigeyuki (New Industry Creation Hatchery Center, Tohoku Univ), Kurihara, Kazue (Inst. of Multidisciplinary Res. for Advanced Materials &), Kubo, Momoji (Tohoku Univ)

15:45-16:00 ThPM14.3

Effects of Work-Function Variation on Analog Figures-Of-Merits of Inversion Mode and Junctionless Nanowire Transistors, pp. 944-946.

Kim, Jiwon (Postech), Oh, Hyeongwan (Postech), Kim, Jungsik (POSTECH), Lee, Jeong-Soo (POSTECH)

16:00-16:15 ThPM14.4

Analysis of Dielectric Microbead Detection by Impedance Spectroscopy with Nanoribbons, pp. 947-950.

Scarbolo, Paolo (Univ. of Udine), Accastelli, Enrico (TissUse GmbH), Ernst, Thomas (Commissariat à l'énergie Atomique Et Aux énergies Alternatives), Guiducci, Carlotta (École Pol. Fédérale De Lausanne (EPFL)), Selmi, Luca (Univ. of Udine)

16:15-16:30 ThPM14.5

Statistical Device Simulation of Electrical Characteristic Fluctuation of 10-Nm Gate-All-Around Silicon Nanowire MOSFETs Induced by Discrete Random Dopants, pp. 951-954.

Sung, Wen-Li (National Chiao Tung Univ), Chang, Han-Tung (National Chiao Tung Univ), Chen, Chieh-Yang (National Chiao Tung Univ), Chao, Pei-Jung (National Chiao Tung Univ), Li, Yiming (National Chiao Tung Univ)

ThPM15 Room 5

Nano-Electronics (inorganic) 3 (Oral Session)

Chair: Inomata, Naoki Tohoku Univ

15:15-15:30 ThPM15.1

Study of Freestanding Carbon Nanotube Array Field Emission Uniformity with Field Emission Microscopy, pp. 955-958.

Sun, Yonghai (Univ. of Waterloo), Li, Yunhan (Univ. of Waterloo), Yeow, John T.W. (Univ. of Waterloo)

15:30-15:45 ThPM15.2

A Theoretical and Numerical Study on Percolation Mechanism of Carbon Nanotube Network, pp. 959-962.

Wen, Lei (Peking Univ. Shenzhen Graduate School), Zhang, Min (Peking Univ)

15:45-16:00 ThPM15.3

Atomic-Scale Simulation of Semimetal-To-Semiconductor Transition in Bismuth Nanowires for Future Generation of Nanoelectronic Devices, pp. 963-965.

Ansari, Lida (Univ. Coll. Cork), Gity, Farzan (Tyndall National Inst), Greer, Jim (Tyndall National Inst)

16:00-16:15 ThPM15.4

Thermal-Electronic Device and Integrated Circuit, pp. 966-969.

János, Mizsei (Budapest Univ. of Tech. and Ec. Dep. of Electro), Lappalainen, Jyrki (Univ. of Oulu), Ur, Soma (Budapest Univ. of Tech. and Ec), Németh, Márk (Budapest Univ. of Tech. and Ec), Gaál, Lajos (Budapest Univ. of Tech. and Ec)

16:15-16:30 ThPM15.5

Investigation of Mechanical Damage of SOFC Caused by Electrochemical Oxidation Using In-Situ Acoustic Emission and Electrochemical Technique, pp. 970-973.

Sato, Kazuhisa (Tohoku Univ. Graduate School of Engineering), Kumada, Keigo (Tohoku Univ. Graduate School of Engineering)

16:30-16:45 ThPM15.6

In Situ Evaluation of Mechanical and Electrochemical Degradation in Silicon Negative Electrode Materials for Lithium-Ion Secondary Batteries, pp. 974-977.

Sato, Kazuhisa (Tohoku Univ. Graduate School of Engineering), Yoshida, Naoki (Tohoku Univ. Graduate School of Engineering)

ThPM16 Room 6
Nano-Metrology (Oral Session)

Chair: Ortolani, Luca CNR - National Res. Council of Italy

Co-Chair: Shimizu, Yuki Tohoku Univ. Japan

15:15-15:45 ThPM16.1

Micro Thermal Sensor for Nanometric Surface Defect Inspection (Invited), pp. 978-979.

Shimizu, Yuki (Tohoku Univ. Japan), Matsuno, Yuki (Tohoku Univ. Japan), Ohba, Yuta (Tohoku Univ. Japan), Gao, Wei (Tohoku Univ. Japan)

15:45-16:00 ThPM16.2

Assembled Comb-Drive XYZ-Microstage with DPPH Sample for the 3D Scanning of Magnetic Resonance Force Microscope, pp. 980-981.

Xue, Gaopeng (Div. of Mechanical Engineering, Tohoku Univ), Toda, Masaya (Tohoku Univ), Ono, Takahito (Tohoku Univ)

16:00-16:15 ThPM16.3

Analysis of a Lloyd's Mirror Interferometer for Fabrication of Gratings, pp. 982-983.

Ren, Zongwei (Tohoku Univ), Aihara, Ryo (Tohoku Univ. Japan), Shimizu, Yuki (Tohoku Univ. Japan), Ito, So (Tohoku Univ. Japan), Chen, Yuan-Liu (Tohoku Univ), Gao, Wei (Tohoku Univ. Japan)

16:15-16:30 ThPM16.4

Nanometrology of an Ultraprecision Machined Surface by Using Optical Sensors, pp. 984-985.

Niu, Zengyuan (Tohoku Univ), Kobayashi, Ryo (Tohoku Univ), Chen, Yuan-Liu (Tohoku Univ), Shimizu, Yuki (Tohoku Univ. Japan), Ito, So (Tohoku Univ. Japan), Gao, Wei (Tohoku Univ. Japan)

ThPM17 Room 7
Nano-Magnetics, Spintronics (Oral Session)

Chair: Katayama, Yasunao IBM Res. - Tokyo

15:15-15:45 ThPM17.1

Spin Transport in Two-Dimensional Materials and Van Der Waals Heterostructures (Invited), pp. 986-986.

Dash, Saroj (Chalmers Univ. of Tech)

15:45-16:00 ThPM17.2

Quantum Biomimetic Modeling of Magnetic Field Sensing

Using Diamond NV Centers, pp. 987-989.

Poonia, Vishvendra (Indian Inst. of Tech. Bombay), Saha, Dipankar (Indian Inst. of Tech. Bombay), Ganguly, Swaroop (Indian Inst. of Tech. Bombay)

16:00-16:15 ThPM17.3

Impact of Spintronics Transducers on the Performance of Spin Wave Logic Circuit, pp. 990-993.

Dutta, Sourav (Georgia Institute of Tech. Georgia Tech), Iraei, Rouhollah Mousavi (Georgia Institute of Tech. Georgia Tech), Pan, Chenyun (Georgia Institute of Tech. Georgia Tech), Nikonov, Dmitri (Intel), Manipatruni, Sasikanth (Components Res. Intel Corp. Hillsboro), Young, Ian A. (Intel Corp), Naeemi, Azad (Georgia Inst. of Tech)

16:15-16:30 ThPM17.4

Structural, Dielectric and Magnetic Properties of Sol-Gel Synthesized Bi1-Xlaxfeo3 Nanoparticles (x=0.3), pp. 994-997.

Riaz, Saira (Univ. of the Punjab), Naseem, Shahzad (Univ. of the Punjab), Majid, Farzana (Centre of Excellence in Solid State Physics)