

**Monday, October 28**

Room A (Cosmos 1, B2F)

13:00-17:00 MNC 2019 Technical Seminar in Japanese

Room B (Cosmos 2, B2F)

17:20-19:20 Get Together Party

**Tuesday, October 29**

Room P1 (Himawari, B2F)

Chairs: K. Nishiguchi (NTT) and K. Asakawa (Toshiba Memory)

**29P-1-0** (9:30-10:00)Opening Remarks: Y. Ono (Shizuoka Univ.), Award Presentation: K. Nishiguchi (NTT) and Y. Ono (Shizuoka Univ.)  
Local Announcement from Committee: T. Tsuchiya (Kyoto Univ.)

29P-1: Plenary Session

**29P-1-1** (9:50-10:30)

Future Fab and the Skills of Tomorrow (Plenary)

R. Hasan, Micron Memory, Japan

**Coffee Break**

Chairs: D. Kondo (Fujitsu Labs.) and K. Furukawa (Meisei Univ.)

**29P-1-2** (10:50-11:30)Computing Reimagined - AI/quantum/IoT (Plenary)  
S. Yamamichi, IBM, Japan**29P-1-3** (11:30-12:10)Building the Next Ubiquitous Computing Device with Room Temperature Quantum Materials (Plenary)  
S. Manipatruni, Kepler Computing, USA

Room P1 (Himawari, B2F)

**Lunchone Seminer (Free) by Technical Exhibitors**

12:20-13:20

Room A (Cosmos 1, B2F)	Room B (Cosmos 2, B2F)	Room C (Ran 1, B2F)	Room D (Ran 2, B2F)	Room P1 (Himawari, B2F)
<b>29A-2: Symp. A: Nano-Materials, Processes, and Devices for Next-Generation Edge AI I</b>	<b>29B-2: Inorganic Nanomaterials - Nanointerface</b>	<b>29C-2: Symp. D: Innovative Technologies for Direct Observation of Cellular Vital Phenomena I</b>	<b>29D-2: Organic Nanomaterials I</b>	<b>29P-2: Symp. B: Atomic Layer Processing (ALP) Symposium I</b>
Chairs: S. Kasai (Hokkaido Univ.) H. Tanaka (Kyushu Inst. of Technol.)	Chairs: K. Hatakeyama (AIST) M. Minohara (AIST)	Chairs: A. Miura (Hokkaido Univ.) S. Kumagai (Meijo Univ.)	Chairs: R. Hayakawa (NIMS) S. Nagano (Nagoya Univ.)	Chairs: H. Arimoto (AIST) J. Kim (Univ. of Texas)
<b>29A-2-1</b> 13:30 Make AI: Hardware-Driven Open Innovation Platform for Edge-AI (Invited) T. Asai and H. Momose, Hokkaido Univ., Japan	<b>29B-2-1</b> 13:40 Hot Carrier Optoelectronics Based on van der Waals Semiconductors (Invited) G. Eda, Natl. Univ. of Singapore, Singapore	<b>29C-2-1</b> 13:40 Microsystems for Single Molecule Analysis of Membrane Proteins (Invited) R. Watanabe, RIKEN, Japan	<b>29D-2-1</b> 13:30 P <sub>3</sub> HT/ LIPID Monolayer Interface for Low Power OFET Sensors (Invited) V. Kilinc, C.H. de Villeneuve, T.P. Nguy, M. Petit, G. Monnier, Y. Wakayama, J.-M. Raimundo, <u>A.M. Charrier</u> 1, 1 Aix Marseille Univ, 2 PMC, France, 3 NIMS, Japan, 4 Institut Pascal, France	<b>29P-2-1</b> 13:50 ZnO Composite Nanolayer with Mobility Edge Quantization for Multi-Value Logic Transistors (Invited) L. Lee 1, J. Hwang 2, J. Kim 1, H.-I. Lee 3, S. Heo 3, M. Yoon 4, S. Choi 5, N. van Long 1, J.W. Jeong 6, J. Kim 2, K.R. Kim 6, D.H. Kim 5, S. Im 4, B.H. Lee 3, K. Cho 2 and <u>M.M. Sung</u> 1, 1 Hanyang Univ., Korea, 2 Univ. of Texas at Dallas, USA, 3 Gwangju Inst. of Sci. and Technol., 4 Yonsei Univ., 5 Kookmin Univ., 6 Ulsan Natl. Inst. of Sci. and Technol., Korea
<b>29A-2-2</b> 14:00 Charge Carrier Generation and Dynamics: towards Applications in Various Chemical Sensing and in-Materio Computation Scenarios (Invited) M. Lis, D. Przychyna, P. Zawal, E. Wlazlak, K. Pilarczyk, T. Mazur and <u>K. Szacitowski</u> , AGH Univ. of Sci. and Technol., Poland	<b>29B-2-2</b> 14:10 Two-Dimensional van-der-Waals/Electrostatic Heterostructures: Intriguing Electrical and Optical Features from Their Chemical Coupling L. Nurdwijayanto 1, T. Taniguchi 1, S. Li 1, Y. Miyata 2, K. Tsukagoshi 1, Y. Ebina 1, M. Osada 1,3 and T. Sasaki 1, 1 NIMS, 2 Tokyo Metropolitan Univ. and 3 Nagoya Univ., Japan	<b>29C-2-2</b> 14:15 Droplet Microfluidics for Liquid Biopsy in Clinical Diagnostics (Invited) A. Tagawa, Sysmex, Japan	<b>29D-2-2</b> 14:00 Laser-Based Fabrication of Organic Crystals (Invited) C.-S. Wu 1,2, H.Y. Yoshikawa 2 and <u>T. Sugiyama</u> 1,3, 1 Natl. Chiao-Tung Univ., Taiwan, 2 Saitama Univ. and 3 NAIST, Japan	<b>29P-2-2</b> 14:20 Achieving High Throughput ALD Combining Chemistry and Equipment Approaches (Invited) C. Dussarrat, Air Liquide, Japan
<b>29A-2-3</b> 14:30 Quantum Computation Using Nonlinear Parametric Oscillators (Invited) H. Goto, Toshiba, Japan	<b>29B-2-3</b> 14:30 Support Effect in Metal-Oxide Semiconductor Junction J. Kano 1, N. Oshime 1, S. Hirose 2, T. Ueda 1, S. Yasui 3, Y. Hamasaki 3, M. Itoh 3, H. Mikami 2, N. Ikeda 1, T. Fujii 1, K. Kashihara 1 and J. Schneider 4, 1 Okayama Univ., 2 Honda R&D, 3 Tokyo Inst. of Technol., Japan and 4 Inst. Natl. Polytechnique de Toulouse, France	<b>29C-2-3</b> 14:50 Cellular Responses to Femtosecond Laser Induced Impulse R. Yasukuni, S. Yamada, K. Okano, Y. Hosokawa, NAIST, Japan	<b>29D-2-3</b> 14:30 One-Dimensional Growth of 2,7-Diocytl[1]Benzo[thieno][3,2-b]Benzo[thiophene (C8-BTBT) Nanowires Realized by on-Terrace Graphoepitaxy N. Hiroshiba 1,2, R. Hayakawa 1 and Y. Wakayama 1, 1 NIMS and 2 Tohoku Univ., Japan	<b>29P-2-3</b> 14:50 Atomic Layer Deposition of GaN Thin Films Using Pentamethylcyclopentadienylgallium F. Mizutani, S. Higashi and N. Takahashi, Kojundo Chemical Lab., Japan

	<b>29B-2-4</b> 14:50 Crystal Growth, Exponential Optical Absorption Edge, and Ground State Energy Level of PbS Quantum Dots on the Different Surfaces of Single Crystal Rutile-TiO <sub>2</sub> . T. Toyoda 1, Q. Shen 1, K. Kamiyama 2 and S. Hayase 3, 1 Univ. of Electro-Communications, 2 Bunkoukeiki and 3 Kyushu Inst. of Technol., Japan		<b>29D-2-4</b> 14:50 A Comparative Study Related to Nature of Interface between Metal and Conjugated Polymer: Role of Molecular Ordering  N. Yadav 1, N. Kumari 2, S.S. Pandey 2 and V. Singh 1, 1 Indian Inst. of Technol. Indore, India and 2 Kyushu Inst. of Technol., Japan	<b>29P-2-4</b> 15:10 Fe <sub>3</sub> O <sub>4</sub> /ZnO Core Shell Nanoparticles Fabricated by Atomic Layer Deposition and Its Application for Drug Delivery Agent  S. Seong, T. Lee, <u>S.Y. Kim</u> , I.-S. Park and J. Ahn, Hanyang Univ., Korea
Author's Interview: None	Author's Interview: 16:55-17:05	Author's Interview: 16:55-17:05	Author's Interview: 17:05-17:15	Author's Interview: 17:25-17:35
<b>Room P2 (Dahlia, B2F)</b>				
<b>Coffee Break</b>				
Room A (Cosmos 1, B2F)	Room B (Cosmos 2, B2F)	Room C (Ran 1, B2F)	Room D (Ran 2, B2F)	Room P1 (Himawari, B2F)
<b>29A-3: Symp. A: Nano-Materials, Processes, and Devices for Next-Generation Edge AI II</b>	<b>29B-3: Inorganic Nanomaterials - Interface Engineering</b>	<b>29C-3: Symp. D: Innovative Technologies for Direct Observation of Cellular Vital Phenomena II</b>	<b>29D-3: Organic Nanomaterials II</b>	<b>29P-3: Symp. B: Atomic Layer Processing (ALP) Symposium II</b>
Chairs: S. Kasai (Hokkaido Univ.) H. Tanaka (Kyushu Inst. of Technol.)	Chairs: T. Tsuchiya (NIMS) J. Kano (Okayama Univ.)	Chairs: A. Miura (Hokkaido Univ.) S. Kumagai (Meijo Univ.)	Chairs: R. Hayakawa (NIMS) S. Nagano (Nagoya Univ.)	Chairs: J. Ahn (Hanyang Univ.)
<b>29A-3-1</b> 15:15 Analog Memory-Based Techniques for Accelerating Deep Neural Networks (Invited) H. Tsai, S. Ambrogio, C. Mackin, P. Narayanan, A. Chen and G.W. Burr, IBM Almaden Res. AI, USA	<b>29B-3-1</b> 15:25 DFT Study on Carrier Transport Property at Interface (Invited) T. Ono, Kobe Univ., Japan	<b>29C-3-1</b> 15:25 Application of Cup-Shaped Metal Hemispheres for Single Cell Measurements (Invited) H. Kim 1,2, 1 AIST and 2 Tokyo Univ. of Agriculture and Technol., Japan	<b>29D-3-1</b> 15:25 Electrochemical Synthesis and Electrocatalytic Application of Pt/PEDOT Composite Film Y.-F. Du 1, C.-J. Yang 2, L.-L. Li 1, 1 Natl. United Univ. and 2 Natl. Chung Hsing Univ., Taiwan	<b>29P-3-1</b> 15:45 Electron-Enhanced Atomic Layer Deposition (EE-ALD) (Invited) A. Cavanagh, J.K. Sprenger, Z.C. Sobell and S.M. George, Univ. of Colorado, USA
<b>29A-3-2</b> 15:45 Control of Analog Change in Resistance and Its Characteristics Using Atomic Switches (Invited)  T. Hasegawa 1, A. Suzuki 1 and T. Tsuruoka 2, 1 Waseda Univ. and 2 NIMS, Japan	<b>29B-3-2</b> 15:55 High-Quality Single-Mode Laser from Zero-Dimensional Inorganic Perovskite Hexagonal Microdisks  Z. Liu 1, J. Yang 2, J. Du 1, X. Tang 2 and Y. Leng 1, 1 Chinese Academy of Sci. and 2 Chongqing Univ., China	<b>29C-3-2</b> 16:00 Polymeric Engineering of Nanoparticles for Efficient Multifunctional Drug Delivery Systems (Invited)  B. Fortuni 1, T. Inose 2, M. Ricci 1, I.V. Zundert 1, A. Masuhara 3, S. Rocha 1 and H. Uji-i 1,2, 1 KU Leuven, Belgium, 2 Hokkaido Univ. and 3 Yamagata Univ., Japan	<b>29D-3-2</b> 15:45 Bottom-up Preparation of Relaxor Ferroelectric Polymer Nanofilms  C. Fu, H. Zhu, T. Miyashita and M. Mitsuishi, Tohoku Univ., Japan	<b>29P-3-2</b> 16:15 New Physico-Chemical Approaches in Area-Selective Atomic Layer Deposition and Etching (Invited)  A. Mameli 1, P. Poodt 1 and E. Roozeboom 1,2, 1 TNO-Holst Centre and 2 Eindhoven Univ. of Technol., The Netherlands
<b>29A-3-3</b> 16:15 Neuromorphic Pulse Generation Devices Using Nanomaterials (Invited)  H. Tanaka, Kyushu Inst. of Technol., Japan	<b>29B-3-3</b> 16:15 Investigation of Measurement Environmental Sensitivity in Amorphous Indium Oxide-based Thin-Film Transistors  K. Nakamura, K. Sasaki, Y. Shibata, K. Oe and S. Aikawa, Kogakuin Univ., Japan	<b>29C-3-3</b> 16:35 Morphological Dynamics and Mechanics of Drug-Stimulated Living Cell Visualized by High Speed Scanning Ion Conductance Microscope (HS-SICM)  L. Sun, S. Kitazawa and S. Watanabe, Kanazawa Univ., Japan	<b>29D-3-3</b> 16:05 Highly luminescent Perovskite Nanocrystals by Ultrasound-Assisted Bead Milling and Application for Quantum Dots Light-Emitting Diodes  K. Umemoto 1, Y. Tezuka 1, D. Sasaki 1, M. Takeda 1, H. Ebe 1, Y. Takahashi 1, B. Lyu 1, S. Rodbuntum 1, J. Enomoto 1, T. Nohara 1, T. Chiba 1, S. Asakura 1,2,3 and A. Masuhara 1, 1 Yamagata Univ., 2 Chiba Univ. and 3 Ise Chem., Japan	<b>29P-3-3</b> 16:45 XPS Study of Hexafluoroacetylacetone (hfacH) Adsorbed on Cobalt surfaces for Atomic Layer Etching (ALE)  T. Ito, K. Karahashi and S. Hamaguchi, Osaka Univ., Japan
	<b>29B-3-4</b> 16:35 Photoelectron Spectroscopic Study on Electronic State of Corundum In <sub>2</sub> O <sub>3</sub> Epitaxial Thin Film Grown by Mist-CVD T. Nagata 1, T. Yamaguchi 2, S. Ueda 1, W. Yi 1, J. Chen 1, T. Kobayashi 2, H. Yokoo 2, Y. Yamahita 1 and T. Chikyow 1, 1 NIMS and 2 Kogakuin Univ., Japan		<b>29D-3-4</b> 16:25 Solution-Processed Organic-Inorganic Perovskite Nonvolatile Memory Devices  B.-Y. Gong 1,2, K.-Y. Chen 1,2, C.-C. Yang 2 and Y.-K. Su 1,2, 1 Natl. Cheng Kung Univ. and 2 Kun Shan Univ., Taiwan	
			<b>29D-3-5</b> 16:45 High Efficiency Tandem Blue PHOLEDs Using Ytterbium-Based Charge Generation Layer D.-p. Park, W.-h. Park and S.S. Kim, Sungkyunkwan Univ., Korea	
Author's Interview: None	Author's Interview: 16:55-17:05	Author's Interview: 16:55-17:05	Author's Interview: 17:05-17:15	Author's Interview: 17:25-17:35

## Wednesday, October 30

Room A (Cosmos 1, B2F)	Room B (Cosmos 2, B2F)	Room C (Ran 1, B2F)	Room D (Ran 2, B2F)
<b>30A-4: Nanoimprint, Hybrid-NIL, Biomimetics, and Functional Surfaces I</b>	<b>30B-4: Symp. C. 2D Materials I</b>	<b>30C-4: NanoTool I</b>	<b>30D-4: Microsystem Technology and MEMS I</b>
Chairs: A. Miyauchi (Tokyo Medical and Dental Univ.) J. Taniguchi (Tokyo Univ. of Sci.)	Chairs: D. Kondo (Fujitsu Labs.) K. Yanagi (Tokyo Metropolitan Univ.)	Chairs: K. Sugano (Kobe Univ.) N. Kobayashi (Saitama Univ.)	Chairs: S. Nagasawa (Shibaura Inst. of Technol.) H. Hiraga (Toshiba)
<b>30A-4-1</b> 9:00 Going 3D: Nanoimprinting and Complex Geometries (Invited)  M. Mühlberger, M. Haslinger, A. Moharana, S. Kopp, T. Mitteramskogler, E. Guillen and D. Fechtig, PROFACTOR, Austria	<b>30B-4-1</b> 9:00 Synthesis and Applications of 2D Layered Semiconductors and Heterostructures beyond MoS <sub>2</sub> (Invited) W.-H. Chang, Natl. Chiao Tung Univ., Taiwan	<b>30C-4-1</b> 9:00 Structural and Functional Visualization of Biomolecules by Frequency-Modulation Atomic Force Microscopy (Invited) H. Kominami 1, K. Kobayashi 1, Y. Hirata 2 and H. Yamada 1, 1 Kyoto Univ. and 2 NAIST, Japan	<b>30D-4-1</b> 9:00 TBC (Invited)  E. Iwase, Waseda, Univ., Japan
<b>30A-4-2</b> 9:30 Micro Cavity Surface Integrated with a Flexible Triboelectric Nanogenerator  S.-H. Chiu, G.-R. Chen and Y.-C. Tsai, Natl. Chung Hsing Univ., Taiwan	<b>30B-4-2</b> 9:30 Quantum Transport and Robotic Assembly of van der Waals Junctions of Graphene and 2D Materials (Invited) T. Machida 1,2, S. Masubuchi 1, M. Onodera 1, Y. Seo 1, Y. Wakafuji 1, S. Park 1, K. Kinoshita 1, R. Moriya 1, K. Watanabe 3, T. Taniguchi 3, 1 Univ. of Tokyo, 2 JST-CREST and 3 NIMS, Japan	<b>30C-4-2</b> 9:30 Molecular-Scale Investigation of Surface Structures and Properties of Functionalized Silica Nanoparticles by 3D-AFM in Liquid K. Miyazawa 1, P.J. Molino 2, D. Yang 2, M. Penna 2, B.R. Knowles 2,4, S. MacLaughlin 2,4, T. Fukuma 1, I. Yarovsky 2,4 and M.J. Higgins 2, 1 Kanazawa Univ., Japan, 2 Univ. of Wloongong, 3 RMIT Univ. and 4 BlueScope Innovation Labs., Australia	<b>30D-4-2</b> 9:30 Stretchable Triboelectric Nanogenerator with a Non-Stretchable Material Using Kirigami Structure  S. Yamamura and E. Iwase, Waseda Univ., Japan
<b>30A-4-3</b> 9:50 Patterning, Mask Life and Throughput Improvements for High Volume Semiconductor Manufacturing Using Nanoimprint Lithography  T. Yoshida 1, O. Morimoto 1, T. Iwanaga 1, Y. Takabayashi 1, T. Hayashi 1, K. Sakai 1, W. Zhang 2, J. Choi 2, 1 Canon, Japan and 2 Canon Nanotechnologies, USA	<b>30B-4-3</b> 10:00 Incorporating Magnetism into 2D Materials for Innovative Functions (Invited)  A. Kimura, Hiroshima Univ., Japan	<b>30C-4-3</b> 9:50 Simultaneous Atomic-Resolution Flexural and Torsional Imaging in Liquid by Frequency Modulation Atomic Force Microscopy  M. Umemoto, R. Kawamura, H.Y. Yoshikawa, S. Nakabayashi and N. Kobayashi, Saitama Univ., Japan	<b>30D-4-3</b> 9:50 Development of Breathing Monitoring System for Artificial Ventilator in Animal Experiment  H. Yoshida 1, Y. Hasegawa 1, K. Taniguchi 1, M. Matsushima 2, T. Kawabe 2 and M. Shikida 1, 1 Hiroshima City Univ. and 2 Nagoya Univ., Japan
<b>30A-4-4</b> 10:10 Precision Bonding with The Nanostructured Plastic Plate for Microfluidics Chip K. Kurihara 1, R. Hokari 1, T. Sato 2, T. Sakura 3, S. Sugiura 1, K. Miyake 1 and T. Kanamori 1, 1 AIST, 2 Stem Cell Evaluation Technol. Res. Association and 3 Sumitomo Bakelite, Japan		<b>30C-4-4</b> 10:10 Visualization of Nanoparticles in Polymer Matrix by Scanning Thermal Noise Microscopy H. Tono 1, K. Kobayashi 1, Y. Hirata 2, K. Kimura 1, H. Yamada 1, 1 Kyoto Univ. and 2 AIST, Japan	<b>30D-4-4</b> 10:10 B-Doped Al/Ni Multilayer Film for Crack-less Reactive Bonding  D. Goto 1, Y. Kuntani 1, K. Maekawa 1, S. Kanetsuki 2, S. Miyake 3 and T. Namazu 1, 1 Aich Inst. of Technol., 2 Kobelco Res. Inst. and 3 Kobe City College of Technol., Japan
Author's Interview: 12:15-12:25	Author's Interview: 11:45-11:55	Author's Interview: 12:05-12:15	Author's Interview: 10:30-10:40
Room P2 (Dahlia, B2F)			
<b>Coffee Break</b>			
Room A (Cosmos 1, B2F)	Room B (Cosmos 2, B2F)	Room C (Ran 1, B2F)	Room D (Ran 2, B2F)
<b>30A-5: Nanoimprint, Hybrid-NIL, Biomimetics, and Functional Surfaces II</b>	<b>30B-5: Symp. C. 2D Materials II</b>	<b>30C-5: NanoTool II</b>	<b>30D-5: Nanofabrication I</b>
Chairs: Y. Hirai (Osaka Pref. Univ.) A. Miyauchi (Tokyo Medical and Dental Univ.)	Chairs: H. Omachi (Nagoya Univ.) D. Kondo (Fujitsu Labs.)	Chairs: T. Hoshino (Hiroaki Univ.) R. Kawamura (Saitama Univ.)	Chairs: Y. Darma (Inst. Technol. Bandung) S. Shingubara (Kansai Univ.)
<b>30A-5-1</b> 10:45 Stimuli-Driven Delivery and Release of Materials Using Particle-Armored Droplets (Invited)  S. Fujii, Osaka Inst. of Technol., Japan	<b>30B-5-1</b> 10:45 Ultrafast Photoluminescence from Epitaxial Bilayer Graphene on SiC  K. Saito, T. Koishi, J. Bao, W. Norimatsu, M. Kusunoki, H. Kishida and T. Koyama, Nagoya Univ., Japan	<b>30C-5-1</b> 10:45 Microresonator-Based Photodetector of Near-Infrared Light Using Electrostatic  K. Nakafuji, A. Uesugi, K. Sugano and Y. Isono, Kobe Univ., Japan	<b>30D-5-1</b> 10:55 Artificial Two-Dimensional Polar Metal by Charge Transfer to a Ferroelectric Insulator (Invited)  A. Ariando, Natl. Univ. of Singapore, Singapore

<b>30A-5-2</b> 11:15 Fabrication and Optical Characterization of a Wire-Grid Polarizer for The Visible Light Made of Metal Nanoink R. Hokari 1, K. Takakuwa 2, H. Kato 3, A. Yamamoto 4, Y. Yamaguchi 4 and K. Kurihara 1, 1 AIST, 2 Ryoko Chemical, 3 Itoh Optical Industrial and 4 Tokai Seimitsu Industrial, Japan	<b>30B-5-2</b> 11:05 Giant Power Factors in p- and n-type Large-Area Graphene Films on a Flexible Plastic Substrate K. Kanahashi 1, M. Ishihara 2, M. Hasegawa 2, H. Ohta 3 and T. Takenobu 1,4, 1 Waseda Univ., 2 AIST, 3 Hokkaido Univ. and 4 Nagoya Univ., Japan	<b>30C-5-2</b> 11:05 Quantification Method of Stress Depth-Distribution by Micro-Raman Spectroscopy for Thin Film Nanomechanical Resonator M. Saito, S. Warisawa and R. Kometani, Univ. of Tokyo, Japan	<b>30D-5-2</b> 11:25 Development of Flexible Sponge Sensor Based on Sugar Cube and Using CNT / PDMS Composite Material A. Nakagawa 1, K. Ikeda 1, S. Azhari 2, I. Sasaki 1, M.N. Hamidon 2 and H. Tanaka 1, 1 Kyushu Inst. of Technol., Japan and 2 Univ. Putra Malaysia, Malaysia	
<b>30A-5-3</b> 11:35 Transfer Durability of High Aspect Ratio Moth-Eye Structure Using Release Agent and Partial-Filling Method J. Kawaguchi and J. Taniguchi, Tokyo Univ. of Sci., Japan	<b>30B-5-3</b> 11:25 Asymmetric Carrier Accumulation in Van der Waals Heterostructure of Bilayer TMDCs by an External Electric Field M. Maruyama and S. Okada, Univ. of Tsukuba, Japan	<b>30C-5-3</b> 11:25 Effect of Gold Nanoparticle Diameter on Raman Intensity of DNA Oligomers toward Single Nucleobase Detection K. Murotani, K. Maruoka, A. Uesugi, K. Sugano and Y. Isono, Kobe Univ., Japan	<b>30D-5-3</b> 11:45 Fabrication of Si Micropore and Graphene Nanohole Structures by Focused Ion Beam for Biosensor Application N.N.N. Ibrahim and A.M. Hashim, Univ. Teknol. Malaysia, Malaysia	
<b>30A-5-4</b> 11:55 Stochastic Computational Study on Curing Characteristics in UV Nanoimprint Resin M. Koyama, J. Tsutsui, H. Sunagawa, M. Shirai, H. Kawata, Y. Hirai and M. Yasuda, Osaka Pref. Univ., Japan		<b>30C-5-4</b> 11:45 Construction of Kinesin-Driven Active Substrate with Improved Uniformity and Reproducibility toward Quantitative Analysis K. Meguriya, T. Yokoyama, N. Kobayashi, H.Y. Yoshikawa, S. Nakabayashi and R. Kawamura, Saitama Univ., Japan	<b>30D-5-4</b> 12:05 Characterization of Unzipped Graphene Nanoribbons by Using Tip-Enhanced Raman Scattering Spectroscopy S. Hara 1, T. Inose 2, S. Toyouchi 3, H. Uji-i 2,3, H. Tanaka 1, 1 Kyushu Inst. of Technol., 2 Hokkaido Univ. and 3 KU Leuven, Belgium	
Author's Interview: 12:15-12:25	Author's Interview: 11:45 11:55	Author's Interview: 12:05-12:15	Author's Interview: 12:25 12:35	
<b>Lunch</b>				
Room A (Cosmos 1, B2F)	Room B (Cosmos 2, B2F)	Room C (Ran 1, B2F)	Room D (Ran 2, B2F)	Room P2 (Dahlia, B2F)
<b>30A-6: Nanocarbons - Property</b>	<b>30B-6: Inorganic Nanomaterials - Magnetics and Electronics</b>	<b>30C-6: Nanodevices - Devices Based on Low Dimensional Structure</b>	<b>30D-6: Nanofabrication II</b>	<b>30P-6: Poster Session I, Group 1 (13:40-15:40)</b>
Chairs: S. Okada (Univ. of Tsukuba) S. Chiashi (Univ. of Tokyo)	Chairs: I. Suzuki (Tohoku Univ.) L. Nurdijwijayanto (NIMS)	Chairs: A. Higo (Univ. of Tokyo) T. Tanaka (Keio Univ.)	Chairs: Ariando (Natl. Univ. of Singapore) A. Kohno (Fukuoka Univ.)	Page 5-6
<b>30A-6-1</b> 13:40 Charge Carrier Doping and Photoinduced Charge Transfer in Lead Halide Perovskite Thin Films and Devices (Invited) J.L. Blackburn, Natl. Renewable Energy Lab., USA	<b>30B-6-1</b> 13:40 In Situ Manipulation of Magnetic Anisotropy in Fe <sub>3</sub> O <sub>4</sub> Thin Film, Achieved with an Artificial Multiferroic Device Using a Solid-State Electrolyte W. Namiki 1,2, T. Tsuchiya 1, M. Takayanagi 1,2, T. Higuchi 2 and K. Terabe 1, 1 NIMS and 2 Tokyo Univ. of Sci., Japan	<b>30C-6-1</b> 13:40 Next-Generation Applications of Semiconductor Lasers (Invited) T. Kageyama, QD Laser, Japan	<b>30D-6-1</b> 14:00 Direct Formation of Highly Oriented ZnO Nanocolumnars: Improvement in Electronic Properties of Structure-Controlled ZnO Grown by DC-Unbalanced Magnetron Sputtering (Invited) Y. Darma 1, S. Muhammadiyah 1 and K. Takase 2, 1 Inst. Teknologi Bandung, Indonesia and 2 Nihon Univ., Japan	
<b>30A-6-2</b> 14:10 Higher Thermoelectric Performance in Metallic Nanotubes Than Semiconducting Nanotubes Y. Ichinose 1, A. Yoshida 1, K. Horiuchi 1, K. Fukuhara 1, N. Komatsu 2, W. Gao 2, Y. Yomogida 1, T. Yamamoto 3, J. Kono 2, and K. Yanagi 1, 1 Tokyo Metropolitan Univ., Japan, 2 Rice Univ., USA and 3 Tokyo Univ. of Sci., Japan	<b>30B-6-2</b> 14:10 Ferromagnetic-Oxide-Driven Spin Filtering on Silicon R. Ohsugi, H. Omi, Y. Krockenberger and A. Fujiwara, NTT, Japan	<b>30C-6-2</b> 14:10 Enhanced Quantum Efficiency in Mixed-Thickness ReS <sub>2</sub> /p-Si Schottky Photodiode B. Mukherjee 1, A. Zulfikri 1,2, R. Hayakawa 1, Y. Wakayama 1,2 and S. Nakaharai 1, 1 NIMS and 2 Kyushu Univ., Japan	<b>30D-6-2</b> 14:30 <i>In-situ</i> Cu Surface Cleaning Using Hydrazine for Self-Aligned Selective Area Deposition Using thiol-Based Self-Assembled S.M. Hwang 1, H.S. Kim 1, Y.C. Jung 1, L.F. Peña 1, K. Tan 1, J.-F. Veyan 1, D. Alvarez 2, J. Spiegelman 2 and J. Kim 1, 1 Univ. of Texas and 2 Rasirc, USA	
<b>30A-6-3</b> 14:30 Power Generation from The Interface Between Graphene and Flowing Liquid Water T. Okada 1, G. Kalita 2, M. Tanemura 2, I. Yamashita 3, F.S. Ohuchi 4, M. Yeyyappan 5 and S. Samukawa 1, 1 Tohoku Univ., 2 Nagoya Inst. of Technol., 3 Osaka Univ., Japan, 4 Univ. of Washington and 5 NASA Ames Res. Ctr., USA	<b>30B-6-3</b> 14:20 Temperature and Polarity Dependence of Electrical Properties of ZnO Film on Pyroelectric LiNbO <sub>3</sub> Single Crystal Y. Yasuhara 1,2, K. Kurishima 1,2,3, T. Chikyow 2, A. Ogura 1 and T. Nagata 2, 1 Meiji Univ., 2 NIMS and 3 JSPS, Japan	<b>30C-6-3</b> 14:30 Si-Nanowire-FET Sensor Detecting High-Frequency Mechanical Oscillation of a Multilayer-Graphene MEMS by Means of Reflectometry Technique K. Nishiguchi and A. Fujiwara, NTT, Japan	<b>30D-6-3</b> 14:50 Metal-Assisted Chemical Etching of Si Using Additives for Preparation of Through-Si via S. Hanatani, T. Yorioka, T. Shimizu, T. Ito and S. Shingubara, Kansai Univ., Japan	

<b>30A-6-4</b> 14:50 Electrochemical Characterization of CVD-Grown Graphene for MET Enzymatic Biofuel Cell Applications  K. Miki, T. Watanabe and S. Koh, Aoyama Gakuin Univ., Japan	<b>30B-6-4</b> 14:40 Fabrication of a Magnesium Phosphate Electrolyte Film Using Atomic Layer Deposition  J. Su 1, T. Tsuruoka 1, T. Tsujita 2, Y. Nishitani 2, T. Hamanura 2, Y. Inatomi 2, K. Nakura 2, K. Terabe 1, 1 NIMS and 2 Panasonic, Japan	<b>30C-6-4</b> 14:50 Observation of Synchronized Charge Behavior in a Polyoxometalate Nanoparticle Using a GaAs-Based Nanowire Charge Detector  S. Saito, K. Sasaki and S. Kasai, Hokkaido Univ., Japan	<b>30D-6-4</b> 15:10 Comprehensive Reconsideration of Material Property Modification by Processing Plasma Exposure and Its Optimal Control Strategy  T. Hamano, T. Sumihira, K. Urabe and K. Eriguchi, Kyoto Univ., Japan	
<b>30A-6-5</b> 15:10 Manipulating THz High-Harmonic Generation in Single-Wall Carbon Nanotubes by Tuning Bandgap and Fermi Level  H. Nishidome 1, K. Nagai 2, K. Uchida 2, Y. Ichinose 1, K. Fukuhara 1, J. Eda 1, H. Okubo 1, Y. Yomogida 1, K. Tanaka 2 and K. Yanagi 1, 1 Tokyo Metropolitan Univ. and 2 Kyoto Univ., Japan	<b>30B-6-5</b> 15:00 Ozone Based High Temperature Atomic Layer Deposition of SiO <sub>2</sub> Thin Films  S.M. Hwang 1, Z. Qin 1, H.S. Kim 1, Y.C. Jung 1, S.J. Kim 2, B.K. Hwang 3 and J. Kim 1, 1 Univ. of Texas, USA, 2 Kangwon Natl Univ., Korea 3 Dupont, USA			
Author's Interview: 15:30-15:40	Author's Interview: 15:20-15:30	Author's Interview: 15:10-15:20	Author's Interview: 15:30-15:40	
Room P2 (Dahlia, B2F)				
<b>30P-6: Poster Session I, Group 1 (13:40-15:40, Oct. 30)</b>				
<b>Photolithography and Patterning</b> Chair: T. Harada (Univ. of Hyogo)				
<b>30P-6-1</b> All Integrated Mix & Match Direct-Write Nano- and Microlithography Platform Based on Local Heat Induced Sublimation of Polyphthalaldehyde Resist  Z. Wu 1, F. Holzner 1, A. Jehle 2, D. Peter 2, S. Bisig 1, S. Bonanni 1, P. Paul 2 and U. Duerig 1, 1 SwissLitho, Switzerland and 2 Heidelberg Instruments, Germany	<b>30P-6-2</b> Micro-Processing of Silicon or Glass Surfaces by Laser Ablation  M. Saito, R. Igarashi and S. Suzuki, Ryukoku Univ., Japan	<b>30P-6-3</b> Two-Layer Resist Process to PrintThick Patterns by Exploiting Matrix Projection Exposure Using a Liquid-Crystal-Display Panel  T. Horiuchi, H. Okiyama, R. Sato and H. Kobayashi, Tokyo Denki Univ., Japan		
<b>Electron and Ion Beam Technologies</b> Chairs: H. Yamashita (NuflareTechnol.)				
<b>30P-6-4</b> Estimation of Fogging Effect in E-Beam Direct Writer  Y. Kudo, H. Sasaki, Y. Takahashi, M. Takizawa, K. Sakamoto, S. Shida and M. Seyama, ADVANTEST, Japan	<b>30P-6-5</b> Investigation of Non-Charging Exposure Condition in Electron Beam Lithography  H. Mizuno, K. Kubo, K. Kozima and M. Kotera, Osaka Inst. of Technol., Japan	<b>30P-6-32L</b> First Demonstration of 331-Beam SEM  C. Riedesel, I. Müller, N. Kaufmann, A. Adolf, N. Kämmer, H. Fritz and D. Zeidler, Carl Zeiss Microscopy, Germany	<b>30P-6-33L</b> Electron-Optical Evaluation of a Conically Shaped CNT Electron Source  X. Shao, A. Banerjee and A. Khursheed, Natl. Univ. of Singapore, Singapore	<b>30P-6-34L</b> Measurement of Absorbed Current for Quantitative Evaluation of Scattered Electrons in a Scanning Electron Microscope  K. Morimoto, Y. Ito and M. Kotera, Osaka Inst. of Technol., Japan
<b>30P-6-35L</b> Self-Shielding Permanent Ring-Magnet Immersion Objective Lens for Multi-Column Focused Electron-Beam Systems  P. Balamuniappan 1, W.K. Ang 2, A. Banerjee 1 and A. Khursheed 1, 1 Natl. Univ. of Singapore and 2 KLA, Singapore				
<b>Nanoimprint, Hybrid-NIL, Biomimetics, and Functional Surfaces</b> Chair: A. Miyauchi (Tokyo Medical and Dental Univ.)				
<b>30P-6-6</b> Investigation of Additive-Type Fluorescence Moiré Fringes for Imprint Alignment by Image Drawing Software  M. Nakagawa and K. Suto, Tohoku Univ., Japan	<b>30P-6-7</b> Characteristics of Droplet Acceleration When Sliding on an Inclined Micro-Projection Surface with Variable Viscosity and Surface Tension  T. Okawa, K. Fujishiro, S. Oshima, R. Sakuma and S. Imai, Nihon Univ., Japan	<b>30P-6-8</b> Angles of Additive-Type Inclination Moiré Fringes for Fluorescence Imprint Alignment  T. Yoshida, S. Ito, T. Nakamura and M. Nakagawa, Tohoku Univ., Japan	<b>30P-6-9</b> Fabrication of MEMS Mold with Inclined Micro-Multi-Fin Structure and Shape Transfer to Resin by Thermal Imprint Process  T. Yahagi 1,2, H. Murayama 1, Y. Watanabe 1 and T. Mineta 2, 1 Yamagata Res. Inst. of Technol., and 2 Yamagata Univ., Japan	<b>30P-6-10</b> Effect of Amino-, Mercapto-Silane Coupling as a Molecular Bridge of Polyvinyl Chloride Ion-Selective Membrane on Silicon Nitride for Nitrate ISFET Sensors  W. Chairirattanakul 1,2, W. Bunjongpru 2, A. Pankiew 2, A. Srisuwan 2, W. Jeamsaksiri 2, E. Chaowicharat 2, M. Horprathum 2, P. Saengdee 2, D. Phromyothin 1, King Mongkut's Inst. of Technol. Ladkrabang, and 2 NSTD, Thailand

<b>30P-6-11</b> Ion-Sensitive Field-Effect Transistors with Nanowire Channels Manufactured by Nanoimprint and NEMS Technologies H.J.H. Chen 1, T.-N. Lee 2, S.-L. Tseng 1, S.-Z. Chen 2 and P.-W. Chiu 2, 1 Natl. Chi Nan Univ. and 2 Natl. Tsing Hua Univ., Taiwan	<b>30P-6-12</b> Integration of a UV-Nanoimprint Lithography tool into a Nanopositioning and Nanomeasuring Machine S. Supreeti 1, M. Hofmann 1, I.W. Rangelow 1, R. Mastilo 1, E. Manske 1, M. Hoffmann 2, S. Sinzinger 1, 1 TU Ilmenau and 2 Ruhr Univ., Germany	<b>30P-6-13</b> Functional Films Formed by Laser Assisted Micro Particle Jetting K. Suzuki 1, T. Satoh 1, K. Otomo 1, D. Yamakawa 1, T. Omori 1, M. Takeda 1, K. Sato 1, N. Ishikawa 1, I. Homma 1, E. Kaneda 2, S. Koyama 1 and T. Kuriyagawa 3, 1 Natl. Inst. of Technol. Sendai College, 2 ACSERA and 3 Tohoku Univ., Japan		
<b>BioMEMS, Lab on a Chip, and Nanobiotechnology</b> Chair: A. Miura (Hokkaido Univ.)				
<b>30P-6-14</b> Diameter Dependence of Single-Walled Carbon Nanotube with Flavin Adenine Dinucleotide Glucose Dehydrogenase for Direct Electron Transfer Biosensor A. Suzuki 1,2, H. Muguruma 1,2, H. Iwasa 2,3, T. Tanaka 2, A. Hiratsuka 1,2, K. Tsuji 3 and T. Kishimoto 3, 1 Shibaura Inst. of Technol., 2 AIST and 3 TOYOBO, Japan	<b>30P-6-15</b> Electrochemical Determination of Quercetin Glucosides in Food with a Carbon Nanotube Electrode S. Takahashi 1, H. Muguruma 1, N. Osakabe 1, H. Inoue 2 and T. Ohsawa 2, 1 Shibaura Inst. of Technol. and 2 Nippon Shizai, Japan	<b>30P-6-16</b> Development of a Cell Culture Substrate Replicating Surface Topography of Decellularized Tissue T. Kimura 1, Y. Hashimoto 1, N. Nakamura 2, A. Kishida 1, 1 Tokyo Med. Dent. Univ. and 2 Shibaura Inst. Technol., Japan	<b>30P-6-17</b> A Device Having Micro Air-Liquid Interface for Analysis of Cells Irradiated with Dielectric Barrier Discharge Plasma M. Suzuki and S. Kumagai, Meijo Univ., Japan	<b>30P-6-18</b> Development of the Separation Method of Nanoparticles Using a Micro-Nano Device K. Shimizu, M. Maeki, H. Tani, A. Ishida, J. Nishi and M. Tokeshi, Hokkaido Univ., Japan
<b>30P-6-19</b> H <sup>+</sup> Mediated Control of ATP Synthesis in Mitochondria with Biotransducer M. Cui, Y. Chen, C. Lin and T. Miyake, Waseda Univ., Japan	<b>30P-6-20</b> Development of Gd-DOTA-Conjugated Polymers as Neutron Capture Therapy Agents with High MRI Sensitivity C.Y. Qin 1, X. Hou 1, N. Nitta 2, I. Aoki 2, H. Yanagie 1 and H. Cabral 1, 1 Univ. of Tokyo and 2 NIRS, Japan	<b>30P-6-21</b> Fabrication of a Centrifugal Bio-Microdevice Using 3D Lithography K. Suga and T. Suzuki, Gunma Univ., Japan	<b>30P-6-22</b> Measurement of Trapping Time of DNA Molecule in Nanofluidic Entropy Trap Using DNA Concentration N. Azuma, S. Itoh, K. Fukuzawa and H. Zhang, Nagoya Univ., Japan	<b>30P-6-36L</b> Surface Engineering of Mesoporous Silica Nanoparticles toward Efficient Drug Delivery Systems T. Inose 1, I. Kotani 1, B. Fortuni 2, M. Ricci 2, F. Taemaitree 3, K. Hirai 1, J. Hofkens 2, H. Kasai 3, H. Uji-I 1,2, 1 Hokkaido Univ., Japan, 2 KU Leuven, Belgium and 3 Tohoku Univ., Japan
<b>Microsystem Technology and MEMS</b> Chair: S. Nagasawa (Shibaura Inst. of Technol.)				
<b>30P-6-23</b> Pointer Extension Method for Real-World Clicker System by Using MEMS Micro Mirror T. Tatecho 1, S. Nagasawa 1 and S. Iwaki 2, 1 Shibaura Inst. of Technol. and 2 Hiroshima City Univ., Japan	<b>30P-6-24</b> Degradation Mechanism of Sintered Porous Silver Film at Elevated Temperatures Y. Mochizuki 1, K. Wakamoto 2, T. Otsuka 2, K. Nakahara 2 and T. Namazu 1, 1 Aichi Inst. of Technol. and 2 ROHM, Japan	<b>30P-6-25</b> Direct Measurement of Strength and Fracture Toughness for Al <sub>2</sub> O <sub>3</sub> Hard Coating Film by Cantilever Bending Test T. Ide 1, T. Tanibuchi 2, T. Yamasaki 2 and T. Namazu 1, 1 Aichi Inst. of Technol. and 2 KYOCERA, Japan	<b>30P-6-26</b> Titanium/Silica Nanoparticles with Tunable Exothermic Function M. Shindo 1, K. Kiyohara 2, K. Inoue 2 and T. Namazu 1, 1 Aichi Inst. of Technol. and 2 Univ. of Hyogo, Japan	<b>30P-6-27</b> Soft Actuator with Large Volumetric Change using Vapor-liquid Phase Transition T. Noguchi and F. Tsumori, Kyushu Univ., Japan
<b>30P-6-28</b> Design and Fabrication of Active Microfluidic Mixer Incorporating Micropillar on Flexible Magnetic Membrane R.E. Pawinanto 1, S.N. Sabili 1, J. Yunas 2, A.M. Hashim 1, 1 Univ. Teknologi Malaysia, and 2 Univ. Kebangsaan Malaysia, Malaysia	<b>30P-6-29</b> Development of Acoustic-Optic (AO) SLM Applicable to 3D Holographic Display Y.-B. Lee and K.-K. Lee, Ajou Univ., Korea	<b>30P-6-30</b> Near-Field Luminescence Sensing on Alumina for Engineering Applications T. Tomimatsu 1 and R. Takigawa 2, 1 Tohoku Univ. and 2 Kyushu Univ., Japan	<b>30P-6-31</b> Introducing Dry Film Photoresists as a Convenient Tool in Modern Photolithography M. Nilsen 1 and S. Strehle 2, 1 Ulm Univ. and 2 Ilmenau Univ. of Technol., Germany	
Room P2 (Dahlia, B2F)				
Coffee Break				
Room A (Cosmos 1, B2F)		Room C (Ran 1, B2F)	Room D (Ran 2, B2F)	Room P2 (Dahlia, B2F)
<b>30A-7: Electron and Ion Beam Technologies</b>		<b>30C-7: BioMEMS - Diagnosis and Therapy</b>	<b>30D-7: Microsystem Technology and MEMS II</b>	<b>30P-7: Poster Session II, Group 2 (16:00-18:00)</b>
Chairs: H. Yamashita (Nuflare Technol.) J. Yanagisawa (Univ. of Shiga)		Chairs: T. Miyake (Waseda Univ.) T. Takeuchi (Kobe Univ.)	Chairs: Y. Hasegawa (Hiroshima City Univ.) T. Nakakubo (Canon)	Page 7-9
<b>30A-7-1</b> 16:00 Non-Charging Exposure Conditions of Insulating Resist in Electron Beam Lithography (Invited) M. Kotera, K. Kubo, K. Kojima and H. Mizuno, Osaka Inst. of Technol., Japan		<b>30C-7-1</b> 16:00 Antibody-Conjugated Signaling Nanocavities for Rapid Detection of Cancer-Related Intact Exosomes Prepared by Novel Chemical Nanoprocessing (Invited) T. Takeuchi, Kobe Univ., Japan	<b>30D-7-1</b> 16:00 SU-8 Fabrication Process for Micro Hexapod Robot with Wide Joint Ranges K. Asamura and S. Nagasawa, Shibaura Inst. of Technol., Japan	
<b>30A-7-2</b> 16:30 Multi-Beam Mask Writer MBM-1000 (Invited) H. Matsumoto and H. Kimura, NuFlare Technol., Japan		<b>30C-7-2</b> 16:30 Structural Properties and Sensing Performance of YTi <sub>x</sub> O <sub>y</sub> Sensing Membranes Prepared by Using Sol-Gel Spin-Coating Method T.-M. Pan 1,2, P.-L. Chiu 1, K. Singh 1, B.-S. Lou 1, and J.-L. Her 1, 1 Chang Gung Univ., 2 Chang Gung Memorial Hospital, Taiwan	<b>30D-7-2</b> 16:20 Study on Vibrational Communication System in Ultrasonic Frequency Band R. Takasawa and S. Nagasawa, Shibaura Inst. of Technol., Japan	

<b>30A-7-3</b> 17:00 Formation of Au Nano-Particles by Au and Si Ion Implantation on SiO <sub>2</sub> Films Using Au-Si Alloyed Liquid Metal Ion Source and Thermal Annealing under Atmosphere  Y. Okanishi, H. Shimizu, M. Ichimiya and J. Yanagisawa, Univ. of Shiga Pref., Japan		<b>30C-7-3</b> 16:50 Enzyme Free Microneedle Array Patch Composed of Boronate-Containing Hybrid Hydrogel for On-Demand Transdermal Insulin Delivery  S. Chen 1,2, H. Matsumoto 1, Y. Morooka 1, M. Tanaka 3, Y. Miyahara 1, T. Suganami 3 and A. Matsumoto 1,2, 1 Kanagawa Inst. of Industrial Sci. and Technol., 2 Tokyo Medical and Dental Univ. and 3 Nagoya Univ., Japan	<b>30D-7-3</b> 16:40 Electrostatic Metallic Glass Micromirror Fabricated by The Self-Aligned Structure  Z.-Y. Wang 1, Y.-Y. Chen 1, Y.-C. Lin 2, T. Ono 3 and Y.-C. Tsai 1, 1 Natl. Chung Hsing Univ., Taiwan, 2 Goertek Technol. Japan and 3 Tohoku Univ., Japan	
<b>30A-7-4</b> 17:20 Fabrication of Si Photonics Waveguides by Thick Resist-Mask Electron Beam Lithography Proximity Effect Correction  M. Eissa, T. Mitarai, T. Amemiya, N. Nishiyama and Y. Miyamoto, Tokyo Inst. of Technol., Japan		<b>30C-7-4</b> 17:10 Development of Polymeric Micelles with 5-Boronopicolinic Acid Ligand to Target Sialylated Epitopes in Intratumoral Microenvironment  T. Khan 1, K. Igarashi 1, A. Matsumoto 2, H. Cabral 1 and K. Kataoka 1,3, 1 Univ. of Tokyo, 2 Tokyo Medical and Dental Univ. and 3 iCONM, Japan		
		<b>30C-7-5</b> 17:30 Relationship between Cancer Cell Malignancy and Cell Adhesion Forcstudied by Atomic Force Microscopy K. Ishibashi 1,2, C. Nakamura 1,2, H. Kim 1,2, 1 AIST and 2 Tokyo Univ. Agric.Technol., Japan		
Author's Interview: 17:40-17:50		Author's Interview: 17:50-18:00	Author's Interview: 17:00-17:10	

Room P2 (Dahlia, B2F)

Coffee Break (15:30-16:00) and Poster Session II

30P-7: Poster Session II, Group 2 (16:00-18:00, Oct. 30)

<b>Nanocarbons</b>				
Chair: K. Yanagi (Tokyo Metropolitan Univ.)				
<b>30P-7-1</b> Polarity- and pH-Dependent Novel N-Doped Green-Emitting Carbon Dots with Switchable Fluorescence Emission for Multifarious M. Moniruzzaman and J. Kim, Gachon Univ., Korea	<b>30P-7-2</b> Mechanical Properties of CNT under Uniaxial Tensile Strain  K. Yoneyama, M. Maruyama, Y. Gao and S. Okada, Univ. of Tsukuba, Japan	<b>30P-7-3</b> Hydrogen Gas Sensor Based on Pd-decorated MWCNTs  J.K. Kim 1,2, J. Lee 1,2, S.D. Kim 1,2, H.K. An 1,2, S.H. Kong 1 and D. Jung 2, 1 Kyungpook Natl. Univ. and 2 KITECH, Korea	<b>30P-7-4</b> Thermal Diffusivity of Buckypapers Prepared from Nanotubes of Various Electrical Conductivities  K. Ueji, H. Matsuo, Y. Ichinose, Y. Yomogida and K. Yanagi, Tokyo Metropolitan Univ., Japan	<b>30P-7-5</b> Energetics and Electronic Structures of N-Doped Graphene Nanoribbons with Pyridinic and Graphitic Edges  A. Yasum, Y. Gao, S. Okada and M. Maruyama, Univ. of Tsukuba, Japan
<b>30P-7-6 Withdrawn</b> Preparation of Sandwich-like CNs@rGO Nanocomposites with Enhanced Microwave Absorption Properties Y. Cai, L. Sun and Q. Sun, Nantong Univ., China	<b>30P-7-7</b> Study of The Reusability of Ir(111)/ $\alpha$ -Al <sub>2</sub> O <sub>3</sub> (0001) Substrates in Graphene CVD Growth  A. Sakurai, M. Niki, T. Watanabe, A. Sawabe and S. Koh, Aoyama Gakuin Univ., Japan	<b>30P-7-8</b> Growth of MoS <sub>2</sub> Crystals On 4H-Sic Substrate for Photocatalytic Application  P. Desai, A.K. Ranade, R.D. Mahyavanshi, M. Shinde, B. Todankar, M. Kato, M. Tanemura, G. Kalita, 1 Nagoya Inst. of Technol., Japan	<b>30P-7-51L</b> Size-Dependent Adhesion Properties of The Carbon Nanotube Gecko Tapes for Micrometer-Scale Particles K. Hirahara and H. Kano, Osaka Univ., Japan	<b>30P-7-52L</b> Multilayer Graphene Electrodes for Few-Layer Two-Dimensional Materials Field Effect Transistors  K. Hanyu, H. Tomori and A. Kanda, Univ. of Tsukuba, Japan
<b>30P-7-53L</b> Inducing Short Period Strain in Graphene for Field Effect Transistor Application  M. Bando, R. Hiraide, H. Tomori and A. Kanda, Univ. of Tsukuba, Japan				
<b>Nanodevices,</b>				
Chair: Y. Ishikawa (Nara Inst. of Sci. and Technol.)				
<b>30P-7-9</b> Single-Electron Transistor Made of Arrays of Carbon-Coated Cobalt Nanoparticles Assembled by Dielectrophoresis T. Yagai 1, M. Moribayashi 1, M. Moriya 1, H. Shimada 1, A. Hirano-Iwata 2, F. Hirose 3 and Y. Mizugaki 1, 1 Univ. of Electro-Communications, 2 Tohoku Univ. and 3 Yamagata Univ., Japan	<b>30P-7-10</b> GaAs Nanowires of Si for Its Application to Photoanodes  T. Ohno 1, M. Yukimune 1, R. Fujiwara 1, Y. Wang 2, Z. Mi 2 and F. Ishikawa 1, 1 Ehime Univ. and 2 Univ. of Michigan, USA	<b>30P-7-11</b> High-Performance Photodetector with High on/off Ratio Based on Solution-Processed Carbon-Nanodot Films P.-H. Hsiao, T.-C. Wei, and C.-Y. Chen, Natl. Cheng Kung Univ., Taiwan	<b>30P-7-12</b> The Effect of the Anode Voltage on The UV A Cathodoluminescence on a 2-inch AlGaIn/GaN Wafer  M. Lee 1, N. Jang 1, S.K. Shim 2,3, J.M. Park 3, J.K. Lee 2,3, 1 Korea Maritime and Ocean Univ., 2 Chonnam Natl. Univ. and 3 SBK Materials, Korea	<b>30P-7-13</b> 2-Dimensional Nano-Arrays on Antiferromagnetically Coupled CoPt Stacked Films for Magneto-Photonic Crystals H. Yamane 1, Y. Yasukawa 2 and M. Kobayashi 2, 1 Akita Industrial Technol. Ctr. and 2 Chiba Inst. of Technol., Japan

<p><b>30P-7-14</b> Block-Copolymer-Based Nanostructure Fabrication and Its Application to Low-Power Phase-Change Memory</p> <p>Y. Yin, T. Akahane and D. Nishijo, Gunma Univ., Japan</p>	<p><b>30P-7-15</b> Investigation on Switching Characteristics of Metal-Ferroelectric-Metal Memory Devices with Hafnium Zirconium Oxides under Ferroelectric Film Annealing</p> <p>H.H. Chen 1, Z.Y. Huang 1, B.Y. Shih 1, S.Y. Hsiung 1, W.C. Wang 1, Y.C. Fan 2, C.L. Lin 2, T.M. Lee 2, S.A. Wang 3, H.H. Hsu 2, C. Liu 1, C.H. Cheng 3, 1 Natl. Chiao-Tung Univ., 2 Natl. Taipei Univ. of Technol. and 3 Natl. Taiwan Normal Univ., Taiwan</p>	<p><b>30P-7-16</b> Ascorbic Acid Biofuel Cells Using ABTS as an Electron Transfer Mediator</p> <p>T. Ogino, K. Kuroishi and S. Imai, Nihon Univ., Japan</p>	<p><b>30P-7-17</b> Electrodes Modified by Single Atomic Adlayer for Quantum Transport: Superior Molecule-Electrode Coupling for the Minimization of Contact Resistance</p> <p>M.-w. Gu and C.-h. Chen, Natl. Taiwan Univ., Taiwan</p>	
<p><b>Nanofabrication</b> Chair: T. Shimizu (Kansai Univ.)</p>				
<p><b>30P-7-18</b> Silver Nanoparticles/Silicon Nanowires Structures for Surface Enhanced Raman Spectroscopy Sensors</p> <p>K. Daoudi, M. Kaidi, S. Coulambus, D. Zhang and H. Alawadhi, Univ. of Sharjah, UAE</p>	<p><b>30P-7-19</b> Optical Characterization of Concave Micromirror Array for Microbial Cell Trapping Fabricated by Laser Lithography and SUMP Method</p> <p>A. Matsutani and A. Takada, Tokyo Inst. of Technol., Japan</p>	<p><b>30P-7-20</b> Post-Exposure Bake Effect on Linewidth and Gap Separation of Robust Pt-Based Nanogap Electrodes</p> <p>R. Toyama, J. Kim and Y. Majima, Tokyo Inst. of Technol., Japan</p>	<p><b>30P-7-21</b> Reliable Operation of a Molecular-Gap Atomic Switch in Vacuum Achieved by Covering with an Ionic Liquid</p> <p>C. Arima 1, Y. Naitoh 2, H. Shima 2, H. Akinaga 2, T. Hasegawa 1, 1 Waseda Univ. and 2 AIST, Japan</p>	<p><b>30P-7-22</b> Stress Evaluation Induced by Wiggling SiN Fine Pattern by Using Raman Spectroscopy</p> <p>M. Koharada 1, R. Yokogawa 1,2, N. Sawamoto 1, K. Yoshioka 1 and A. Ogura 1, Meiji Univ. and 2 JSPS Res., Japan</p>
<p><b>30P-7-23</b> Inverse Design of Gap-Plasmon Nanostructure via Deep Learning</p> <p>J. Trisno, H.T. Wang, R.J.H. Ng and J.K.W. Yang, 1 Singapore Univ. of Technol. and Design,</p>	<p><b>30P-7-24</b> Nano-Texturing of Silicon Plates by Laser-Chemical Processing</p> <p>M. Saito and S. Suzuki, Ryukoku Univ., Japan</p>	<p><b>30P-7-25</b> Enhanced Dielectric Permittivity in Au-BiFeO<sub>3</sub>/PVDF Nanocomposites with Retaining Low Dielectric Loss Tangent</p> <p>P. Kum-onsa and P. Thongbai, Khon Kaen Univ., Thailand</p>	<p><b>30P-7-26</b> Electrical Characteristics of BaTiO<sub>3</sub> Nanoparticles-Contained Mesoporous Silica Thin Films</p> <p>A. Kohno and T. Tajiri, Fukuoka Univ., Japan</p>	<p><b>30P-7-27</b> Photocurrent Generation from Densely-Arranged Ag Nanoparticle Assemblies on ITO Electrode</p> <p>W. Liang, K. Sugawa and J. Otsuki, Nihon Univ., Japan</p>
<p><b>30P-7-28</b> Magnetic Properties of Fe-Doped CuCrO<sub>2</sub> Electrospun Nanowires</p> <p>R. Yensano and T. Kamwanna, 1 Khon Kaen Univ., Thailand</p>	<p><b>30P-7-54L</b> Impact of Boron Doping into Si Quantum Dots with Ge Core on Their Photoluminescence Properties</p> <p>K. Makihara, S. Fujimori, M. Ikeda, A. Ohta and S. Miyazaki, Nagoya Univ., Japan</p>	<p><b>30P-7-55L</b> Structure and Conductance of Atomic-Sized Pt Wires Studied by in Situ Transmission</p> <p>Y. Ochiai, T. Obi, Y. Tsuruoka and T. Kizuka, Univ. of Tsukuba, Japan</p>	<p><b>30P-7-56L</b> Performance Improvement of All-Inorganic Quantum-Dot Light Emitting Diodes by Doping Magnesium into Solution-Processed Nickel Oxide Nanoparticles</p> <p>H.-Y. Pan 1,2, C.-W. Lee 1,2, Z.-H. Wu 1,2, C.-C. Yang 2 and Y.-K. Su 1,2, 1 Natl. Cheng Kung Univ. and 2 Kun Shan Univ., Taiwan</p>	
<p><b>Inorganic Nanomaterials</b> Chair: T. Tsuchiya (NIMS)</p>				
<p><b>30P-7-29</b> Fabrication and Photocatalytic Properties of Nano-/Micro-Metal-Organic Framework Materials</p> <p>W.-Y. Sun, Nanjing Univ., China</p>	<p><b>30P-7-30</b> Theoretical Modeling of Electrode Overvoltage in All Solid-State Electrochemical Device</p> <p>K. Kobayashi and T.S. Suzuki, NIMS, Japan</p>	<p><b>30P-7-31</b> Magnetic Behavior of One-Step Synthesized Iron Sulfide Nanoparticles without Hot Injection</p> <p>C.-H. Huang, Y.-C. Chang, C.-L. Pan, C.-R. Lin, Natl. Pingtung Univ., Taiwan</p>	<p><b>30P-7-32</b> Crack Formation and Mechanical Properties in Sol-Gel Derived Titania Films</p> <p>K. Higashi and T. Yasuda, Kyushu Inst. of Technol., Japan</p>	<p><b>30P-7-33</b> Microwave-Assisted Synthesis of Nd-Doped BiOBr Flowers and Their Photocatalytic Performance</p> <p>S. Jaita 1, S. Thongtem 2, A. Phuruangrat 3, S. Thanasanvorakun 1, T. Thongtem 2 and P. Dumrongrojthanath 1, 1 Rajamangala Univ. of Technol., 2 Chiang Mai Univ. and 3 Prince of Songkla Univ., Thailand</p>
<p><b>30P-7-34</b> Low-Cytotoxic SERS-Based Intracellular pH Sensing Using Gold Coated Silver Nanoflowers</p> <p>Q. Zhang 1, K. Watanabe 1, I. Kotani 1, B. Fortuni 2, T. Farsai 3, H. Kasai 3, J. Hofkena 2, K. Hirai 1, T. Inose 1 and H. Uji-i 1,2, 1 Hokkaido Univ., 2 KU Leuven, Belgium, 3 Tohoku Univ., Japan</p>	<p><b>30P-7-35</b> Preparation and Magnetic Interaction in the Carbon-Encapsulated Cobalt-Containing Nanocomposites</p> <p>B.-Y. Chen, C.-L. Pan, S.Y. Hsu, Y.-T. Tseng and C.-R. Lin, Natl. Pingtung Univ., Taiwan</p>	<p><b>30P-7-36</b> Band Alignment at Non-Polar AlN/MnS Interface Investigated by Hard X-ray Photoelectron Spectroscopy</p> <p>K. Kurishima 1,2,3, K. Tatejima 3, Y. Yamashita 1, S. Ueda 1, K. Ishibashi 4, K. Takahashi 4, S. Suzuki 4, A. Ogura 3, T. Chikyow 1 and T. Nagata 1, 1 NIMS, 2 JSPS, 3 Meiji Univ. and 4 COMET, Japan</p>	<p><b>30P-7-37</b> Vertically-Structured Ionic Decision-Maker for Improved Scalability</p> <p>Y. Kitagawa 1,2, T. Tsuchiya 1,2, M. Takayanagi 1,2, D. Etoh 1,2, T. Tsuruoka 1, T. Higuchi 2 and K. Terabe 1, 1 NIMS and 2 Tokyo Univ. of Sci., Japan</p>	<p><b>30P-7-38</b> A Mesoporous SiO<sub>2</sub>-Based Ionic Decision-Maker for Solving Multi-Armed Bandit Problems</p> <p>D. Etoh 1,2, T. Tsuchiya 1,2, Y. Kitagawa 1,2, M. Takayanagi 1,2, Y. Itoh 1, T. Tsuruoka 1, T. Higuchi 2 and K. Terabe 1, 1 NIMS and 2 Tokyo Univ. of Sci., Japan</p>
<p><b>30P-7-39</b> Raman and EDX Analysis for MoS<sub>2</sub> Sputtered Films</p> <p>N. Hasuike 1, S. Yamauchi 1, K. Nishio 1, S. Kamoi 2 and K. Kisoda 3, 1 Kyoto Inst. of Technol., 2 Kyoto Pref. Technol. Ctr. and 3 Wakayama Univ., Japan</p>	<p><b>30P-7-40</b> Reliable and Enhanced Emission from All-Inorganic CsPbBr<sub>3</sub> Quantum Dots</p> <p>Z. Liu 1, Z. Hu 2, J. Du 1, X. Tang 2 and Y. Leng 1, 1 Chinese Academy of Sci. and 2 Chongqing Univ., China</p>	<p><b>30P-7-57L</b> Magnetic and Optical Properties of Surface Modification Magnetic-Fluorescent Nanoparticles</p> <p>Y.-Z. Chen 1, C.-L. Pan, H.-S. Hus, Y.-T. Tseng, C.-R. Lin, Natl. Pingtung Univ., Taiwan</p>		

Organic Nanomaterials		Chair: R. Hayakawa (NIMS)		
<b>30P-7-41</b> Photoalignment Control of Sub-10 nm Lamellar Structure of Random Copolymers with Azobenzene and Oligo(Methyl Methacrylate) Side Chains  R. Higashi, M. Hara, S. Nagano and T. Seki, Nagoya Univ., Japan	<b>30P-7-42</b> Proton Conductive Performance of Shell Thickness Controlled Core-Shell Type Nanoparticles Fabricated by RAFT Polymerization with Particles  K. Tabata 1, T. Nohara 1, K. Koseki 1, K. Umemoto 1, R. Sato 1, T. Arita 2 and A. Masuhara 1, 1 Yamagata Univ. and 2 Tohoku Univ., Japan	<b>30P-7-43</b> Long-Range Ordered Hetero Smectic Lamellar Structure Induced by Random Copolymers with Liquid Crystalline and Alkyl Side Chain  K. Takishima, M. Hara, S. Nagano and T. Seki, Nagoya Univ., Japan	<b>30P-7-44</b> Schiff Base Molecule Modified with Rhodamine as Fluorescent Detection for Manganese (II) Ion  K. Chattrairat 1, P. Leepheng 1 and D. Phromyothin 1, 1 King Mongkut's Inst. of Technol. Ladkrabang, Thailand	<b>30P-7-45</b> Mesogenic Aggregation Properties in Hetero Smectic Lamellar Structure Affected by Side-Chain Liquid Crystalline Polymer Structure  M. Furuichi, M. Hara, S. Nagano and T. Seki, Nagoya Univ., Japan
<b>30P-7-46</b> Crystallization-Induced Emission of Azobenzene-Pyrene Dyad  K. Yokoyama, M. Yamauchi, S. Masuo, Kwansai Gakuin Univ., Japan	<b>30P-7-58L</b> Centimeter-Scale Bright MAPbBr <sub>3</sub> Nanocrystalline Thin Film LED with Uniform Luminescence Intensity and Long-Term Stability  K.W. Sun, Natl. Chiao Tung Univ., Taiwan			
NanoTool		Chair: O. Kubo (Osaka Univ.)		
<b>30P-7-47</b> Observation of Power Semiconductor Devices on Cross-Sectional Surface by Scanning Probe Microscope  A. Doi 1, N. Satoh 1, H. Yamamoto 1, Y. Miyato 2, H. Nozaki 2, H. Nakamoto 2 and Y. Terui 2, 1 Chiba Inst. of Technol. and 2 Toshiba Nanoanalysis, Japan	<b>30P-7-48</b> Dependence of Particle Adhesion on Surface Roughness of Chamber Wall Evaluated by Atomic Force Microscopy for Reducing Particles in Semiconductor Apparatuses  T. Miwa 1, G. Miya 2 and S. Kanno 2, 1 Hitachi and 2 Hitachi High-Tech., Japan	<b>30P-7-49</b> Experimental Study on Molecular Fluctuations of Biomolecules by Force Spectroscopy  Y. Yamamoto, H. Kominami, K. Kobayashi and H. Yamada, Kyoto Univ., Japan	<b>30P-7-50</b> Design and Fabrication of a High Speed Atomic Force Microscope Scan-Head  L.O. Otieno 1, B.O. Alunda 2, S.J. Park 1 and Y.J. Lee 1, 1 Kyungpook Natl. Univ., Korea and Taita Taveta Univ., Kenya	
Room P1 (Himawari, B2F)				
<b>18:20-20:20 Banquet, Cello and Soh Performance</b>				

## Thursday, October 31

Room A (Cosmos 1, B2F)	Room B (Cosmos 2, B2F)	Room C (Ran 1, B2F)	Room D (Ran 2, B2F)	Room P2 (Dahlia, B2F)
<b>31A-8: Nanocarbons - Devices</b>	<b>31B-8: Inorganic Nanomaterial - Functional Nanomaterial</b>	<b>31C-8: Nanodevices - Functional Devices by Advanced Materials</b>	<b>31D-8: Nanofabrication III</b>	<b>31P-8: Poster Session III, Group 1 (9:30-11:30)</b>
Chairs: T. Takenobu (Nagoya Univ.) M. Tanemura (Nagoya Inst. of Technol.)	Chairs: T. Tsuchiya (NIMS) L. Nurdwijayanto (NIMS)	Chairs: F. Ishikawa (Ehime Univ.) M. Seki (Univ. of Tokyo)	Chairs: T. Okada (Tohoku Univ.) K. Tomioka (Hokkaido Univ.)	Page 11-12
<b>31A-8-1</b> 9:30 Memory Effect in Atomic Monolayers and Applications from Neomorphic Computing to RF Switches ( <i>Invited</i> ) S. Hus and <u>D. Akinwande</u> , Univ. of Texas, USA	<b>31B-8-1</b> 9:30 Study and Fabrication of Flexible Zr-Based Metallic Glass Thin Film Strain Gauge Y.-C. Lu, C.-Y. Chiang, Y.-C. Chen and Y.-C. Tsai, Natl. Chung Hsing Univ., Taiwan	<b>31C-8-1</b> 9:30 Applied External Magnetic Field Dependence of Magnetic Domain Structures in Patterned CoFe Thin Films on GaAs (001) Substrates K. Teramoto 1, R. Horiguchi 1, Y. Adachi 2, M. Akabori 2 and S. Hara 1, 1 Hokkaido Univ. and 2 JAIST, Japan	<b>31D-8-1</b> 9:30 Diffusion Barrier Height-Controlled Reduction of an Operating Bias of a Ag/Ta <sub>2</sub> O <sub>5</sub> /Pt Gapless-Type Atomic Switch M. Mikami 1, N. Tanahashi 1, T. Tsuruoka 2 and T. Hasegawa 1, 1 Waseda Univ. and 2 NIMS, Japan	
<b>31A-8-2</b> 10:00 Detection of Methanethiol at Low Concentration by Chemical Reactions on Graphene FET Y. Sakamoto, T. Ikuta and K. Maehashi, Tokyo Univ. of Agri. and Technol., Japan	<b>31B-8-2</b> 9:50 Controllable Fabrication of Functional Nanostructures with Gas Phase Cluster Beam Deposition S. Zhang, M. Chen, C. Liu, J. Wang, M. Han, Nanjing Univ., China	<b>31C-8-2</b> 9:50 C-N-Codoped Sb <sub>2</sub> Te <sub>3</sub> Chalcogenides for Reducing Power Consumption of Phase-Change Devices Y. Yin, Gunma Univ., Japan	<b>31D-8-2</b> 9:50 Fabrication and Characterization of Piezoresistive Pressure Sensor Using Minimal-Fab ICP-RIE and Mask Aligner Y.X. Liu, H. Tanaka, K. Koga, M. Nemoto, S. Khumpuang, M. Nagao, T. Matsukawa and S. Hara, AIST, Japan	
<b>31A-8-3</b> 10:20 Electrical Characteristics of Gate Tunable Graphene Lateral Tunnel Diodes K. Shiga 1, T. Komiyama 2, Y. Fuse 2, H. Fukidome 2, A. Satou 2, T. Otsuji 2 and T. Uchino 1, 1 Tohoku Inst. of Technol. and 2 Tohoku Univ., Japan	<b>31B-8-3L</b> 10:10 Silicon Nanostructures for Directional Emission and Multi-Spectral Detection of Light J. Ho 1, Z. Dong 1, M. Wu1, A.I. Kuznetsov 1 and J.K. W. Yang 1,2, 1 A*STAR and 2 SUTD, Singapore	<b>31C-8-3</b> 10:10 Elucidation of Different Dopants on the Morphology of Electrochemically Synthesized Polypyrrole Nanofibers towards Glucose Biosensing Applications P. Jakhar and V. Singh, Indian Inst. of Technol. Indore, India	<b>31D-8-3</b> 10:10 Fabrication of GaN Nanowires by Wet Etching Using Electrodeless Photo-Assisted Electrochemical Etching and Alkaline Solution Treatment M. Shimauchi, K. Miwa, M. Toguchi, T. Sato and J. Motohisa, Hokkaido Univ., Japan	
<b>31A-8-4</b> 10:40 Room-Temperature Printing of CNTs-Based Flexible TFTs with High Performance Q. Sun 1, W. Li 1, X. Liu 1,2, M. Kanehara 3, J. Zhao 4 and T. Minari 1, 1 NIMS, Japan, 2 Zhengzhou Univ., China and 3 Colloidal Ink, China	<b>31B-8-4</b> 10:30 Towards Hybrid Black Silicon Solar Cells Based on Solution-Processed Heterostructures C.-Y. Chen, Natl. Cheng Kung Univ., Taiwan	<b>31C-8-4</b> 10:30 Flexible Mechanical Sensors with Ultrahigh Resolutions Based on Percolative Conductions in Metallic Nanoparticle Arrays M. Chen, W. Luo, Z. Du and M. Han, Nanjing Univ., China	<b>31D-8-4</b> 10:30 InAs/InP Core-Shell Nanowire Channel for High-Mobility Vertical Surrounding-Gate Transistors H. Gamo, J. Motohisa and K. Tomioka, Hokkaido Univ., Japan	
<b>31A-8-5</b> 11:00 Trion-Based High-Speed Electroluminescence Emitters with Carbon Nanotube Films H. Takahashi 1, Y. Suzuki 1, N. Yoshida 1, K. Nakagawa 2 and H. Maki 1, 1 Keio Univ., 2 KISTEC, Japan	Withdrawn  Preparation of AgCl-TiO <sub>2</sub> Nanotubes for Removing Arsenate and Arsenite in Aqueous C.-Y. Tsai and C.-W. Liu, Natl. Taiwan Univ., Taiwan			
Author's Interview: 11:20-11:30	Author's Interview: 10:50-11:00	Author's Interview: 10:50-11:00	Author's Interview: 10:50-11:00	

Room P2 (Dahlia, B2F)				
31P-8: Poster Session III, Group 1 (9:30-11:30, Oct. 31)				
<b>Photolithography and Patterning</b>			Chair: K. Asakawa (Toshiba Memory)	
<b>31P-8-1</b> Extremely Large Depth-of-Focus Lithography System Using KrF Excimer Laser  J.J. Santillan 1, N. Uemori 2, H. Yamaoka 2 and T. Itani 1, 1 Osaka Univ. and 2 Marubun, Japan	<b>31P-8-2</b> Multilayer Absorber Phase Shift Mask Using Platinum for High Numerical Aperture Extreme Ultraviolet Lithography  D. Jeong, J.S. Kim, Y.J. Han and J. Ahn, Hanyang Univ., Korea	<b>31P-8-3</b> Thermo-Mechanical Characteristics of Particle-Contaminated Pellicle Membrane for Extreme Ultraviolet Lithography  D. Jeong, Y.J. Jang, S.J. Wi, H.N. Kim and J. Ahn, Hanyang Univ., Korea		
<b>Resist and Directed Self-Assembly</b>			Chair: K. Okamoto (Osaka Univ.)	
<b>31P-8-4</b> Patterning of Functional Materials in Line with Photosensitive Template Geometry  H. Sugita, S. Ishikawa, J. Takahashi, M. Wada, H. Matsumoto and K. Matsuda, JSR, Japan	<b>31P-8-5</b> Elemental Depth Profiles of Sequential Infiltration Synthesis-Treated Resist Thin Films Analyzed by Time-of-Flight Secondary Ion Mass Spectrometry  S. Ito, Y. Ozaki, T. Nakamura and M. Nakagawa, Tohoku Univ., Japan	<b>31P-8-31L</b> Stochastic Simulation of Shot Noise Effects for Chemically Amplified Resist in Extreme Ultraviolet Lithography  K. Fukunari, M. Koyama, M. Shirai, H. Kawata, Y. Hirai and M. Yasuda, Osaka Pref. Univ., Japan		
<b>Nanoimprint, Hybrid-NIL, Biomimetics, and Functional Surfaces</b>			Chair: A. Miyauchi (Tokyo Medical and Dental Univ.)	
<b>31P-8-6</b> Chemical Registration to Prepare Defined-Shape UV-Cured Films in Print-and-Imprint Method  M. Nakagawa, K. Ochiai, A. Onuma, K. Suto, T. Nakamura and S. Ito, Tohoku Univ., Japan	<b>31P-8-7</b> Adjustable Nerve Guidance Conduits with Inside Micro/Nano Groove Patterns  J.-H. Lin 1, A.F. Yee 2 and F.-Y. Chang 1, 1 Natl. Taiwan Univ. of Sci. and Technol., Taiwan and 2 Univ. of CA, USA	<b>31P-8-8</b> An Experimental and Theoretical Study of Molecularly Imprinted Electrode Based on Methyl Methacrylate Polymer for Pesticide Detection  P. Leepheng 1, W. Homchan 1, S. Suramitr 2 and D. Phromyothin 1, 1 King Mongkut's Inst. of Technol. Ladkrabang and 2 Kasetsart Univ., Thailand	<b>31P-8-9</b> Fine Flexible Through Electrodes for Printed Devices Using Silver Ink  K. Honjo and J. Taniguchi, Tokyo Univ. of Sci., Japan	<b>31P-8-10</b> Anti-Fouling Micro-Lens Array with Antireflection Structure by Ultraviolet Nanoimprint Lithography  M. Nakamura 1, S. Hiwasa 2 and J. Taniguchi 1, 1 Tokyo Univ. of Sci. and 2 Autex, Japan
<b>31P-8-11</b> High-Refractive Index Materials for Fabrication of Photonic Nanostructures  C. Pina-Hernandez 1, S. Cabrini 2, K. Munechika 1, 1 HighRI Optics and 2 Lawrence Berkeley Natl. Lab., USA	<b>31P-8-12</b> Multi-Step Imprinting Process with in-Plane Compression Method  T. Miyata, K. Tokumaru and F. Tsumori, Kyushu Univ., Japan	<b>31P-8-13</b> Study on De-Molding Characteristics of Resins in Nanoimprint  H. Kawata, J. Tsutsui, M. Shirai, M. Yasuda and Y. Hirai, Osaka Pref. Univ., Japan	<b>31P-8-32L</b> Fabrication and Characteristics of PCL Membrane Containing Strontium-Substituted Hydroxyapatite Nanofibers for Guided Bone Regeneration  W.-X. Yu, Y.-W. Hsu and F.-Y. Hsu, Natl. Taiwan Ocean Univ., Taiwan	
<b>BioMEMS, Lab on a Chip, and Nanobiotechnology</b>			Chair: S. Kumagai (Meijo Univ.)	
<b>31P-8-14</b> Method of Fabrication of Microneedle Using Biodegradable UV Curable Resin Polyhydrazide  K. Yasuda, K. Sugisaki, T. Shimoda, Y. Nakamura and S. Imai, Nihon Univ., Japan	<b>31P-8-15</b> Stretching of DNA Molecules Migrating through a Nanoslit by Electrophoresis and Its Dependence on Voltages  H. Nagata, S. Itoh, N. Azuma, K. Fukuzawa and H. Zhang, Nagoya Univ., Japan	<b>31P-8-16</b> A Microfluidic Cube for Extraction of White Blood Cells  S. Zhu, D. Tang, N. Xiang and Z. Ni, Southeast Univ., China.	<b>31P-8-17</b> Interdigitated and Wave-Shaped Electrode Based Capacitive Sensor for Label-Free and Real-Time Monitoring of Antibiotic Effect on E.coli  J. Park, Y. Lee, Y. Hwang and S. Cho, Gachon Univ., Korea	<b>31P-8-18</b> Dual-Targeted Nanoparticle Delivery System for Improving Drug synergistic Therapy in Orthotopic Prostate Tumor Model  Y.-H. Lin, P.-Y. Chu and H.-Y. Ko, Natl. Yang-Ming Univ., Taiwan
<b>31P-8-19</b> Fluorescence Imaging of a Single Exosome with a Bull's Eye-Type Plasmonic Chip under The Upright Microscope  E. Fujimoto 1, K. Mori 2, T. Takeuch 2 and K. Tawa 1, 1 Kansai Gakuin Univ. and 2 Kobe Univ., Japan	<b>31P-8-20</b> Surface Modification Process on Microreactor Array Chip for High-Throughput Screening  S. Sato 1, S. Ueno 1 and T. Ichiki 1,2, 1 iCONM and 2 Univ. of Tokyo, Japan	<b>31P-8-21</b> Magnetic Actuator Using Extremely Tough Gel Material  S. Shigetomi and F. Tsumori, Kyushu Univ., Japan	<b>31P-8-22 Withdrawn</b> <del>Dissolving Poly-Gamma-Glutamate Microneedles for Reducing the Symptoms of Atopic Dermatitis in Nc/Nga Mice</del> <del>M.-C. Chen and C.-S. Chen, Natl. Cheng Kung Univ., Taiwan</del>	<b>31P-8-33L</b> Development of Bioabsorbable Microneedles with High Aspect Ratio: Fabrication Process and Insertion Test  Y. Kanda 1, H. Takehara 1,2 and T. Ichiki 1,2, 1 Univ. of Tokyo and 2 iCONM, Japan
<b>31P-8-34L</b> Fabrication of AuNP-Modified Nanoarrays toward High-Sensitivity Measurement of Single Nanobiotopes  A. Iwaya 1, H. Kuramochi 1, H. Kishita 1, H. Takiguchi 1 and T. Ichiki 1,2, 1 Univ. of Tokyo and 2 iCONM, Japan				

Microsystem Technology and MEMS					Chair: S. Nagasawa (Shibaura Inst. of Technol.)
<b>31P-8-23</b> Influence of Bonded Area Size on Cracking in Reacted Nial Layer for Crack-Free Reactive Soldering  K. Maekawa 1, S. Ito 2, D. Goto 1, Y. Kuntani 1 and T. Namazu 1, 1 Aichi Inst. of Technol. and 2 Univ. of Hyogo, Japan	<b>31P-8-24</b> Miniaturization of Worm-Like Soft Robot Actuated by Magnetic Field  K. Maeda and F. Tsumori, Kyushu Univ., Japan	<b>31P-8-25</b> Mechanical-Shock-Induced Exothermic Reaction in Ti/Si Multilayer Nanofilms for Low-Power Reactive Bonding Y. Kuntani 1, D. Goto 1, K. Maekawa 1, K. Kodama 1, S. Kanetsuki 2, S. Miyake 3 and T. Namazu 1, 1 Aichi Inst. of Technol., 2 Kobelco Res. Inst. and 3 Kobe City College of Technol., Japan	<b>31P-8-26</b> Vacuum Emission in MEMS Fracture Fabricated, Gap-Controlled Si Nano Electrodes  A. Banerjee, Y. Hirai, T. Tsuchiya and O. Tabata, Kyoto Univ., Japan	<b>31P-8-27</b> Development of Bidirectional Driven Tensile Test Technique for Thin Films  K. Ogane, T. Suzuki, M. Nomura and T. Fujii, Akita Pref. Univ., Japan	
<b>31P-8-28</b> Fabrication and Study of Miniaturized Soft Pneumatic Robotic Finger  T.-Y. Cheng, P.-C. Huang, K.-Y. Huang and Y.-C. Tsai, Natl. Chung Hsing Univ., Taiwan	<b>31P-8-29</b> Pt Plasma Atomic Layer Deposition for Micropore X-Ray Optics Fabricated with Silicon Deep Reactive Ion Etching A. Fukushima 1, D. Ishii 1, Y. Ezoe 1, K. Ishikawa 2, M. Numazawa 1, R. Otsubo 1, H. Suzuki 1, T. Yuasa 1, S. Sakuda 1, T. Uchino, K. Mitsuda 2 and M.J. Sowa 3, 1 Tokyo Metropolitan Univ., 2 ISAS-JAXA, Japan and 3 Veeco CNT, USA	<b>31P-8-30</b> Electrostatic Comb Drive Micromirror Integrated Metallic Glass Torsional Structure  Y.-Y. Chen 1, Z.-Y. Wang 1, Y.-C. Lin 2, T. Ono 3 and Y.-C. Tsai 1, 1 Natl. Chung Hsing Univ., Taiwan, 2 Goertek Technol. Japan and 3 Tohoku Univ., Japan	<b>31P-8-35L</b> Design and Implementation of CMOS-Based Piezoresistive Strain Gauges  S.-H. Tseng, Y.-J. Wang, H.-H. Tsai and Y.-Z. Juang, Natl. Applied Res. Labs., Taiwan	<b>31P-8-36L</b> Development of Thermal Flow Sensor for Respiration Measurement  Y. Kawamoto, Y. Hasegawa, K. Taniguchi, and M. Shikida, Hiroshima City Univ., Japan	
Lunch					
Room A (Cosmos 1, B2F)	Room B (Cosmos 2, B2F)	Room C (Ran 1, B2F)	Room D (Ran 2, B2F)	Room P2 (Dahlia, B2F)	
<b>31A-9: Nanoimprint, Hybrid-NIL, Biomimetics, and Functional Surfaces II</b>  Chairs: A. Miyachi (Tokyo Medical and Dental Univ.) Y. Hirai (Osaka Pref. Univ.)	<b>31B-9: Resist and Directed Self-Assembly</b>  Chairs: T. Nagai (JSR) S. Nagahara (Tokyo Electron)	<b>31C-9: Bio Nano MEMS</b>  Chairs: A. Matsumoto (Tokyo Medical and Dental Univ.) K. Morishima (Osaka Univ.)	<b>31D-9: Microsystem Technology and MEMS III</b>  Chairs: S. Nagasawa (Shibaura Inst. of Technol.) T. Namazu (Aichi Inst. of Technol.)	<b>31P-9: Poster Session VI, Group 2 (13:00-15:00)</b>  Page 13-14	
<b>31A-9-1</b> 13:00 Solution-Processable Fabrication of Integrated Fabry-Perot Absorbers for Multi-Color Printing  S. Baek, K. Kim, Y. Sung, P. Jung and H. Lee, Korea Univ., Korea	<b>31B-9-1</b> 13:00 Theoretical Study on Trade-off Relationships between Resolution, Line Edge Roughness, and Sensitivity in Resist Processes for Semiconductor Manufacturing by Extreme Ultraviolet Lithography (Invited)  T. Kozawa, Osaka Univ., Japan	<b>31C-9-1</b> 13:00 TBC (Invited)  K. Morishima, Osaka Univ., Japan	<b>31D-9-1</b> 13:00 First Demonstration of Lobster Eye X-Ray Optics Fabricated with Deep Reactive Ion Etching  R. Otsubo 1, Y. Ezoe 1, K. Ishikawa 2, M. Numazawa 1, D. Ishii 1, A. Fukushima 1, H. Suzuki 1, T. Yuasa 1, S. Sakuda 1, T. Uchino 1 and K. Mitsuda 2, 1 Tokyo Metropolitan Univ. and 2 ISAS-JAXA, Japan		
<b>31A-9-2</b> 13:20 Superhydrophobic and Superoleophobic Property Enhancement on Guard Ring Micro-Patterned PDMS with Simple Flame Treatment N. Atthi, W. Sripumkhai, P. Pattamang, O. Thongsook, S. Suntalelat, J. Jantawong, R. Meananeatra, J. Supadech, N. Klunngien and W. Jeamsaksiri, NECTEC, Thailand	<b>31B-9-2</b> 13:30 Directed Self-Assembly of Block Copolymers on Chemically Modified Graphene (Invited)  S.O. Kim, KAIST, Korea	<b>31C-9-2</b> 13:30 Wearable High-Powered Biofuel Cells Using Enzyme/Carbon Nanotube Composite Fibers on Textile Cloth  S. Yin, W. Yetianqing, L. Xiaohan, T. Miyake, Waseda Univ., Japan	<b>31D-9-2</b> 13:20 Development of Wireless Underground SAW Sensor Measurement System Using Magnetic Antenna  S.-H. Kim, A.M. Ridwan and K.K. Lee, Ajou Univ., Korea		
<b>31A-9-3</b> 13:40 Fabrication of Hyaluronic Acid Hollow Microneedle Array	<b>31B-9-3</b> 14:00 Polymer Designs for Dense Metal Infiltration	<b>31C-9-3</b> 13:50 Metallic Glass Thin Film Integrated with Flexible Membrane for Electromagnetic Micropump Application	<b>31D-9-3L</b> 13:40 Shock Characteristics of MEMS Inertial Sensors Developed by Ti/Au Multi-Layer Metal Technology		
S. Terashima, C. Tatsukawa, T. takahashi, M. Suzuki and S. Aoyagi, Kansai Univ., Japan	N. Sasao, K. Asakawa and S. Sugimura, Toshiba Memory, Japan	Y.-F. Huang, C.-H. Tsou, C.-J. Hsu and Y.-C. Tsai, Natl. Chung Hsing Univ., Taiwan	T. Ichikawa 1, T. Koga 1, D. Yamane 1, S. Iida 2, N. Ishihara 1, H. Ito 1, T.-F.M. Chang 1, M. Sone 1, K. Machida 1 and K. Masu 1, 1 Tokyo Inst. of Technol. and 2 NTT-AT, Japan		

<b>31A-9-4</b> 14:00 Investigation of The Remaining Mystery on in-Plane Randomness of the Morpho-Blue Using FDTD Simulations; toward Easier Nano-Fabrication Design  K. Yamashita 1, M. Fukihara 1, Y. Hirai 2, Y. Kuwahara 1,3 and A. Saito 1, 1 Osaka Univ., 2 Osaka Pref. Univ. and 3 RIKEN, Japan	<b>31B-9-4</b> 14:20 Thermal Effect in Chemically Amplified Resist Film Exposed to Electron Beam  Y. Ikari 1, K. Okamoto 1, N. Maeda 1, A. Konda 1, T. Kozawa 1 and T. Tamura 2, 1 Osaka Univ. and 2 NuFlare Technol., Japan	<b>31C-9-4</b> 14:10 Capacitance Extraction Method of a Free-Standing Bilayer Lipid Membrane Formed over an Aperture in a Nanofabricated Silicon Chip  Y. Tomioka 1, S. Takashima 1, M. Moriya 1, H. Shimada 1, F. Hirose 2, A. Hirano-Iwata 3 and Y. Mizugaki 1, 1 Univ. of Electro-Communications, 2 Yamagata Univ. and 3 Tohoku Univ., Japan		
<b>31A-9-5</b> 14:20 Effect of Microstructural Surface Inspired by Biomimetic on Biofilm Growth Suppression M. Miyazaki 1 and A. Miyauchi 2, 1 Hitachi and 2 Tokyo Medical and Dental Univ., Japan				
Author's Interview: 14:40-14:50	Author's Interview: 14:40-14:50	Author's Interview: 14:30-14:40	Author's Interview: 14:00-14:10	
<b>Room P2 (Dahlia, B2F)</b>				
<b>31P-9: Poster Session VI, Group 2 (13:00-15:00, Oct. 31)</b>				
<b>Nanocarbons</b> <span style="float: right;">Chair: K. Yanagi (Tokyo Metropolitan Univ.)</span>				
<b>31P-9-1</b> Effects of Catalyst Thickness on the Growth of a Spin-Capable Carbon Nanotube  Y.I. Choi 1, B. Dousti 1, J.Y. Lee 2,3, J.K. Kim 2,3, H.K. An 3, G.S. Lee 1 and D. Jung 3, 1 Univ. of Texas, USA, 2 Kyungpook Natl. Univ. and 3 KITECH, Korea	<b>31P-9-2</b> Electron Transport in Chemically Modified Single-Walled Carbon Nanotube  R. Shima 1,2, A. Hida 2 and K. Ishibashi 2, 1 Tokyo Univ. of Sci. and 2 RIKEN, Japan	<b>31P-9-3</b> Geometric and Electronic Structures of Three-Dimensional Covalent Organic Frameworks: Polymerized Triptycene and Acene  Y. Fujii, M. Maruyama and S. Okada, Univ. of Tsukuba, Japan	<b>31P-9-4</b> Field Emission Properties of Graphene Thin Films  Y. Gao and S. Okada, Univ. of Tsukuba, Japan	<b>31P-9-5</b> 3D Printed Piezoresistive Polymer Composites Strain Sensor  Y.-Y. Chen 1, C.-C. Huang 2 and Y.-C. Tsai 1, 1 Natl. Chung Hsing Univ. and 2 Natl. Central Univ., Taiwan
<b>31P-9-6</b> Insulating Properties of Few-Layer h-BN Film Synthesized by Chemical Vapor Deposition and Sputtering Methods  D. Kondo 1,2, K. Hayashi 1,2, M. Kataoka 1 and S. Sato 1,2, 1 Fujitsu Labs. and 2 Fujitsu, Japan	<b>31P-9-7</b> Comparison between Mono- and Multi-Layer CVD-Grown Graphene Transparent Electrodes for Electrochemiluminescence Applications  N. Hara, T. Watanabe, T. Iwasaki, S. Kosuga and S. Koh, Aoyama Gakuin Univ., Japan	<b>31P-9-49L</b> Structure and Electrical Properties of Graphene Nanoribbons Studied by in Situ Transmission Electron Microscopy  M. Tezura and T. Kizuka, Univ. of Tsukuba, Japan	<b>31P-9-50L</b> Synthesis of MM-Sized Two-Dimensional MoS <sub>2</sub> Layers by Two-Step Chemical Vapor Deposition  A. Ando 1, M. Okada 1, T. Kubo 1, S. Yamamoto 2, T. Irisawa 1, 1 AIST and 2 Ryukoku Univ., Japan	<b>31P-9-51L</b> Benzene Detection Using Metalloporphyrin-Modified Graphene FETs  T. Ikuta 1, H. Masai 2, T. Tamaki 2 and K. Maehashi 1, 1 Tokyo Univ. of Agriculture and Technol. and 2 Univ. of Tokyo, Japan
<b>Nanodevices</b> <span style="float: right;">Chair: F. Ishikawa (Ehime Univ.)</span>				
<b>31P-9-8</b> Electrical Characteristics of Double Back Gate Z <sub>2</sub> -FET on Sub 10nm SOI  S. Kwon 1,2, F. Gamiz 3, C. Navarro 3, P. Galy 4, S. Cristoloveanu 5, J. Ahn 2 and Y.T. Kim 1, 1 KIST, 2 Hanyang Univ., Korea, 3 Univ. of Granada, Spain, 4 STMicroelectronics and 5 MINATEC, France	<b>31P-9-9</b> TCAD Comparison of Planar and Recessed Gate Reconfigurable FETs  Y.T. Kim 1, C. Navarro 2, Y.M. Jhon 1, Y.T. Byun 1 and F. Gamiz 2, 1 KIST, Korea and 2 Univ. of Granada, Spain	<b>31P-9-10</b> Preliminary Study on Position Dependence of 3D Bottleneck Barrier Height Minimum for V <sub>th</sub> Fluctuation Caused by Ion Implantation to Source and Drain Extensions of SOI Tri-Gate FinFETs  T. Tsutsumi, Meiji Univ., Japan	<b>31P-9-11</b> Impacts of Limited EUV Lithography Fidelity on Vertical Nanowire Transistor Electrical Characteristics  X.-Y. Zheng, J.-S. Cai, C.-L. Lee, S.-W. Chien and K.-Y. Tsai, Natl. Taiwan Univ., Taiwan	<b>31P-9-12</b> Chloride Doping on MoS <sub>2</sub> Field-Effect Transistor by 1,2 Dichloroethane  T. Kim and E.K. Kim, Hanyang Univ., Korea
<b>31P-9-13</b> Investigation of Electrical Characteristics on P-Type SnO TFTs with Ni Source/Drain  C.-H. Wu 1, K.-M. Chang 2, Y.-X. Zhang 2, N. Xu 3, Y.-M. Chen 2 and J.-R. Lin 1, 1 Chung Hua Univ., 2 Natl. Chiao Tung Univ. and 3 Natl. Central Univ., Taiwan	<b>31P-9-14</b> Negative Differential Resistance in CaF <sub>2</sub> /Si Double Barrier Resonant Tunneling Diodes via Plasma Etching Mesa Isolation process  Y. Kumagai, S. Fukuyama, H. Tonegawa, K. Mikami, K. Hirose, K. Tomizawa, K. Ichikawa and M. Watanabe, Tokyo Inst. of Technol., Japan	<b>31P-9-15</b> Study for Implementation of Coulomb Blockade Transport on Device Simulators  S. Iizuka, H. Asai, J. Hattori, K. Fukuda and T. Mori, AIST, Japan		
<b>Nanofabrication</b> <span style="float: right;">Chair: T. Shimizu (Kansai Univ.)</span>				
<b>31P-9-16</b> Fabrication and Evaluation of Stacked Polymer Actuator Using Electrospinning Method and Fabrication of Actuator Bending in Different Direction  K. Miyakawa, Y. Takahama, K. Kida, K. Sato and M. Kushida, Chiba Univ., Japan	<b>31P-9-17</b> Formation of Coaggregates of Azobenzene Derivative and Quantum Dot  S. Yamamoto, M. Yamauchi and S. Masuo, Kwansai Gakuin Univ., Japan	<b>31P-9-18</b> Fabrication of Ag Substrate Immobilized Ag Nano-Particles for High Sensitivity Raman Scattering Spectroscopy  K. Tokiyasu, H. Suzuki and H. Sakaue, Hiroshima Univ., Japan	<b>31P-9-19</b> Effect of Concentration of The Etching Solution on Formation of Si-TSVs Using Metal-Assisted Chemical Etching  T. Yorioka, S. Hanatani, T. Ito, S. Shingubara and T. Shimizu, Kansai Univ., Japan	<b>31P-9-20</b> Effect of Pulse Width and Temperature on Resistance Change Behavior of Ti/HfO <sub>2</sub> /Au ReRAM Device  M. Morimoto, R. Hatanaka, T. Shimizu, T. Ito and S. Shingubara, Kansai Univ., Japan

<p><b>31P-9-21</b> The Electric Property of Silver Selenite Nanowires Network for Reservoir Computing Device</p> <p>T. Kotooka 1, S. Lilak 2, A.Z. Stieg 2, H. Tanaka 1, J.K. Gimzewski 2, 1 Kyushu Inst. of Technol., Japan and 2 UCLA, USA</p>	<p><b>31P-9-22</b> Usefulness of Large-Sized Gold Nanoprisms As a Photothermal Therapy Agent</p> <p>K. Kanakubo, K. Sugawa and J. Otsuki, Nihon Univ., Japan</p>	<p><b>31P-9-23</b> Change in Plasmonic Properties by Hybridizing Au Nanoparticles with Electron Donating Ligand</p> <p>T. Fukasawa, K. Sugawa and J. Otsuki, Nihon Univ., Japan</p>	<p><b>31P-9-24</b> Enhancement Control of Triplet-Triplet Annihilation-Based Upconverted Emission by Precisely Adjusting Localized Surface Plasmon Wavelengths</p> <p>S. Watanabe, K. Sugawa, and J. Otsuki, Nihon Univ., Japan</p>	<p><b>31P-9-25</b> Neuronal Pulse Behavior Using Single-Walled Carbon Nanotube/SV<sub>2</sub>W<sub>10</sub>O<sub>40</sub>H<sub>4</sub>TPP-Porphyrin Complex Random Network</p> <p>B. Deep 1, T. Ishizuka 2, T. Kojima 2, D. Goldianto 1, T. Ogawa 3 and H. Tanaka 1, 1 Kyushu Inst. of Technol., 2 Univ. of Tsukuba and 3 Osaka Univ., Japan</p>
<p><b>31P-9-26</b> Mg<sup>2+</sup>-Doped BiFeO<sub>3</sub> Nanocrystalline Powder Synthesized by a Precipitation Method: Preparation, Characterizations, and Its Colossal P. Kum-onsa 1, N. Chanlek 2, P. Thongbai 1 and P. Srepusharawoot 1, 1 Khon Kaen Univ., 2 Synchrotron Light Res. Inst., Thailand</p>	<p><b>31P-9-52L</b> Stable Analog Resistance Change over a Wide Range Achieved by a Molecular-Gap Atomic Switch</p> <p>A. Kassai and T. Hasegawa, Waseda Univ., Japan</p>	<p><b>31P-9-53L</b> Synthesis, Characterization, and Dielectric Relaxations of BiFeO<sub>3</sub> Nanopowders Co-Doped by (La<sup>3+</sup>, Mg<sup>2+</sup>) Ions</p> <p>P. Kum-onsa 1, N. Chanlek 2, M. Takesada 3, P. Srepusharawoot 1 and P. Thongbai 1, 1 Khon Kaen Univ., 2 Synchrotron Light Res. Inst., Thailand and 3 Hokkaido Univ., Japan</p>	<p><b>31P-9-54L</b> Growth of Hetero-epitaxial Al on Ge(111) and Segregation of Ge Crystal by Annealing</p> <p>M. Kobayashi 1, A. Ohta 1, M. Kurosawa 1, M. Araidai 1, M. Ikeda 1, N. Taoka 1, T. Shimizu 2, K. Makihara 1 and S. Miyazaki 1, 1 Nagoya Univ. and 2 Kansai Univ., Japan</p>	<p><b>31P-9-55L</b> Relationship between Vacancies and The Magnetism in Pure Zinc Oxide Nanoparticles</p> <p>H. Kato, K. Oshio, T. Touyama and K. Takase, Nihon Univ., Japan</p>
<b>Inorganic Nanomaterials</b> Chair: T. Tsuchiya (NIMS)				
<p><b>31P-9-27</b> Exploring The Size Effect of Nanoscaled Manganese Cobaltite Spinels</p> <p>W.-C. Zou, C.-L. Pan, C.-R. Lin, Natl. Pingtung Univ., Taiwan</p>	<p><b>31P-9-28</b> Evaluation of Thermoelectric Properties of Hetero-Interconnected Films between Bi<sub>2</sub>Te<sub>3</sub> Nanoplates and Bi<sub>2</sub>Se<sub>3</sub> Electrodeposited Layers</p> <p>X. Li, R. Mori and M. Takashiri, Tokai Univ., Japan</p>	<p><b>31P-9-29</b> N-doped ZnO Visible Light Photocatalyst for Degradation of Methylene Blue</p> <p>D. Kwon and J. Kim, Gachon Univ., Korea</p>	<p><b>31P-9-30</b> Experimental and Theoretical Analyses of Luminescent Properties of Cerium Phosphate</p> <p>S.-Y. Hsu, S.-M. Hung, Y.-K. Hsu, Y.-H. Chiu and J.-S. Lee, Natl. Pingtung Univ., Taiwan</p>	<p><b>31P-9-31</b> Phase Transfer Protocol for Au-Pt Alloy Nanoparticles Fabricated by Laser Induced Nucleation</p> <p>R. Kuroda, T. Nakamura, and M. Nakagawa, Tohoku Univ., Japan</p>
<p><b>31P-9-32</b> First-Principles Simulation of Thermoelectric Properties of BCC High-Entropy Alloy Nanostructures</p> <p>K. Nakamura, Kyoto Univ. of Advanced Sci., Japan</p>	<p><b>31P-9-33</b> CVD Synthesis of Pentagonal and Diamond Shaped h-BN Crystals</p> <p>K.P. Sharma, Y. Niimi, A.K. Sharma, T. Maruyama, Meijo Univ., Japan</p>	<p><b>31P-9-34</b> Leak Sensor for Colorimetric Detection of Hydrogen Sulfide</p> <p>J. Lee 1,2, J.K. Kim 1,2, H.K. An 2, S.H. Kong 1 and D. Jung 2, 1 Kyungpook Natl. Univ. and 2 KITECH, Korea</p>	<p><b>31P-9-35</b> Physical Property of Organic-Terminated Germanane Dispersions by Liquid Exfoliation</p> <p>H. Tachibana, N. Takada and R. Azumi, AIST, Japan</p>	<p><b>31P-9-36</b> Fabrication of Rb<sub>3</sub>Sb<sub>2</sub>Br<sub>9</sub> Perovskite Quantum Dots</p> <p>L. Ali, Y.J. Lee and C.C. Byeon, Kungpook Natl. Univ., Korea</p>
<p><b>31P-9-37</b> Investigation of CsPbBr<sub>3</sub> Perovskite Nanocrystal Photodegradation Process Using AFM and a Single-Particle Spectroscopy</p> <p>Y.A. Darmawan, M. Yamauchi and S. Masuo, Kwansai Gakuin Univ., Japan</p>	<p><b>31P-9-38</b> Oxygen-Tolerant Operation of Solid State Ionic Devices: Advantage of All-Solid-State Structure in Ionic-Gating</p> <p>D. Nishioka 1,2, T. Tsuchiya 1,2, T. Higuchi 2 and K. Terabe 1, 1 NIMS and 2 Tokyo Univ. of Sci., Japan</p>	<p><b>31P-9-56L</b> Hydrophobic Fluoropolymer Interlayer between In<sub>2</sub>O<sub>3</sub> Semiconductor and SiO<sub>2</sub> Gate Insulator for Improvement of Thin-Film Transistor Performance</p> <p>K. Sasaki, K. Nakamura, Y. Shibata and S. Aikawa, Kogakuin Univ., Japan</p>	<p><b>31P-9-57L</b> Fe<sup>3+</sup>/Nb<sup>5+</sup> Co-Doped Rutile-TiO<sub>2</sub> Nanocrystalline Powders Prepared by a Combustion Process: Preparation, Characterization and Their Giant Dielectric Response</p> <p>T. Nachaithong 1, P. Moontragoon 1,2,, N. Chanlek 3 and P. Thongbai 1, 1 Khon Kaen Univ., 2 Commission on Higher Education and Univ. Aenue, Thailand</p>	
<b>Organic Nanomaterials</b> Chair: S. Nagano (Nagoya Univ.)				
<p><b>31P-9-39</b> Photoinitiated Mass Transfer Propagated from a Topmost Photoresponsive Skin Layer</p> <p>I. Kitamura 1, R.B. Berk 2, M. Hara 1, S. Nagano 2 and T. Seki 1, 1 Nagoya Univ., Japan and 2 Tech. Univ. of Munich, Germany</p>	<p><b>31P-9-40</b> Emission Behavior of Ternary Semiconductor Quantum Dots Evaluated by a Single Particle Spectroscopy</p> <p>K. Takemura, W. Iwamoto, M. Yamauchi and S. Masuo, Kwansai Gakuin Univ., Japan</p>	<p><b>31P-9-41</b> Low-Voltage Operation of Diarylethene-Photochromic-Channel Transistors</p> <p>Y. Kurokawa 1,2, R. Hayakawa 1, S. Shimada 3, K. Higashiguchi 3, H.D. Ngo 1, T.D. Dao 1, T. Nagao 1, Y. Noguchi 2, K. Matsuda 3, Y. Wakayama 1, 1 NIMS, 2 Meiji Univ. and 3 Kyoto Univ., Japan</p>	<p><b>31P-9-42</b> Intra-Layer Mesogen Alignment and Long-Range Order of Hetero Smectic Lamellar Structures Incorporating Smectic E Phase</p> <p>A. Seta, M. Hara, S. Nagano and T. Seki, Nagoya Univ., Japan</p>	<p><b>31P-9-43</b> Equilibrium Studies of The Adsorption of Zinc on Ontonanobiomaterials</p> <p>H.-H. Chou 1, S.-K. Ning 2, Y.-C. Lee 1 and H.-C. Yang 1, 1 Kun Shan Univ. and 2 Natl. Univ. of Kaohsiung, Taiwan</p>
<b>NanoTool</b> Chair: R. Kometani (Univ. of Tokyo)				
<p><b>31P-9-44</b> Anisotropic Pyrochemical Etching of Polytetrafluoroethylene by Soft X-Ray</p> <p>K. Fujitani, M. Takeuchi, A. Yamaguchi and Y. Utsumi, Univ. of Hyogo, Japan</p>	<p><b>31P-9-45</b> Ion Scattering Spectroscopy of α-Ga<sub>2</sub>O<sub>3</sub> Grown on r-Plane Sapphire by Mist Chemical Vapor Deposition</p> <p>O. Kubo 1, D. Tamba 1, S. Osaka 1, M. Oda 2,3, H. Tabata 1 and M. Katayama 1, 1 Osaka Univ., 2 Kyoto Univ. and 3 FLOSFA, Japan</p>	<p><b>31P-9-46</b> Effect of The Numbers of Beams and Corners on Resonant Frequency Response of Silicon Microresonator to Near-Infrared-Light Irradiation for Optical Sensing</p> <p>K. Takegami, N. Arai, A. Uesugi, K. Sugano and Y. Isono, Kobe Univ., Japan</p>	<p><b>31P-9-47</b> Near-Infrared Light Absorbers Using Si-Deposited Gold Nanowire Grating Structures</p> <p>K. Takegami, N. Arai, A. Uesugi, K. Sugano and Y. Isono, Kobe Univ., Japan</p>	<p><b>31P-9-48</b> Evaluation of Thermoelectric Properties of VLS-Grown Bridged Si Nanowire</p> <p>A. Uesugi, R. Kitagawa, R. Oguni, K. Sugano and Y. Isono, Kobe Univ., Japan</p>
<p><b>31P-9-58L</b> Pinpoint Control of a Microtubule Movement by Using Local Vertical Electric Field</p> <p>M. Nakamura 1, K. Hatazawa 1, R. Kawamura 2 and T. Hoshino 1, 1 Hirosaki Univ. and 2 Saitama Univ., Japan</p>				

Room P2 (Dahlia, B2F)			
Coffee Break (14:10-15:10)			
Room A (Cosmos 1, B2F)	Room B (Cosmos 2, B2F)	Room C (Ran 1, B2F)	Room D (Ran 2, B2F)
<b>31A-10: Nanocarbons - Synthesis</b>	<b>31B-10: Photolithography and Patterning</b>	<b>31C-10: Nanodevices - Next-Generation Memory &amp; FET</b>	<b>31D-10: Nanofabrication IV</b>
Chairs: H. Omachi (Nagoya Univ.) S. Okada (Univ. of Tsukuba)	Chairs: T. Harada (Univ. of Hyogo) K. Asakawa (Toshiba Memory)	Chairs: Y. Ishikawa (Nara Inst. of Sci. and Technol.) N. Ozaki (Wakayama Univ.)	Chairs: H. Tanaka (Kyushu Inst. of Technol.) K. Takase (Nihon Univ.)
<b>31A-10-1</b> 15:15 Synthesis of Polythiophene from Diiodo-Bithiophene Molecules Inside Carbon Nanotubes H. Kageyama, H. Kishida, and T. Koyama, Nagoya Univ., Japan	<b>31B-10-1</b> 15:15 Statistical Patterning – The Trillion Feature Challenge (Invited) M.J. Maslow, ASML, The Netherlands	<b>31C-10-1</b> 15:15 <i>In-Situ</i> TEM Observation of Cu-WO <sub>x</sub> CBRAM During Gradual Resistance Decrease for The S. Muto, S. Sakai, A. Tsurumaki-Fukuchi, M. Arita and Y. Takahashi, Hokkaido Univ., Japan	<b>31D-10-1</b> 15:15 Control of Peptide Self-Assembly M. Sakurai, P. Koley and M. Aono, NIMS, Japan
<b>31A-10-2</b> 15:35 Growth of Monolayer Hexagonal Boron Nitride Single-Crystals on Exfoliated Graphite H. Arai 1, T. Inoue 1, R. Xiang 1, S. Chiashi 1 and S. Maruyama 1, 2, 1 Univ. of Tokyo and 2 AIST, Japan	<b>31B-10-2</b> 15:45 Considerations of Missing Hole Defects in EUV Patterning H. Yaegashi 1, A. Hara 2, S. Okada 2 and S. Shimura 2, 1 Tokyo Electron and 2 Tokyo Electron Kyushu, Japan	<b>31C-10-2</b> 15:35 Improving Retention in Nonvolatile Charge-Trapping Memory Cell by Incorporating TFET TAHOAOS(TaN/Al <sub>2</sub> O <sub>3</sub> /HfO <sub>2</sub> /SiO <sub>2</sub> /Al <sub>2</sub> O <sub>3</sub> /SiO <sub>2</sub> /Si) Structure Y.S. Song 1, T. Jang 1, K.K. Min 1,2, M.-H. Baek 1, J. Yu 1 and B.-G. Park 1, 1 Seoul Natl. Univ. and 2 SK Hynix, Korea	<b>31D-10-2</b> 15:35 Glass Microchannels Fabricated by Using Live Plant Root and Arbuscular Mycorrhiza S. Nakashima, K. Tokumaru and F. Tsumori, Kyushu Univ., Japan
<b>31A-10-3</b> 15:55 Synthesis of Relatively Small Diameter Inorganic Nanotubes by Sulfurization of Solutionsynthesized Nanowire Precursors and Their Transistor Y. Yamogida, Y. Miyata and K. Yanagi, Tokyo Metropolitan Univ., Japan	<b>31B-10-3</b> 16:05 Exploring Resist Options for Euv Layers of Imec N5 CMOS Vehicle A. Thiam, S. Paolillo, F. Lazzarino, M. Ercken, P. Wong and A. Charley, Imec, Belgium	<b>31C-10-3</b> 15:55 Memristor in The Single Node Echo State Machine:Signal Processing and Neuromimetic Behavior E. Wlazlak, P. Zawal, M. Marzec and K. Szaciłowski, AGH Univ. of Sci. and Technol., Poland	<b>31D-10-3</b> 15:55 Self-Align Fabrication of Nano-Reservoir with NV Center in Diamond Surface for Nuclear Magnetic Resonance of Small Molecules K. Kawakatsu 1, Y. Ishii 1, Y. Hata 1, Y. Saito 1, K. Nakamura 1, K. Nagaoka 1, T. Sonoda 1, T. Tatsuishi 1, T. Teraji 2, S. Onoda 3, T. Higuchi 3,4, K. Yamada 3, T. Oshima 3, T. Shinada 5, H. Kawarada 1, W. Kada 4, O. Hanaizumi 4, J. Isoya 6 and T. Tanii 1, 1 Waseda Univ., 2 NIMS, 3 Natl. Inst. for Quantum and Radiological Sci. and Techno., 4 Gunma Univ., 5 Tohoku Univ. and 6 Univ. of Tsukuba, Japan
<b>31A-10-4</b> 16:15 Fabrication and Study of PANI/ZnO/Graphene Composite Ammonia Sensor C.-Y. Ting 1, P.-L. Wu 1, C.-C. Huang 1, C.-Y. Su 2 and Y.-C. Tsai 1, 1 Natl. Chung Hsing Univ. and 2 Natl. Central Univ., Taiwan	<b>31B-10-4</b> 16:25 Development of High-Power EUV Irradiation Tool in Hydrogen Atmosphere A. Ohgata, T. Harada and T. Watanabe, Univ. of Hyogo, Japan	<b>31C-10-4</b> 16:15 Atomistic Study of Sensing Mechanisms of Molecular Decorated FETs T. Tanaka, T. Yajima and K. Uchida, Univ. of Tokyo, Japan	<b>31D-10-4L</b> 16:15 The Effect of Annealing Process on Oxygen Vacancy in MgO-Based Nonvolatile Resistive Switching Memory Z.-H. Wu 1,2, K.-Y. Chen 1,2, H.-Y. Pan 1,2, C.-W. Lee 1,2, C.-C. Yang 2 and Y.-K. Su 1,2, 1 Natl. Cheng Kung Univ. and 2 Kun Shan Univ., Taiwan
<b>31A-10-5</b> 16:35 Electrical Property of Graphene Coated AFM Probes S. Sharma 1, R. Kizu 1, G. Kalita 1, M. Tanemura 1, M. Umeno 2, 1 Nagoya Inst. of Technol. and 2 C's Techno, Japan		<b>31C-10-5</b> 16:35 Recovery of Plasma-Induced Damage in Ge Fin Fabrication by Thermal Annealing for High Performance Ge pFinFETs W. Mizubayashi 1, H. Oka 1, T. Mori 1, Y. Ishikawa 1, S. Samukawa 2 and K. Endo 1, 1 AIST and 2 Tohoku Univ., Japan	
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