

Tuesday, November 17, 2009

Room P (3F)

17P-1: Plenary Session

Chairpersons:
S. Akita (Osaka Pref. Univ.)
T. Kozawa (Osaka Univ.)

17P-1-0 9:30

Opening Remark: S. Shoji (Waseda Univ.)
General Information: T. Itani (Selete)
Award Presentaion: T. Meguro (Tokyo Univ. of Sci.)
MNC 2008 Outstanding Paper, Most Impressive Presentation and Young Autho's Award

17P-1-1 9:50

Lithography for the 22 nm Half-Pitch and Beyond (Plenary)
S. Wurm, SEMATECH / GlobalFoundries, USA

17P-1-2 10:30

Modeling Optical Lithography Physics (Plenary)
A. Neureuther 1, J. Rubinstein 1, E. Chin 1, L. Wang 1, M. Miller 1, C. Clifford 1 and K. Yamazoe 1, 2
1 Univ. of CA, Berkeley, USA and 2 Canon, Japan

17P-1-3 11:10

III-V Semiconductor Nanowires: From Growth to Device Applications (Plenary)
T. Fukui, K. Tomioka, S. Hara, K. Hiruma and J. Motohisa, Hokkaido Univ., Japan

Lunch

Room A (3F)

Room B (3F)

Room C (3F)

17A-2: DUV, EUV Lithography

Chairpersons:
N. Hirayanagi (Nikon)
J. Kitano (Tokyo Electron)

17B-2: Symposium B: Graphene Growth & Characterization I

Chairpersons:
M. Nagase (NTT)
M. Nihei (Fujitsu)

17C-2: Nanoimprint, Nanoprint and Rising Lithography I

Chairpersons:
A. Yokoo (NTT)
Q. Xia (HP)

17A-2-1 13:30

Current Status and Challenges of Optical Lithography (Invited)
T. Uchiyama
NEC Electronics, Japan

17B-2-1 13:30

Epitaxial Graphene on SiC: Structure and Electronic Properties (Invited)
U. Starke
Max-Planck-Inst., Germany

17C-2-1 13:30

Nanopatterning of 3D Surfaces based on Nanoimprint Lithography – the EU Project NaPANIL (Invited)
H. Schiff
Paul Scherrer Inst., Switzerland

17A-2-2 14:00

Resolution Enhancement for beyond 22nm Node using EUV Exposure Tool
K. Tawarayama, H. Aoyama, K. Matsunaga, S. Magoshi, Y. Tanaka, S. Shirai and H. Tanaka
Selete, Japan

17B-2-2 14:00

Structure and Electronic Properties of Epitaxial Graphene grown on SiC Studied by Surface Electron Microscopy (Invited)
H. Hibino, H. Kageshima, and M. Nagase,
NTT, Japan

17C-2-2 14:00

UV Nanoimprint in Pentafluoropropane at a Minimal Imprint Pressure
H. Hiroshima 1,2, H. Atobe 1,2, Q. Wang 1,2 and S.-W. Youn 1,2
1 AIST and 2 CREST-JST, Japan

17A-2-3 14:20

Development Progress of LPP EUV Lithography Light Source
D. Brandt 1, N. Farrar 1 and J. Bonafede 2
1 Cymer, USA and 2 Cymer Japan, Japan

17B-2-3 14:30

Unique Synthesis of High-Quality Graphene Films on Carbon Doped Metal Surfaces
J.-H. Gao, M.S. Xu and D. Fujita
NIMS, Japan

17C-2-3 14:20

Numerical Simulation on Resist Filling Process by Capillary Force in UV- Nanoimprint Lithography
Y. Nagaoka 1,3, H. Hiroshima 2,3 and Y. Hirai 1,3
1 Osaka Pref. Univ., 2 AIST and 3 CREST-JST, Japan

17A-2-4 14:40

Actinic Phase Defect Detection for EUV Mask with Absorber Patterns
T. Terasawa 1, T. Yamane 1, T. Tanaka 1, O. Suga 1 and T. Tomie 2
1 Selete and 2 AIST, Japan

17B-2-4 14:50

Fabrication of Large-Area Graphene using Liquid Gallium and the Effect of Hydrogen
Y. Miyazawa 2, R. Ueki 1,2, M. Sasaki 2, T. Ichihashi 3 and J. Fujita 1,2
1 PRESTO-JST, 2 Univ. of Tsukuba and 3 NEC, Japan

17C-2-4 14:40

Nanoimprint using Side Chain Crystalline Polymer
M. Okada 1,3,4, S. Nakano 2, S. Kawahara 2 and S. Matsui 1,3
1 Univ. of Hyogo, 2 NITTA, 3 CREST-JST and 4 JSPS, Japan

17A-2-5 15:00

Systematic Measurement Uncertainty of CD-SEM for 2x Node
H. Abe, T. Ikeda and Y. Yamazaki
Toshiba, Japan

17C-2-5 15:00

Pressure-Free Solvent-Assisted Imprint Lithography
G.L. Lai 1, M.H. Hon 1 and I.C. Leu 2
1 Natl. Cheng Kung Univ. and 2 Natl. Univ. of Tainan, Taiwan

17A-2: 15:20-15:35, Author's Interview

Room D1 and Room D2 (2F)

Coffee Break

Room A (3F)	Room B (3F)	Room C (3F)
<p>17A-3: Bio MEMS Lab-on-a-chip</p> <p>Chairpersons: T. Ichiki (Univ. of Tokyo) Y. Takamura (JAIST)</p>	<p>17B-3: Symposium B: Graphene Growth & Characterization I</p> <p>Chairpersons: H. Hibino (NTT) J. Fujita (Univ. of Tsukuba)</p>	<p>17C-3: Nanoimprint, Nanoprint and Rising Lithography I</p> <p>Chairpersons: H. Hiroshima (AIST) H. Schiff (PSI)</p>
<p>17A-3-1 15:40 Controlling Cellular Microenvironments with Microfluidics and Nanostructures (Invited) N.L. Jeon Soul National Univ., Korea Change to 13:20-13:50, November 18 at Room C.</p>	<p>17B-3-1 15:30 Electrical Properties of CVD-grown Multi-layer Graphene for Carbon-based Interconnects (Invited) M. Nihei 1,2,5, M. Sato 1,2,5, D. Kondo 1,2,5, S. Sato 1,2,5, S. Ogawa 3,5 E. Ikenaga 4,5, and Y. Takakuwa 3,5 1 Fujitsu Labs., 2 Fujitsu, 3 Tohoku Univ., 4 JASRI and 5 CREST-JST, Japan</p>	<p>17C-3-1 15:40 Memristors and Memristor-Based Circuits Enabled by Nanoimprint Lithography (Invited) Q. Xia HP Labs., USA</p>
<p>17A-3-2 16:10 Electrokinetic Analysis of Change in H1₆₀ Cells' Surface during Granulocytic Differentiation by On-Chip Cell Electrophoresis R. Matsuhashi, T. Akagi, K. Kawabata, C. Iwata, M.R. Kano, K. Miyazono and T. Ichiki Univ. of Tokyo, Japan</p>	<p>17B-3-2 16:00 Heteroepitaxial Graphene on Silicon: Process&Device Technology for Ultra-high Frequency Devices (Invited) T. Otsuji 1,4, T. Suemitsu 1,4, H. Fukidome 1,4, M. Suemitsu 1,4, V. Ryzhii 2,4 and E. Sano 3,4 1 Tohoku Univ., 2 Univ. of Aizu and 3 Hokkaido Univ. and 4 CREST-JST, Japan</p>	<p>17C-3-2 16:10 Characterization of Anti-Sticking Layers for UV-Nil Molds with Scanning Probe Microscopy M. Kurihara 1,2, T. Shimomura 1, T. Nagai 1, K. Yoshida 1, N. Yamada 1, T. Tomita 1, M. Hoga 1, N. Hayashi 1, H. Ohtani 2 and M. Fujihira 2 1 Dai Nippon Printing and 2 Tokyo Inst. of Technol., Japan</p>
<p>17A-3-3 16:30 High Density Cell Culture using Micro 3D Scaffold with Capillary Bundle Structure T. Omukai 1, A. Kinoshita 2, F. Komada 2 and Y. Utsumi 1 1 Univ. of Hyogo and 2 Himeji Dokkyo Univ., Japan</p>	<p>17B-3-3 16:30 Large-Scale, Uniform and Transferrable Graphene Films synthesized by Chemical Vapor Deposition M. Xu, D. Fujita, J. Gao, E. Watanabe and N. Hanagata NIMS, Japan</p>	<p>17C-3-3 16:30 Growth Behavior of an Adsorbed Monolayer from a Benzophenone -Containing Trimethoxysilane Derivative on a Fused Silica Surface by Chemical Vapor Surface Modification S. Kubo 1,2 and M. Nakagawa 1,2 1 Tohoku Univ. and 2 CREST-JST, Japan</p>
<p>17A-3-4 16:50 Fabrication of Hydrophilic PDMS Containing Silwet L-77 Microporous Structure and its Application to Portable Microfluidic Pump W. Yang 1, Y.G. Nam 1, B.-K. Lee 2, T.H. Kwon 2 and D.S. Kim 1 1 Chung-Ang Univ. and 2 POSTECH, Korea</p>	<p>17B-3-4 16:50 Self-Assembly of Two-Dimensional Graphene Oxide on Silicon Substrates R. Ishikawa, M. Bando, Y. Morimoto, S.Y. Park and A. Sandhu Tokyo Inst. of Technol., Japan</p>	<p>17C-3-4 16:50 Fabrication of a Large Master Mold using Self-Assembled Particles for the Moth-Eye Antireflection Structures T. Nakanishi, T. Hiraoka, A. Fujimoto, T. Okino, S. Sugimura and K. Asakawa Toshiba, Japan</p>
<p>17A-3-5 17:10 The Elemental Analysis by Liquid Electrode Plasma using a Quartz Chip A. Kitano 1, T. Yamamoto 2 and Y. Takamura 1 1 JAIST and 2 Micro Emission, Japan</p>	<p>17B-2, 3: 17:10-17:25, Author's Interview</p>	<p>17C-3-5 17:10 Development of Micro-Fabrication Technology of Thermal-Responsive Polymer using Photolithography and Nanoimprint Method Y. Yokoyama 1,2, S. Yamamura 3, S. Fujiki 1, Y. Takamura 2 and E. Tamiya 4 1 Toyama Industrial Technol. Ctr., 2 JAIST, 3 AIST and 4 Osaka Univ., Japan</p>
<p>17A-3-6 17:30 Label-Free Nanosensor Based on a Multilayer Interference Coupled with Localized Surface Plasmon Resonance H.M. Hiep, H. Yoshikawa and E. Tamiya Osaka Univ., Japan</p>		<p>17C-2, 3: 17:30-17:45, Author's Interview</p>
<p>17A-3: 17:50-18:05, Author's Interview</p>		

Hokkaido Univ., RCIQE Lab. Tour
Date and Time: Nov. 17 (Tuesday) 18:20 - 20:00
Capacity: 30 persons
Reservation: on-site registration at registration desk
Round-trip by a pick-up bus

Wednesday, November 18, 2009

Room A (3F)	Room B (3F)	Room C (3F)
18A-4: Symposium A: Computational Lithography I Chairpersons: S. Nagahara (NEC Electronics) A. Neureuther (Univ. of CA, Berkeley)	18B-4: Nanomaterials I Chairpersons: T. Ishida (AIST) T. Miyazawa (Univ. of Tokyo)	18C-4: Microsystem I Chairpersons: K. Suzuki (Ritsumeikan Univ.) D.F. Wang (Ibaraki Univ.)
18A-4-1 9:00 Dr. Hiroshi Ito Tribute S. Tagawa (Invited) Osaka Univ., Japan	18B-4-1 9:00 Semiconductor Quantum Dots in Metallic Nanostructures (Invited) I. Suemune 1,2, Y. Idutsu 1,2, M. Takada 1, D. Kato 1, S. Ida 1, J.-H. Huh 1, H. Sasakura 1,2 and H. Kumano 1,2 1 Hokkaido Univ. and CREST-JST, Japan	18C-4-1 9:00 SU-8 Cantilevers with Integrated Wheatstone Bridge as a Strain Sensor J.-H. Ahn and D.-W. Lee Chonnam Natl. Univ., Korea
18A-4-2 9:20 Lowering of Lithography k1 by Computational Scaling Technology (Invited) K. Lai 1, T. Farrell 1 and D. Gill 2 1 IBM Semiconductor and 2 IBM Res., USA	18B-4-2 9:30 Growth and Characterization of Telecommunication-Wavelength Quantum Dots using Bi as a Surfactant H. Okamoto 1, T. Tawara 2, H. Gotoh 2, H. Kamada 2 and T. Sogawa 2 1 Hirosaki Univ. and 2 NTT, Japan	18C-4-2 9:20 MEMS-Based Event-Driven On/off Thermometer for Digital Sensing with Ultra-Low Power Consumption Y. Zhang, J. Lu, T. Itoh and R. Maeda AIST, Japan
18A-4-3 9:50 Computational Lithography and its Applications Implemented through Level Set Methods based Inverse Lithography Technology (ILT) Framework (Invited) L. Pang, D. Peng, P. Hu, D. Chen, T. Cecil, G. Xiao, V. Tolani, T. Dam, K.-H. Baik and B. Gleason Luminescent Technol., USA	18B-4-3 9:50 The Relationship Between Length and Conductance in Gold Wires of Single-Atom-Width S. Kodama, H. Masuda and T. Kizuka Univ. of Tsukuba, Japan	18C-4-3 9:40 Micro Three-Axial Capacitive Touch Force Sensor using MOSBE II C.-T. Chuang, C.-K. Chan and R. Chen Natl. Tsing Hua Univ., Taiwan
18A-4-4 10:20 The Fundamental Study of the Mask 3D Effect on the Advanced Phase Shifting Masks for the Next Generation Lithography T. Yuito, A. Misaka and M. Sasago Panasonic, Japan	18B-4-4 10:10 Tungsten Oxide Nanostructures: Synthesis, Characterization and Modification S. Jeon and K. Yong POSTECH, Korea	18C-4-4 10:00 Fabricating MEMS Probe Card Compatible with CMOS-MEMS Process K.-Y. Lee, J.-T. Huang, H.-J. Hsu, R.-G. Wu and T.-C. Tsai Natl. Taipei Univ. of Technol., Taiwan 18C-4-5 10:20 Two Steps Deformation Mechanism of a Carling Carbon Micro Tube K. Usuda, T. Hoshino and K. Morishima Tokyo Univ. of Agriculture and Technol., Japan
Room D1 and Room D2 (2F)		
Coffee Break		
Room A (3F)	Room B (3F)	Room C (3F)
18A-5: Symposium A: Computational Lithography II Chairpersons: T. Sato (Toshiba) K. Lai (IBM)	18B-5: Nanomaterials II Chairpersons: T. Ishida (AIST) T. Miyazawa (Univ. of Tokyo)	18C-5: Microsystem II Chairpersons: T. Ikehara (AIST), H. Takao (Toyohashi Univ. of Technol.)
18A-5-1 11:00 Optical lithography extension by Computational Lithography (Invited) T. Takigawa Brion Technol., Japan	18B-5-1 11:00 Design of Photo-controllable Magnetic Materials (Invited) Y. Einaga Keio Univ., Japan	18C-5-1 11:00 Fabrication of Disk-Type MEMS Resonators with Dry-Etched 150 nm-Wide Capacitive Gap S. Murakami 1, M. Konno 1, T. Ikehara 1, R. Maeda 1 and T. Mihara 2 1 AIST and 2 Olympus, Japan
18A-5-2 11:30 A Study of Source & Mask Optimization for Future Optical Lithography (Invited) T. Matsuyama, T. Nakashima, R. Matsui Nikon, Japan	18B-5-2 11:30 Electron-Phonon Interaction in Nitrogen Doped ZnO Nanoparticles K. Senthilkumar 1, H. Okamoto 1, M. Tokunaga 1, O. Senthilkumar 1, B. Urban 2, A. Neogi 2 and Y. Fujita 1 1 Shimane Univ. and 2 Univ. of North Texas, USA	18C-5-2 11:20 Characterization on Four-Points-Pinned Ring-Shaped Silicon MEMS Resonator T. Oka, H. Tanigawa and K. Suzuki Ritsumeikan Univ., Japan
18A-5-3 12:00 Full-Chip Layout Optimization for Process Margin Enhancement using Model-Based Hot-Spot Fixing System S. Kobayashi 1, S. Kyoh 1, T. Kotani 1, Y. Takekawa 1, S. Inoue 1 and K. Nakamae 2 1 Toshiba and 2 Osaka Univ., Japan	18B-5-3 11:50 Ferromagnetic Ni Doped ZnO Nanocrystalline Thin Films Reveals Magnetic Anisotropy M. Subramanian, F.-Y. Ran, M. Tanemura, T. Hihara, T. Soga and T. Jimbo Nagoya Inst. of Technol., Japan	18C-5-3 11:40 A Vertical Mirror Monolithically fabricated on a Rotary Comb-Drive Actuator for Variable Optical Attenuation I.C.-M. Chang 1, R. Chen 1 and M.T.-K. Hou 2 1 Natl. Tsing Hua Univ. and 2 Natl. United Univ., Taiwan

18A-5-4 12:20 OPC on a Single Desktop: A GPU-Based OPC and OPV Tool for Fabs and Designers I. Torunoglu and A. Karakas Gauda, U.S.A.	18B-5-4 12:10 Superhydrophobic ZnO Surface:Chemical Modification and Effects of UV Irradiation G. Kwak, M. Seol, Y. Tak and K. Yong POSTECH, Korea	18C-5-4 12:00 Fabrication of Variable-Reflection Photonic Crystal MEMS Filters using Subwavelength-Grating-Embedded Substrates Y. Kanamori, S. Haida and K. Hane Tohoku Univ., Japan
	18B-5-5 12:30 Effects of Crystal Structure and Nitrogen Doping on Photoelectric Properties of TiO ₂ Films grown by Atomic Layer Deposition W.J. Lee and M.H. Hon Natl. Cheng Kung Univ., Taiwan	18C-5-5 12:20 Development of Roll Micromold System (RMS) via Deep X-Ray Lithography and Metal Electroforming Processes B.-K. Lee and T.H. Kwon POSTECH, Korea
Lunch		17A-3-1 13:20 Controlling Cellular Microenvironments with Microfluidics and Nanostructures (Invited) N.L. Jeon Soul National Univ., Korea
18A-6: Symposium A: Computational Lithography III Chairpersons: T. Chijimatsu (Fujitsu) T. Takigawa (Brion Technol.)	18B-6: Nanomaterials III Chairpersons: T. Yoshinobu (Tohoku Univ.) Y. Tajima (Riken)	18C-6: Nano Tool Chairpersons: S. Akita (Osaka Pref. Univ.) M. Nagase (NTT)
18A-6-1 14:00 Modeling of Mask and Wafer Side Scattering Effects in Advanced Optical and EUV-Lithography (Invited) A. Erdmann, F. Shao, P. Evanschitzky, T. Fubner and Z. Rahimi Fraunhofer, Germany	18B-6-1 13:50 Growth and Characterization of InGaN/GaN-Based Nano-Parasols T. Kouno ^{1,2} , K. Kishino ^{1,2} H. Hata ¹ and A. Kikuchi ^{1,2} ¹ Sophia Univ. and ³ CREST-JST, Japan	18C-6-1 13:50 Sorting and Functional Analysis of Single Biomolecules by Micro- and Nano-Devices (Invited) T. Funatsu Univ. of Tokyo, Japan
18A-6-2 14:30 Use of Physics-Based Resist Models to Predict Real-World Lithographic Effects (Invited) M.D. Smith, S. Robertson, J. Biafore, T. Graves, and S. Kapasi KLA-Tencor, USA	18B-6-2 14:10 Structural Characterizations of Ferromagnetic MnAs Nanoclusters on Si (111) Substrate by Selective-Area MOVPE K. Morita ¹ , S. Hara ^{1,2} , S. Ito ¹ and T. Fukui ¹ ¹ Hokkaido Univ. and ² PRESTO-JST, Japan	18C-6-2 14:20 Alignment of Size-Homogeneous Ge Dots on Si (001) Substrate with Two-Dimension Hole Array H.M. Chen ¹ , Y.P. Lai ¹ , G.L. Luo ² and C.H. Kuan ¹ ¹ Natl. Taiwan Univ. and ² Natl. Nano Device Labs., Taiwan
18A-6-3 15:00 The Role of Physical Lithography Simulation in Manufacturing Flows (Invited) W. Demmerle Synopsys, Germany	18B-6-3 14:30 Synthesis of Highly Vertically Aligned Carbon Nanotube Forest on Fe/Al Catalyzed Substrate for Yarning Application B.H. Choi, H.N. Yoo, Y.B. Kim and J.H. Lee Korea Inst. of Industrial Technol., Korea	18C-6-3 14:40 Electrostatically Actuated Chemical Scanning Force Microscopy Probe with Tunable Spring C.-Y. Shao, Y. Kawai, M. Esashi and T. Ono Tohoku Univ., Japan
18A-4, 5, 6: 15:30-15:45 , Author's Interview	18B-6-4 14:50 Raman Scattering of Single-Walled Carbon Nanotubes in Early Growth Stages using Laser-Irradiated Chemical Vapor Deposition T. Tsuji, K. Inoue, Y. Ohno, K. Maehashi and K. Matsumoto Osaka Univ., Japan	18C-6-4 15:00 Fabrication of Low-Voltage SWCNT-Thin Film Transistor using Ink-Jet Printing H. Okimoto ¹ , T. Takenobu ¹ , K. Yanagi ^{2,3,4} , Y. Miyata ^{2,5} , H. Kataura ^{2,3} , T. Asano ⁶ and Y. Iwasa ¹ ¹ Tohoku Univ., ² AIST, ³ CREST-JST, ⁴ Tokyo Metropolitan Univ., ⁵ Nagoya Univ. and ⁶ Brother Industries, Japan
	18B-6-5 15:10 First-Principles Simulation on Thickness Dependence of Piezoresistance Effect in Silicon Nanosheets K. Nakamura, T. Toriyama and S. Sugiyama Ritsumeikan Univ., Japan	18C-6-5 15:20 Aligned Single-Walled Carbon Nanotube Arrays on Patterned SiO ₂ /Si Substrates K. Maehashi, S. Iwasaki, Y. Ohno, T. Kishimoto, K. Inoue and K. Matsumoto Osaka Univ., Japan
	18B-4, 5, 6: 15:30-15:45 , Author's Interview	18C-6-6 15:40 Mechanical Resonance of Cantilevered Carbon Nanotubes in Liquid S. Sawano ¹ , T. Arie ^{1,2} and S. Akita ^{1,2} ¹ Osaka Pref. Univ. and ² CREST-JST, Japan
Room D1 and D2 (2F)		
Poster Session I (16:00-18:00)		
DUV, EUV Lithography and Metrology		
18D-7-1 Structural Optimization of Single Grating Diffraction for Use in EUV Interferometric Lithography M. Saib ¹ , C. Constancias ² , P. Michallon ² , B. Dalzotto ² and M. Besacier ¹ ¹ CNRS-LTM Grenoble and ² CEA Grenoble, France	18D-7-2 Current Research Status of EUV Source in China C. Zhang, P. Lu, Y. Zhao and Q. Wang Harbin Inst. of Technol., China	18D-7-3 Holistic Optimization for Lithography at Ion Implant Layers T. Ojima, M. Asano, M. Takahashi, Y. Seino and S. Mimotogi Toshiba, Japan

<p>18D-7-4 Development of the Extreme Ultraviolet Interference Lithography System N. Sakagami, Y. Fukushima, Y. Kamaji, T. Iguchi, Y. Yamaguchi, M. Tada, T. Harada, T. Watanabe and H. Kinoshita Univ. of Hyogo, Japan</p>	<p>18D-7-5 Withdrawn Resist Evaluation using EUV Interference Lithography Y. Fukushima, N. Sakagami, T. Kimura, Y. Kamaji, T. Iguchi, Y. Yamaguchi, M. Tada, T. Harada, T. Watanabe and H. Kinoshita Univ. of Hyogo, Japan</p>	<p>18D-7-6 Imaging Performance Advancement of an Extreme Ultraviolet Microscope K. Takase, Y. Kamaji, N. Sakagami, T. Iguchi, M. Tada, Y. Yamaguchi, Y. Fukushima, T. Harada, T. Watanabe and H. Kinoshita Univ. of Hyogo, Japan</p>
<p>18D-7-7 A GPU-Based Source-Mask Optimization Solution I. Torunoglu and A. Karakas Gauda, USA</p>	<p>18D-7-8 Critical Dimension Measurement of an EUV Mask using by a Coherent EUV Scattering Microscope at NewSUBARU T. Harada 1,2, J. Kishimoto 1,2, T. Watanabe 1,2 and H. Kinoshita 1,2 1 Univ. of Hyogo and 2 CREST-JST, Japan</p>	<p>18D-7-9 Effects of Fresnel Zone Plate Fabrication Errors on Focusing Performances T.-H. Pei, K.-Y. Tsai and J.-H. Li Natl. Taiwan Univ., Taiwan</p>
<p>18D-7-10 A Study of Flare Variation in Extreme Ultraviolet Lithography for Sub-22nm Line and Space Pattern J. Lee, G. Song and O. Kim POSTECH, Korea</p>	<p>18D-7-11 Refilled Phase Shift Mask for Minimizing Shadowing Effect H.-D. Shin, C.Y. Jeong, S. Lee, T.G. Kim and J. Ahn Hanyang Univ., Korea</p>	<p>18D-7-142L Skewness and Kurtosis Risks of Quality Control in Overlay Inspection T. Sato, K. Kasa, T. Ikeda, M. Asano and Y. Sato Toshiba, Japan</p>
<p>Electron- and Ion-Beam Lithography</p>		
<p>18D-7-12 Vibration Isolation of a Full Electron Beam Projection Lithography System F.C. Wang, M.F. Hong and J.Y. Yen Natl. Taiwan Univ., Taiwan</p>	<p>18D-7-13 Manufacturability Analysis of a MEMS-Based Electron-Optical System Design for Direct-Write Lithography S.-Y. Chen 1, S.-C. Chen 1, H.-H. Chen 1, T.-H. Pei 1, K.-Y. Tsai 1 and H.-H. Pan 2 1 Natl. Taiwan Univ. and 2 ITRI, Taiwan</p>	<p>18D-7-14 Low Energy Microcolumn Design for Large Field View Inspection D.-W. Kim, Y.C. Kim, S.-J. Ahn, T.-S. Oh and H.-S. Kim Sun Moon Univ., Korea</p>
<p>18D-7-15 High Resolution Electron Beam Direct Write on ZEP520 at 5 KeV F.-M. Wang 1, S. Ono 2, H.-H. Su 1, K.-Y. Tsai 1 and C.-H. Kuan 1 1 Natl. Taiwan Univ., Taiwan and 2 Elionix, Japan</p>	<p>18D-7-16 Design and Fabrication of Multi-Aperture Plate for Multi Ion Beam Patterning System Y. Choi, T.-G. Kim, J. Han, B.-K. Min, Y.-J. Kim and S.J. Lee Yonsei Univ., Korea</p>	<p>18D-7-17 Maskless Formation of Patterned Gallium Nitride Layer on Low-Energy Ga-Ion-Implanted Silicon Nitride Surface by Metal-Organic Chemical Vapor Deposition K. Ishiizumi 1, J. Kikkawa 1, Y. Nakamura 1, A. Sakai 1 and J. Yanagisawa 2 1 Osaka Univ. and 2 Univ. of Shiga Pref., Japan</p>
<p>18D-7-18 Ion Track Nanolithography for Nanotemplate Fabrication using Thick Cross-Linked PMMA 950 Photoresist E. Koukharenko 1, J. Kuleshova 1, S. Leong 1, M.J. Tudor 1, D. O'Connell 2, J. Pike 2, S.P. Beeby 1, I. Nandhakumar 1 and N.M. White 1 1 Univ. of Southampton, UK and 2 Tyndall Natl. Inst., Ireland</p>	<p>18D-7-143L Analysis of a Resist Surface Deformation by Electron Beam Irradiation Y. Akiba 1 and M. Kotera 1,2 1 Osaka Inst. of Technol. and 2 Nanomaterials Microdevices Res., Japan</p>	
<p>Resist Materials and Processing</p>		
<p>18D-7-19 Relationship between Normalized Image Log Slope (NILS) and Chemical Gradient in Chemically Amplified Extreme Ultraviolet Resists –Effect of Secondary Electron Migration T. Kozawa 1,2 and S. Tagawa 1,2 1 Osaka Univ. and 2 CREST-JST, Japan</p>	<p>18D-7-20 Development of New Negative-Tone Molecular Resists based on Alkylphenyl Calixarene for EUVL H. Hayashi 1, M. Echigo 1, H. Oizumi 2 and T. Itani 2 1 Mitsubishi Gas Chemical Company and 2 Selete, Japan</p>	<p>18D-7-21 Development of Positive-Tone Molecular EUV Resist based on “Noria” Derivatives H. Oizumi 1, T. Itani 1, H. Kudo 2, Y. Suyama 2 and T. Nishikubo 2 1 Selete and 2 Kanagawa Univ., Japan</p>
<p>18D-7-22 Sensitivity Enhanced Electron-Beam Lithography on HSQ H. Ohki and Y. Ono JEOL, Japan</p>	<p>18D-7-23 Study of Acid-Leaving Groups of Positive-Working Molecular Resists for High Resolution A. Yamada, S. Hattori, S. Saito and K. Asakawa Toshiba, Japan</p>	<p>18D-7-24 Molecular Resists based on Fullerene Derivativ K. Tanaka 1, K. Kawakami 2 and N. Harada 2 1 Mitsubishi Chemical and 2 Mitsubishi Chemical Group Sci. and Technol. Res., Japan</p>
<p>18D-7-25 Studies of the Acid Generator for RLS Tradeoff Improvement in EUV Photoresists Y. Utsumi 1, Y. Komuro 1, M. Irie 1, K. Matsuzawa 1, H. Hada 1, T. Haga 1, and S. Ogawa 2 1 Tokyo Ohka Kogyo and 2 Iwate Univ., Japan</p>	<p>18D-7-26 Photo-Acid Generator Sans Chromophore for EUV Resists K.S. Mayya 1, Y. Kang 2, T. Yasue 1, S.-H. Oh 1, S.-W. Choi 1 and C.-H. Park 1 1 Samsung Electronics and 2 Kyunghee Univ., Korea</p>	<p>18D-7-144L Effect of Direct Excitation of Acid Generators upon Exposure to Extreme Ultraviolet Radiation H. Yamamoto 1, T. Kozawa 1, S. Tagawa 1, T. Hirayama 2, T. Iwai 2 and K. Sato 2 1 Osaka Univ. and 2 Tokyo Ohka Kogyo, Japan</p>
<p>18D-7-145L Short-Lived Intermediates of Fluorinated Benzene Derivatives Generated upon Exposure to Ionizing Radiation S. Higashino 1, K.Okamoto 2,3, A. Saeki 1,3, T. Kozawa 1,3, and S. Tagawa 1,3 1 Osaka Univ., 2 Hokkaido Univ. and 3 CREST-JST, Japan</p>		
<p>Nanodevices</p>		
<p>18D-7-27 Applications of Monolayer of Microspheres on Solar Cells and LEDs C.-H. Chan, C.-H. Hou, C.-C. Chen, G.-T. Chen and J.-I. Chyi Natl. Central Univ., Taiwan</p>	<p>18D-7-28 Preparation of Multilayer Thin Films for Application to Dye-Sensitized Solar Cells H. Chang, Y.-L. Chen and M.-J. Kao Natl. Taipei Univ. of Technol., Taiwan</p>	<p>18D-7-29 Air-Stable Hybrid Inverted Solar Cells using Titanium Dioxide and Polymer:Fullerene W.-H. Baek, T.-S. Yoon, H.H. Lee and Y.-S. Kim Myongji Univ. Korea</p>

<p>18D-7-30 Optoelectronic Characterization of ZnO and ZnO-Carbon Nanotubes Photo-Anode Electrodes in Dye-Sensitized Solar Cells Y.R. Wu, M. Chen and H.S. Koo Minghsin Univ. of Sci. and Technol., Taiwan</p>	<p>18D-7-31 Alloyed Quantum Dots with Tunable Emission Wavelength and Their Use as Light Emitting Diodes Y.-C. Pu 1,2 and Y.-J. Hsu 2 1 ITRI and 2 Natl. Chiao Tung Univ., Taiwan</p>	<p>18D-7-32 An n-ZnO/p-Si Crossed Nanowire Light-Emitting Diode K. Kim, J. Koo, J. Kang, M. Lee, C. Yoon, K. Cho and S. Kim Korea Univ., Korea</p>
<p>18D-7-33 Enhanced Electroluminescence of ZnO/GaN LED's by Applying ZnO/ZnMgO Multi Quantum Wells and Photonic Crystal Structure Fabricated by the Nanoimprint Lithography J.-H. Park, I.-S. Kim, J.-C. Park, M.W. Oh and B.-T. Lee Chonnam Natl. Univ., Korea</p>	<p>18D-7-34 Characteristics of All Solid State Electrochromic Mirror with LPWON Electrolyte S.H. Jee, N. Kakati and Y.S. Yoon Yonsei Univ., Korea</p>	<p>18D-7-35 GaN Light-Emitting Diodes with Various Nano-Scale Photonic Crystal Structures Y.C. Shin 1, D.H. Kim 1, W.H. Lee 1, B.G. Lee 1, D.J. Chae 1, J.W. Yang 1, J.-M. Park 2, C. Kristen 2, K.-M. Ho 2, H.-Y. Ryu 3, J.H. Baek 4, T. Jung 4 and T.G. Kim 1 1 Korea Univ., Korea, 2 Iowa State Univ., USA, 3 Inha Univ., Korea and 4 Korean Photonics Technol. Inst., Korea</p>
<p>18D-7-36 Drastic Enhancement of Luminescence and Single Photon Emission from InAs QDs Pillar Structures Embedded in Niobium Layer Y. Idutsu 1,2, S. Odashima 1,2, H. Nakajima 1, D. Kato 1, S. Ida 1, H. Sasakura 1,2, H. Kumano 1,2 and I. Suemune 1,2 1 Hokkaido Univ. and 2 CREST-JST, Japan</p>	<p>18D-7-37 Low-Loss Photonic Crystal Defect Waveguides and Integrated Cavities in InP/InGaAsP for TM-Polarized Light P. Ma, P. Kaspar, Y. Fedoryshyn and H. Jäckel ETH Zürich, Switzerland</p>	<p>18D-7-38 Resonant Coupling between Surface Plasmons and InGaN/GaN Multiple Quantum Well by Two-Dimensional Silver Dot-Array C.-C. Lan 1, C.-H. Lu 1, Y.-L. Lai 2 and C.-P. Liu 1 1 Natl. Cheng Kung Univ. and 2 Genesis Photonics, Taiwan</p>
<p>18D-7-39 Competition between Surface Plasmon Polaritons and Guided Resonance in SiN Photonic Crystal Slabs Coated with Various Silver Thin Films J.H. Shyu, N. Ou, J.H. Chien and J.C. Wu Natl. Changhua Univ. of Education, Taiwan</p>	<p>18D-7-40 Integration of DSSC with Thermoelectric Modules to Constitute a Novel Photo-Thermoelectric Generator H. Chang, M.-J. Kao, C.-H. Peng and Z.-R. Yu Natl. Taipei Univ. of Technol., Taiwan</p>	<p>18D-7-41 PZT Thin Film Capacitors Transferred onto Flexible Substrates S.J. Kim, B.S. Kim, Y. Oh and H.-S. Lee Samsung Electro-Mechanics, Korea</p>
<p>18D-7-42 Nonvolatile Polymer Memory Device based on Glycerol-Modified Poly(3,4 Ethylenedioxythiophene):Poly(Styrene Sulfonate) (G-PEDOT:PSS) B. Park and O. Kim POSTECH, Korea</p>	<p>18D-7-43 Poly(3-Hexylthiophene)/Fullerene Organic Thin-Film Transistors: Investigation for an Application in Nanodevice Memory K.A. Mohamad, K. Uesugi and H. Fukuda Muroran Inst. of Technol., Japan</p>	<p>18D-7-44 Performance Enhancement of P3HT Based TFTs by using MWCNT Source and Drain C.H. Chang 1 and C.H. Chien 1,2 1Natl. Chiao Tung Univ. and 2 Natl. Nano Device Labs., Taiwan</p>
<p>18D-7-45 Phosphorus Ion Doping to Silicon Nanocrystal Assembly by Ion Implantation K. Hirata 1, M. Gibo 1, K. Yoshida 3, M. Inada 2, I. Umezui 1, S. Nagamachi 3, T. Saitoh 2 and A. Sugimura 1 1 Konan Univ., 2 Kansai Univ. and 3 Ion Technol. Ctr., Japan</p>	<p>18D-7-46 DFT and MD Simulation of the Hydrogen Atom on Carbon Materials T. Iyama and H. Tachikawa Hokkaido Univ., Japan</p>	<p>18D-7-47 Noise Redundancy of a Single-Electron Depressing-Synapse Network D. Kurotaki and T. Oya Yokohama Natl. Univ., Japan</p>
<p>Nanofabrication</p>		
<p>18D-7-48 Fabrication of Hybrid-Polymer SERS Sensor using Laser Interference and Ultraviolet Nanoimprint Lithography T.-L. Chang 1, D.-Z. Lin 1, C.-H. Huang 1, K.-Y. Cheng 1, S.-W. Luo 1,2, J.-Y. Chu 1, C.-C. Su 1, T.-H. Chou 1, J.-H. Tsai 1 and C.-W. Hsieh 1 1 ITRI and 2 Natl. Tsing Hua Univ., Taiwan</p>	<p>18D-7-49 Synthesis and Magnetic Property of Multiferroic BiMnO₃ Nanoparticles in the Pores of Mesoporous Silica T. Tajiri 1, M. Harazono 2, H. Deguchi 2, M. Mito 2, A. Kohno 1 and S. Kohiki 2 1 Fukuoka Univ. and 2 Kyushu Inst. of Technol., Japan</p>	<p>18D-7-50 Dry Etching of Si using Ar/F₂ Plasma A. Matsutani 1, H. Ohtsuki 2 and F. Koyama 1 1 Tokyo Inst. of Technol. and 2 Samco Inter Natl., Japan</p>
<p>18D-7-51 Fabrication of Microcontact Offset Plate by using Fountain-Pen Nanolithography M. Onoue and H. Ushijima AIST, Japan</p>	<p>18D-7-52 Structural Changes in the DLC Films Fabricated using Ga Focused Ion Beam Assisted Deposition by Heat Treatment K. Kanda 1, M. Okada 1, Y. Kang 1, M. Niibe 1, T. Suzuki 2 and S. Matsui 1 1 Univ. of Hyogo and 2 Nagaoka Univ. of Technol., Japan</p>	<p>18D-7-53 Shear Induced Unidirectional Patterning of Polyaromatics and Double-Stranded Polymers S.-L. Lee and C.-H. Chen Natl. Taiwan Univ., Taiwan</p>
<p>18D-7-54 Mechanical Characteristics of Nanosprings Fabricated by Focused-Ion-Beam Chemical Vapor Deposition using Ferrocene Source Gas Y. Nakai 1, Y. Kang 1, M. Okada 1,2, Y. Haruyama 1, K. Kanda 1 and S. Matsui 1 1 Univ. of Hyogo and 2 JSPS, Japan</p>	<p>18D-7-55 Fabrication of Single Electron Transistor using Superconducting Nb Nanogap Electrodes T. Nishino 1,2, R. Negishi 1, H. Ozawa 3 and K. Ishibashi 1 1 RIKEN, 2 Chiba Univ. and 3 Kyushu Univ., Japan</p>	<p>18D-7-56 Suppression of Back-Scattering Effect in Electron-Beam Lithography and Precise Control of Nb Etching Processes J.-H. Huh 1, Y. Hayashi 1 and I. Suemune 1,2 1 Hokkaido Univ. and 2 CREST-JST, Japan</p>
<p>18D-7-57 Effect of Hydrogen Termination on Surface Roughness Variation of Si(110) by Reflow Oxidation during High Temperature Ar Annealing K. Araki 1,2, H. Isogai 2, R. Takeda 2, K. Izunome 2, Y. Matsushita 2 and X. Zhao 1 1 Tokyo Univ. of Sci. and 2 Covalent Materials, Japan</p>	<p>18D-7-58 Synthesis and Cathodoluminescence of AlN Nanocrystallites and Nanowires on Si Substrates X. Zhao 1, R. Kasahara 1, T. Hori 1, F. Jing 1, S. Harako 1 and S. Komuro 2 1 Tokyo Univ. of Sci. and 2 Toyo Univ., Japan</p>	<p>18D-7-59 Polyimide Micro/Nano-Structures Patterning based on Contact-Transferred and Mask-Embedded (CMEL) Lithography Y.-C. Lee and C.-Y. Chiu Natl. Cheng Kung Univ., Taiwan</p>

18D-7-60 Photoemission Spectroscopic Analysis with Synchrotron Radiation of Direct Nitridation of Al(111) by Supersonic N ₂ Molecular Beam Y. Teraoka, J. Harries and A. Yoshigoe Japan Atomic Energy, Japan	18D-7-61 Deposition Yield and Physical Property of Carbon Films Deposited by FIB-CVD T. Kaito 1, H. Oba 1, Y. Sugiyama 1, A. Yasaka 1, J. Fujita 2, T. Suzuki 3, K. Kanda 4 and S. Matsui 4 1 SII NanoTechnol., 2 Univ. of Tsukuba, 3 Nagaoka Univ. of Technol. and 4 Univ. of Hyogo, Japan	18D-7-62 Fabrication of Perylenediimide Nanoparticle by Laser Ablation in Water T. Asahi and R. Yasukuni Osaka Univ., Japan
18D-7-63 Fabrication of Silver Pore Arrays and Their Superhydrophobicity Properties J.-H. Lee 1,4, M.-H. Hon 1, Y.-W. Chung 2 and I.-C. Leu 3 1 Natl. Cheng Kung Univ., 2 ITRI, 3 Natl. Univ. of Tainan and 4 Min-Hwei College of Health Care Management, Taiwan	18D-7-64 Effect of Mask Pattern Distance on Diameter of Nanorod formed in a N-Type Silicon K.-P. Kim, H.-K. Lyu, S.-K. Lim and D.-I. Chang Daegu-Gyeongbuk Inst. of Sci. and Technol. (DGIST), Korea	18D-7-65 Surface Smoothing of Polycrystalline Substrates with Gas Cluster Ion Beams T. Mashita, N. Toyoda and I. Yamada Univ. of Hyogo, Japan
18D-7-66 Impact of Surface Pre-Treatment on Metal Migration induced by Remote H ₂ -Plasma Treatment K. Makihara, A. Kawanami, M. Ikeda, S. Higashi and S. Miyazaki Hiroshima Univ., Japan	18D-7-67 Controlled Synthesis of TiO ₂ Nanotubes by Anodic Oxidation and Their Application in Dye Sensitized Solar Cells T. Kim, S.H. Jee, S.J. Kim, Y.S. Yoon and S.-Y. Choi Yonsei Univ., Korea	
Nanomaterials		
18D-7-68 Refractive Index Regulation of Gold Nanocrystal Superlattices by Varying the Nanocrystal Size S. Sato, T. Ito and K. Kimura Univ. of Hyogo, Japan	18D-7-69 Optical Properties and N ₂ Adsorption Characteristic of Self-Twin Zinc Oxide Nanoarrays Assemblies X.L. Hu, Y. Masuda, T. Ohji and K. Kato AIST, Japan	18D-7-70 Excimer Assisted Low-Temperature Annealing of Electro-Spinning Deposited Titanium Oxide Nanowires T. Ishida 1,2 and T. Itoh 1,2 1 AIST and 2 NEDO, Japan
18D-7-71 Kinetic Studies on the Synthesis of Vertically-Aligned CuO Nanowires by Thermal Oxidation S.L. Cheng, M.F. Chen and S.W. Lee 1 Natl. Central Univ., Taiwan	18D-7-72 Large-Scale Synthesis of Single-Crystal Porous Platinum Nanocubes Y. Yang 1,2, R. Koike 2, G. Kawamura 2 and M. Nogami 2 1 Chinese Academy of Sciences, China and 2 Nagoya Inst. of Technol., Japan	18D-7-73 Growth Mechanism and Characteristics of ZnO Nanostructures doped with In and Ga S.-H. Yang, S.-Y. Hong, C.-H. Tsai and S.-X. Li Natl. Kaohsiung Univ. of Applied Sci., Taiwan
18D-7-74 Withdrawn	18D-7-75 Withdrawn Coprecipitation Assisted Hydrothermal Synthesis of PLZT Hollow Sphere in The Size Regime of about 4nm K. Zhu, R. Zhu, H. Ji and J. Qiu Nanjing Univ. of Aeronautics and Astronautics, China	18D-7-76 Formation, Characterization and Properties of Al-Doped V ₂ O ₅ Nanorods M.W. Huang 1, Y.C. Su 2, L.W. Chang 2, F.S. Shieu 1 and H.C. Shih 1,2 1 Natl. Chung Hsing Univ. and 2 Natl. Tsing Hua Univ., Taiwan
18D-7-77 Rheology Enhancement of Polypyrrole /Alginate Nanocomposite T. Thanpitcha 1, A. Sirivat 1, A.M. Jamieson 2 and R. Rujiravanit 1 1 Chulalongkorn Univ., Thailand and 2 Case Western Reserve Univ., USA	18D-7-78 Effects of Electrolytes and Pore Widening on Photoluminescence of Nanoporous Alumina Membranes C.-Y. Yen 1, S.-C. Lo 2,3, J.-H. Chen 2 and C.-G. Kuo 1 1 Natl. Taiwan Normal Univ., 2 Material and Chemical Res. Labs. and 3 ITRI, Taiwan	18D-7-79 Preparation of CdS with Reverse Micelle Method and Photo-Degradation of Toxic Organic Y. He 1, P. Wang 1, A.P. Deng 1, J. Yang 1, Y.P. Huang 1 and Y. Yang 2 1 Three Gorges Univ. and 2 Chinese Academy of Sciences, China
18D-7-80 Preparation and Characterization of Zinc Oxide Films Deposition by Ion Beam Assisted Molecular Beam Epitaxy S.J. Kim 1, W.-K. Choi 2 and H.K. Park 3 1 Yonsei Univ. 2 KIST and 3 ETRI, Korea	18D-7-81 Preparation and Characterization of Bi ₂ Cu _{0.1} V _{0.9} O _{5.35} X Electrolyte Material for SOFC Application J.G. Lee, S.H. Kim, H.W. Choi, K.H. Kim and H.H. Yoon Kyungwon Univ., Seongnam, Korea	18D-7-82 Fabrication and Characterization GDC Electrolyte Thin Films by E-Beam Technique for IT-SOFC S.H. Kim, J.G. Lee, H.W. Choi, K.H. Kim and H.H. Yoon Kyungwon Univ., Korea
18D-7-83 Hydrothermal Synthesis, Characterizations and Applications of ZnO Nanowire Array and Its Heterostructures M. Seol, Y. Tak and K. Yong POSTECH, Korea	18D-7-84 Atomic and Electronic Structure Investigation of Eu ²⁺ Doped β-SialON: ab initio Calculations D.S. Yoo, S.-H. Lee, H.-L. Park and Y.-C. Chung Hanyang Univ., Korea	18D-7-85 Effect of Applied Pressure on Preparation of Mesoporous NiO-SDC Anode for SOFC I. Lee, H.W. Choi, K.H. Kim, H.H. Yoon and S.J. Park Kyungwon Univ., Korea
18D-7-86 Preparation of ZnSe Nanocrystals using Water-in-oil Microemulsions H.S. Kim, J.S. Kim, H.H. Yoon, J.H. Kim and S.J. Park Kyungwon Univ., Korea	18D-7-87 Direct Precipitation of AuNPs on Polystyrene Spheres having Bifunctional Groups S.C. Hsiao 1, J.L. Ou 1, Y. Sung 2 and M.D. Ger 1 1 Natl. Defense Univ. and 2 Chung Shan Inst. of Sci. and Technol., Taiwan	18D-7-88 Anisotropic Exciton Rabi Oscillations in Telecommunication Band Quantum Dot T. Miyazawa, T. Nakaoka, K. Watanabe, N. Kumagai and Y. Arakawa Univ. of Tokyo, Japan
18D-7-89 Field Emission Characteristics of TiO ₂ Nanostructures with Various Nitrogen -Doping Contents K.-Y. Lee, J.-H. Cai and K.-S. Nian Natl. Taiwan Univ. of Sci. and Technol., Taiwan	18D-7-90 Magnetic Ordering in Epitaxial Au Nanostructures on Si(100) Y.-L. Huang, H.-L. Wang, M.-H. Wu and Z.-Y. Yu Natl. Dong Hwa Univ., Taiwan	18D-7-91 Optical Characteristic of inclined ZnO Nanowire Array by Oblique Angle Sputtering and Hydrothermal Process J.-H. Huang 1, C.-Y. Chen 2, Y.-F. Lai 1, Y.-C. Lin 1, Y.-I. Shih 1, J.H. He 2 and C.-P. Liu 1 1 Natl. Cheng Kung Univ. and 2 Natl. Taiwan Univ., Taiwan

<p>18D-7-92 Barrier Properties of TiNx Thin Films formed by New Deposition Method assisted by Radical Reaction M.B. Takeyama 1, M. Sato 1, Y. Hayasaka 2, E. Aoyagi 2 and A. Noya 1 1 Kitami Inst. of Technol. and 2 Tohoku Univ., Japan</p>	<p>18D-7-93 Fabrication of Metal Nanowires Sandwiched with Gold for Self-Assembling of NW Sensors M. Yamanaka 1, K. Aoki 1, Y. Ishida 1, Y. Ohya 1, S. Tanaka 2, T. Shimizu 3, and S. Shingubara 1 1 Kansai Univ. 2 Natl. Inst. of Information and Communications Technol. and 3 Seicho, Japan</p>	
Nano-Tool		
<p>18D-7-94 Temperature Dependence of Cantilevered Carbon Anotube Oscillation S. Fukami, T. Arie and S. Akita Osaka Pref. Univ., Japan</p>	<p>18D-7-95 Vibration Characteristics-Tunable Resonator Fabrication by Focused-Ion -Beam Chemical Vapor Deposition S. Nishi, R. Kometani, S. Warisawa and S. Ishihara Univ. of Tokyo, Japan</p>	<p>18D-7-96 Active Feedback Cooling of a GaAs Micromechanical Beam Resonator T. Watanabe 1,2, K. Onomitsu 1 and H. Yamaguchi 1,2 1 NTT and 2 Tohoku Univ., Japan</p>
<p>18D-7-97 Inkjet Printed Ni/Au Source/Drain Electrode for Organic Thin-Film Transistor W.D. Chen 1, C.P. Chang 1, Y. Sung 2 and M.D. Ger 1 1 Natl. Defense Univ., 2 Chung Shan Inst. of Sci. and Technol., Taiwan</p>	<p>18D-7-98 Electrical Circuit Fabrication with Nano-Size Copper Ink by Ink-Jet Print Y. Kumashiro 1,2, H. Nakako 1, M. Inada 1, K. Kuroda 1, K. Yamamoto 1 and A. Izumi 2 1 Hitachi Chemical and 2 Kyushu Inst. of Technol., Japan</p>	<p>18D-7-99 Polarization Characteristics of Light Emission from an individual Multiwall Carbon Nanotube during Joule Heating Y. Ohshima, T. Arie and S. Akita Osaka Pref. Univ., Japan</p>
<p>18D-7-100 Latex Sphere Monolayers as a Versatile Platform for Nano-Texturing of Surfaces for Microanalysis H. Takei, T. Yamaguchi, T. Kaya and M. Aoyama Toyo Univ., Japan</p>	<p>18D-7-101 Field Emission Characteristics of the Screen-Printed Marimo Carbon T. Aoki 1, H. Gamo 2, K. Nakagawa 3, T. Ando 4 and M. N.-Gamo 1 1 Toyo Univ., 2 Toppan Printing, 3 Kansai Univ. and 4 NIMS, Japan</p>	<p>18D-7-102 Molecular Dynamics Simulation of NC-AFM Surface Vacancy Characterization: Influence of Temperature H.N. Pishkenari and A. Meghdri Sharif Univ. of Technol., Iran</p>
<p>18D-7-103 Electronic Properties of Crossed In₂O₃-CuO Nanowire Junction assembled Inside DB-FIB System M.-W. Lai 1, S.-C. Hsu 1, S.-C. Lo 1 and C.-W. Hsu 2 1 ITRI and 2 Natl. Tsing Hua Univ., Taiwan</p>	<p>18D-7-104 Nanostructured Metal Templates as Catalyst Arrays for Nanostructure Growth H.D. Wanzelboeck, G. Hochleitner, P. Roediger, K. Alberer, A. Lugstein and E. Bertagnolli Vienna Univ. of Technol., Austria</p>	
Nanoimprint, Nanoprint and Rising Lithography		
<p>18D-7-105 Effects of Environmental Gas in UV-Nanoimprint on Characteristics of UV-Curable Resin Q. Wang 1,2 and H. Hiroshima 1,2 1 AIST and 2 CREST-JST, Japan</p>	<p>18D-7-106 Resist Properties of Poly (Methyl Methacrylate) and Poly (Styrene) Thin Films patterned by Thermal Nanoimprint Lithography for Au Electrodeposition K. Nagase, S. Kubo and M. Nakagawa Tohoku Univ., Japan</p>	<p>18D-7-107 Enhancement in Light Conversion Efficiency of Silicon Solar Cells by using Nanoimprint Anti-Reflection Layer J.Y. Chen and K.W. Sun Natl. Chiao Tung Univ., Taiwan</p>
<p>18D-7-108 Size Dependence of Quick Cavity Filling Behavior in UV Nanoimprint using Pentafluoropropane Gas S.-W. Youn 1,2, H. Hiroshima 1,2, M. Takahashi 1 and R. Maeda 1 1 AIST and 2 CREST-JST, Japan</p>	<p>18D-7-109 A New Hybrid Mold Technology for Ultraviolet Nanoimprint Lithography C.-H. Lin 1, C.-Y. Wang 1, C.-T. Chuang 2 and R. Chen 2 1 Chinese Culture Univ. and 2 Natl. Tsing Hua Univ., Taiwan</p>	<p>18D-7-110 Resist Profile Simulation in UV- Nanoimprint Lithography M. Shibata 1,2, A. Horiba 1, H. Kawata 1,2 and Y. Hirai 1,2 1 Osaka Pref. Univ. and 2 CREST-JST, Japan</p>
<p>18D-7-111 Fluorescent UV-Curable Resists for UV Nanoimprint Lithography K. Kobayashi 1,2, N. Sakai 3, S. Matsui 2,4 and M. Nakagawa 1,2 1 Tohoku Univ., 2 CREST-JST, 3 Toyo Gosei and 4 Univ. of Hyogo, Japan</p>	<p>18D-7-112 Nanoimprint on Sol-Gel Low-K Porous Silica M. Okada 1,3,4, Y. Kang 1,3, T. Nakayama 2, Y. Haruyama 1,3, K. Kanda 1,3 and S. Matsui 1,3 1 Univ. of Hyogo, 2 ULVAC, 3 CREST-JST and 4 JSPS, Japan</p>	<p>18D-7-113 Ultrasonic Nanoimprint in Spin-On-Glass (SOG) coated on Si Substrate H. Mekaru and M. Takahashi AIST, Japan</p>
<p>18D-7-114 Roll-To-Roll Micro-Replication Process on Flexible Plastic Substrate C.W. Hsieh, M.Y. Hsieh, H.Y. Lin, T.H. Chou, K.Y. Cheng and T.L. Chang ITRI, Taiwan</p>	<p>18D-7-115 Molecular Dynamics Study on Polymer Filling Process in Nanoimprint Lithography A. Taga 1,2, S. Horimoto 1, M. Shibata 1,2, M. Yasuda 1,2, H. Kawata 1,2 and Y. Hirai 1,2 1 Osaka Pref. Univ. and 2 CREST-JST, Japan</p>	<p>18D-7-116 Injection Molding of Nanopatterned Polymethylpentene Substrates for Bio-Optical Applications R. Hainberger 1, R. Bruck 1, N. Kataeva 1, R. Heer 1, A. Köck 1, P. Czepl 2, K. Kaiblinger 2, F. Pipelka 2 and B. Bilenberg 3 1 Austrian Inst. of Technol., 2 Hubertus Goller, Austria and 3 NIL Technol., Denmark</p>
Bio MEMS, Lab on a Chip		
<p>18D-7-117 Nd₂TiO₅ Sensing Membrane-Based Electrolyte-Insulator-Semiconductor for pH Detection and Urea Biosensor T.-M. Pan, Z.-H. Lu, J.-C. Lin, Y.-K. Chien, M.-H. Wu and C.-S. Lai Chang Gung Univ., Taiwan</p>	<p>18D-7-118 High Efficiency Micro Reactor operated by Surface-Acoustic-Wave T. Saiki 1,2, K. Okada 2 and Y. Utsumi 2 1 Hyogo Pref. Inst. of Technol. and 2 Univ. of Hyogo, Japan</p>	<p>18D-7-119 Testing of Novel Two-Dimensional Coplanar Microfluidic Array System S.-M. Tseng, M.C. Ho and R. Chen Natl. Tsing Hua Univ., Taiwan</p>

<p>18D-7-120 Trap Probability Analysis of DNA Trap using Electric and Hydrodrag Force Fields in Taper Shaped Microchannel Y. Tomizawa and Y Takamura JAIST, Japan</p>	<p>18D-7-121 Manipulation of Single Particles and Cells using nDEP and Microwell Electrodes P.-H. Huang 1, K.-C. Lan 1, L.-S. Jang 1 and Y.-C. Hsu 2 1 Natl. Cheng Kung Univ. and 2 Southern Taiwan Univ., Taiwan</p>	<p>18D-7-122 Fabrication Process of Flexible and Transparent Microelectrode Arrays for in vivo Sensing H. Takehara, A. Nagaoka, J. Noguchi, T. Akagi, H. Kasai and T. Ichiki Univ. of Tokyo, Japan</p>
<p>18D-7-123 NiSi/Si Nanowire Schottky Diode as Charged Molecule Detection C.-T. Yeh, C.-C. Chen and J.-T. Sheu Natl. Chiao Tung Univ., Taiwan</p>	<p>18D-7-124 Cell-Driven Micro Locomotion of Micro-Parts for Micro Assembly T. Hoshino and K. Morishima 1 Tokyo Univ. of Agriculture and Technol., Japan</p>	<p>18D-7-125 Large-Scale RNA Microarray Printing using a Femtoliter-Scale Microwell Array Plate as a Template S. Mohri 1,2, T. Osawa 1, M. Biyani 1,2, T. Akagi 1,2 and T. Ichiki 1,2 1 Univ. of Tokyo and 2 CREST-JST, Japan</p>
<p>18D-7-126 Multi-Chamber PCR Device for Accurate Clinical Diagnosis with Liquid Introduction utilizing PDMS Gas Permeability N.B. Trung 1, E. Tamiya 2 and Y. Takamura 1 1 JAIST and 2 Osaka Univ., Japan</p>	<p>18D-7-127 A Novel Cell Purification Device based on Fast Image Analysis in Cellomics Era A. Hattori 1, M. Hayashi 1 and K. Yasuda 1, 2 1 Kanagawa Academy of Sci. and Technol. and 2 Tokyo Medical and Dental Univ., Japan</p>	
Microsystem Technology and MEMS		
<p>18D-7-128 FEM Analysis of Micro End Mills to Estimate Machining Errors due to Tool Deflection H.-S. Sohn 1, H.-Y. Lee 1, H.-J. Cho 1, J.-S. Lim 1, T.-I. Seo 1 and J.-I. Sohn 2 1 Univ. of Incheon and 2 KITECH, Korea</p>	<p>18D-7-129 High Coplanarity and Fine Pitch Copper Pillar Bumps Fabrication Method H.-J. Hsu, J.-T. Huang, K.-Y. Lee and T.-C. Tsai Natl. Taipei Univ. of Technol., Taiwan</p>	<p>18D-7-130 Direct Writing of Resist Patterns Using an Air-Pressure Dispenser with a Wire Nozzle S. Ohtsuka and T. Horiuchi Tokyo Denki Univ., Japan</p>
<p>18D-7-131 Laser Assisted Powder Jet Implantation Wirings using Copper Micro-Particles M. Miura 1, A. Konno 1, K. Suzuki 1, K. Miura 2, T. Yuzawa 3, M. Watanabe 3 and T. Kuriyagawa 4 1 Miyagi Natl. College of Technol., 2 Miura Sensor Res. 3 G.E.S. and 4 Tohoku Univ., Japan</p>	<p>18D-7-132 The Influence of Laser Beam Scanning Patterns in the Mask Fabrication for Micro-Abrasive Jet Machining G.S. Yu 1, I.H. Lee 1 and T.J. Ko 2 1 Chungbuk Natl. Univ. and 2 Yeungnam Univ., Korea</p>	<p>18D-7-133 Conductive Silver Patterns via Ethylene Glycol Vapor Reduction of Ink-Jet Printed Silver Nitrate Tracks on a Polyimide Substrate J.-T. Wu, S.L.-C. Hsu, M.-H. Tsai and W.-S. Hwang Natl. Cheng-Kung Univ., Tainan</p>
<p>18D-7-134 CMOS-MEMS Piezoresistive Force Sensor for Vertical Probe Card K.-Y. Lee, J.-T. Huang, H.-J. Hsu, M.-C. Chiu and T.-C. Tsai Natl. Taipei Univ. of Technol., Taiwan</p>	<p>18D-7-135 Fabrication of Well-Ordered Wrinkling ZnO Microstructures by PMMA Templates J.C. Lee 1, M.H. Hon 1, I.C. Leu 2 and H.Y. Lin 1 1 Natl. Cheng Kung Univ. and 2 Natl. Univ. of Tainan, Taiwan</p>	<p>18D-7-136 Fabrication of a Microlens Array Based on Quartz Wet Etching and its Application in Photolithography M. Nam, H. Oh, G. Kim, K. Lee and S. Yang Ajou Univ., Korea</p>
<p>18D-7-137 Fabrication of Silicon and Carbon Nanotube-Based Hollow Needles using a Hydrogenstimulated Deep Reactive Ion Etching Z. Sanaee, M. Mehran and S. Mohajerzadeh Univ. of Tehran, Iran</p>	<p>18D-7-138 Fabrication of a Micro Hole-Array for Hollow Cathode Discharges G. Kim, K. Kim, K. Choi and S.S. Yang Ajou Univ., Korea</p>	<p>18D-7-139 Enhancement of the Durability of a MEMS-Based Liquid Droplet Lens J.K. Lee, K.W. Park, H.R. Kim and S.H. Kong Kyungpook Natl. Univ., Korea</p>
<p>18D-7-140 Investigation on the Frequency Discrepancy between Actuator-Membrane Displacement and Flow Rate Spectrum of Diaphragm Micropumps Y.-C. Hsu 1, N.-B. Le 1 and L.-S. Jang 2 1 Southern Taiwan Univ. and 2 Natl. Cheng Kung Univ., Taiwan</p>	<p>18D-7-141 Investigation and Characterization into The Micropump Performance Enhancement by Utilizing the Improvement in The Hydrophilic Property of Microfluidic System Y.-C. Hsu 1, M.-S. Lin 1 and L.-S. Jang 2 1 Southern Taiwan Univ. and 2 Natl. Cheng Kung Univ., Taiwan</p>	
Room P (3F)		
<p>18:15-20:15 Banquet Namba Award Ceremony</p>		

Thursday, November 19, 2009

Room A (3F)	Room B (3F)	Room C (3F)
19A-8: Nano-Carbon Devices Chairpersons: Y. Ohno (Nagoya Univ.), K. Maehashi (Osaka Univ.)	19B-8: Nanofabrication I Chairpersons: T. Hasegawa (NIMS) A. Kohno (Fukuoka Univ.)	19C-8: Electron & Ion Beam Lithography Chairpersons: H. Yamashita (HOYA) J. Yanagisawa (Univ. of Shiga Pref.)
19A-8-1 9:00 GHz Graphene Gtransistor for RF Application (Invited) Y.-M. Lin, K. Jenkins, C. Dimitrakopoulos, A. Valdes-Garcia, D. Farmer, H.-Y. Chiu, J.H. Hannon, P. Avouris and A. Grill IBM T.J. Watson Res, USA	19B-8-1 9:00 Toward Nanoscale Functional PDMS by Embedding Vertical Au/SiO ₂ /Au Nanosheets for Wettability Enhancement L. Jalabert, M. Kumemura, C. Bottier and H. Fujita Univ. of Tokyo, Japan	19C-8-1 9:00 Projection Charged Particle Nanolithography and Nanopatterning (Invited) H. Loeschner and E. Platzgummer IMS Nanofabrication, Austria
19A-8-2 9:30 Importance of Graphene/Metal Contact for High-Performance Graphene FET K. Nagashio, T. Nishimura, K. Kita and A. Toriumi Univ. of Tokyo, Japan	19B-8-2 9:20 Functional Thin Film Fabrication by Nanoinkjet Printing Method based on AFM K. Kaisei, K. Kobayashi, H. Yamada and K. Matsushige Kyoto Univ., Japa	19C-8-2 9:30 Electron Beam Recorder for Patterned Magnetic Media Mastering H. Kitahara, Y. Uno, H. Suzuki, T. Kobayashi, H. Tanaka, Y. Kojima, M. Kobayashi, M. Katsumura, Y. Wada and T. Iida PIONEER, Japan
19A-8-3 9:50 Ambipolar Behavior in Epitaxial Graphene Based FETs on Si Substrate R. Olac-vaw 1, H.-C. Kang 1, H. Karasawa 1, Y. Miyamoto 1, H. Handa 1, H. Fukidome 1,2, T. Suemitsu 1,2, M. Suemitsu 1,2 and T. Otsuji 1,2 1 Tohoku Univ. and 2 CREST-JST, Japan	19B-8-3 9:40 Fabrication of Pt Nanocrystalline Field Emitter for Electron-Wave Interference by Beam-Induced Deposition K. Murakami, T. Matsuo, F. Wakaya and M. Takai Osaka Univ., Japan	19C-8-3 9:50 Proximity Effect Correction for Three Dimensional e-Beam Lithography N. Belic 1, N. Unal 1, D. Ritter 1, U. Hofmann 1 and D. Mahalu 2 1 GenlSys, Germany and 2 Weizmann Institute of Sci. in Rehovot-Israel, Israel
19A-8-4 10:10 Logic Gates based on Carbon Nanotube Field-Effect Transistors with SiNx Passivation Films T. Kishimoto, Y. Ohno, K. Maehashi, K. Inoue and K. Matsumoto Osaka Univ., Japan	19B-8-4 10:00 Evaluation of interfacial Layer for Restraint of Fermi Level Pinning Y. Iwashita 1, T. Adachi 2, K. Itaka 2, A. Ogura 1 and T. Chikyow 2 1 Meiji Univ. and 2 NIMS, Japan	19C-8-4 10:10 An Electron Field Emitter assisted by Electric Field Enhancement of Plasmon Resonance K. Iwami, A. Iizuka and N. Umeda Tokyo Univ. of Agriculture and Technol., Japan
19A-8-5 10:30 Control of Carrier Type for High- Performance Carbon Nanotube Fets by Fixed Charges Incorporated in Gate Insulator Y. Ohno, N. Moriyama, T. Kitamura, S. Kishimoto and T. Mizutani Nagoya Univ., Japan	19B-8-5 10:20 A Nano Thermometer based on a Single Sb ₂ Se ₃ Nanorod T.Y. Fan 1, K.W. Sun 1 and C.W. Liu 2 1 Natl. Chiao Tung Univ. and 2 Natl. Dong Hwa Univ., Taiwan	19C-8-5 10:30 Non Core-Shell Nanostructure Deposition on Focused-Ion-Beam Chemical Vapor Deposition R. Kometani, S. Warisawa and S. Ishihara 1 Univ. of Tokyo, Japan 19C-8: 10:50-11:05, Author's Interview
Room D1 and Room D2 (2F)		
Coffee Break		
Room A (3F)	Room B (3F)	Room C (3F)
19A-9: Nanowire Device Chairpersons: K. Nishiguchi (NTT) N. Banno (NEC)	19B-9: Nanofabrication II Chairpersons: M. Masahara (AIST) K. Takase (Nihon Univ.)	19C-9: Resist Materials and Processing I Chairpersons: H. Oizumi (Selete) M. Endo (Osaka Univ.)
19A-9-1L 11:10 Observation of Electron Quantum-Interferences in a Chemically Synthesized Si Nanowire F. Kutsuna 1,2, S. Huang 1, N. Fukata 3,4 and K. Ishibashi 1 1 RIKEN, 2 Tokyo Univ. of Sci., 3 NIMS and 4 PRESTO-JST, Japan	19B-9-1 11:00 Development of Nanogap Switching Devices for Memories (Invited) M. Ono 1, S. Furuta 1, Y. Masuda 1, T. Sumiya 1, T. Takahashi 1, H. Suga 2, M. Horikawa 2, T. Shimizu 2, and Y. Nitoh 2 1 Funai Electric Adv. Appl. Tech. Res. Inst. and 2 AIST, Japan	19C-9-1 11:10 Non-Chemically Amplified Negative Resist for EUV Lithography (Invited) M. Shirai Osaka Pref. Univ., Japan
19A-9-2 11:30 A Comparison of Corner Effect in Gate-All-Around and Triple-Gate Multiple-Nanowire SONOS Thin-Film Transistors P.-C. Huang, L.-A. Chen and J.-T. Sheu Natl. Chiao Tung Univ., Taiwan	19B-9-2 11:30 Stacked Nanowire Gate all Around (GAA) and Phi (Φ) Field Effect Transistors Fabrication S. Pauliac-Vaujour, C. Comboroure, C. Vizioz, S. Barnola, V. Maffini Alvaro, A. Hubert, C. Dupre and T. Ernst CEA/LETI, France	19C-9-2 11:40 Dynamics of Radical Cation of Protected Poly(4-Hydroxystyrene)s for EUV and Electron Beam Resists K. Okamoto 1,2, M. Tanaka 3, T. Kozawa 2,3, S. Tagawa 2,3 and T. Sumiyoshi 1 1 Hokkaido Univ., 2 CREST-JST and 3 Osaka Univ., Japan
19A-9-3 11:50 Single-Electron Stochastic Resonance using Si Nano-Wire Transistors K. Nishiguchi, S. Miyamoto and A. Fujiwara NTT, Japan	19B-9-3 11:50 Connection of Polydiacetylene Nanowires to a Single Functional Molecule via Covalent Bonds Y. Okawa 1, S. K. Mandal 1, T. Hasegawa 1, S. Tsukamoto 2, C. Hu 1, Y. Tateyama 1,3, J. P. Hill 1, K. Ariga 1 and M. Aono 1 1 NIMS, Japan, 2 Forschungszentrum Juelich, Germany and 3 PRESTO-JST, Japan	19C-9-3 12:00 High-Sensitivity Fluorine-Polymer Based Resists for EUV Lithography J.J. Santillan 1, T. Yamashita 2, M. Morita 2, Y. Tanaka 2 and T. Itani 1 1 Selete and 2 Daikin Industries, Japan

19A-9-4 12:10 Analysis on Voltage-Transfer Characteristics In GaAs-Based Three -Branch Nanowire Junctions controlled by Schottky Wrap Gates D. Nakata ¹ , H. Shibata ¹ , Y. Shiratori ¹ and S. Kasai ^{1,2} 1 Hokkaido Univ. and 2 PRESTO-JST, Japan	19B-9-4 12:10 Influence of Initial Internal Stress on Ion-Induced Bending (IIB) Effect T. Yoshida, M. Nagao and S. Kanemaru AIST, Japan	19C-9-4 12:20 Study on Radiation Chemistry of Fluoronaphthalene for Extreme Ultraviolet Resists S. Ikeda ^{1,2} , K. Okamoto ^{1,2} , H. Yamamoto ^{1,2} , A. Saeki ^{1,2} , T. Kozawa ^{1,2} and S. Tagawa ^{1,2} 1 Osaka Univ. and 2 CREST-JST, Japan
19A-9-5 12:30 GaAs/AlGaAs Core-Multishell Nanowire-Based Light-Emitting-Diode Arrays on Si Substrate K. Tomioka, T. Tanaka, J. Motohisa, S. Hara, K. Hiruma and T. Fukui Hokkaido Univ., Japan	19B-9-5 12:30 Removal of Surface Oxide Layer from Silicon Nanocrystals by HF Vapor Etching Y. Nakamine ^{1,2} , T. Kodera ^{1,2} , K. Uchida ^{1,2} and S. Oda ^{1,2} 1 Tokyo Inst. of Technol. and 2 SORST-JST, Japan	19C-9-5 12:40 Simulation Studies on Relationship between Resolution, Line Edge Roughness, and Sensitivity in Chemically Amplified Resists of Electron Beam Lithography A. Saeki ^{1,2} , T. Kozawa ^{1,2} and S. Tagawa ^{1,2} 1 Osaka Univ. and 2 CREST-JST, Japan
19A-8, 9: 12:50-13:05 , Author's Interview	19B-8, 9: 12:50-13:05 , Author's Interview	
Lunch		
Poster Session II (14:10-16:10) : Room D1 and Room D2 (2F)		Room C (3F)
Poster Session II (14:10-18:10)		19C-10: Resist Materials and Processing II Chairpersons: H. Kudo (Kanagawa Univ.) S. Masuda (Fuji Film)
Nanodevices		
19D-10-1 Unique Short-Channel Characteristics in Sub-100 nm MOSFETs with Inversion-Layer Source/Drain V. Singh, H. Inokawa and H. Satoh Shizuoka Univ., Japan	19D-10-2 Preliminary Study of Backscattering Phenomenon from Drain Region in Silicon Nanodiode using NEGF Approach T. Tsutsumi and K. Tomizawa Meiji Univ., Japan	19C-10-1 14:10 Pattern Transferability of In-Plane Half-Cylinders of Diblock Copolymers formed by Rapid Graphoepitaxy T. Yamaguchi, K. Yamazaki and H. Yamaguchi NTT, Japan
19D-10-3 The Influence of Source/Drain Extension Region Profile and Spacer Length on Device Performance of Tri-Gate Body-Tied FinFETs J.-J. Song, D.-H. Moon and O. Kim POSTECH, Korea	19D-10-4 Low Temperature MOSFETs Technology with Schottky Barrier Source/Drain, Novel Structure, Metal Gate, and No Sidewall J.-S. Oh, M.-S. Kim and W.-J. Cho Kwangwoon Univ., Korea	19C-10-2 14:30 Development of New Positive-Tone Molecular Resists based on Fullerene Derivatives for EUV Lithography H. Oizumi ¹ , K. Tanaka ² , K. Kawakami ³ and T. Itani ¹ 1 Selete, 2 Mitsubishi Chemical and 3 Mitsubishi Chemical Group Sci. and Technol. Res. Ctr., Japan
19D-10-5 Structural Properties and Electrical Characteristics of High-k Sm ₂ TiO ₅ Gate Dielectrics T.-M. Pan, K.-M. Chen, L.-C. Yen and S.-H. Su Chang Gung Univ., Taiwan	19D-10-6 High Frequency, Real-Time Current Measurements of a Silicon Nanowire Field-Effect-Transistor H.T. Kim ¹ , Y.K. Kim ¹ , M.G. Kang ¹ , D.J. Lee ¹ , M.S. Choi ¹ , J.H. Ahn ¹ , Y.S. Yu ³ , J.S. Hwang ¹ , D. Ahn ⁴ , D. Whang ² and S.W. Hwang ¹ 1 Korea Univ., 2 Sungkyunkwan Univ., 3 Hankyong Natl. Univ. and 4 Univ. of Seoul, Korea	19C-10-3 14:50 Decomposition and Roughness Analysis of CA Molecular Resist for Reducing LWR D. Shiono ^{1,2} , H. Hada ¹ , K. Sato ¹ , T. Watanabe ² and H. Kinoshita ² 1 Tokyo Ohka Kogyo and 2 Univ. of Hyogo, Japan
19D-10-7 Fabrication and High Frequency Characterization of Si Nanowire Transistor by Dielectrophoresis Alignment M.G. Kang ¹ , J.H. Ahn ¹ , J.H. Lee ² , D.H. Hwang ¹ , H.T. Kim ¹ , D.J. Lee ¹ , M.S. Choi ¹ , J.S. Rieh ¹ , D.M. Whang ² , M.H. Son ³ , D. Ahn ³ , Y.S. Yu ⁴ and S.W. Hwang ¹ 1 Korea Univ., 2 Sungkyunkwan Univ., 3 Univ. of Seoul and 4 Hankyong Natl. Univ., Korea	19D-10-8 Temperature Dependence of Excess Noise Properties of AlN Nanowire Devices L.C. Li ¹ , S.S. Hong ² , S.F. Jen ² , Y.W. Suen ^{2,3} , T.W. Liu ⁴ , G.M. Hsu ⁵ , C.C. Chen ⁴ , L.C. Chen ⁶ and K.H. Chen ⁶ 1 Natl. Chiao Tung Univ., 2 Natl. Chung Hsing Univ., 3 Natl. Nano Device Labs., 4 Natl. Taiwan Normal Univ., 5 Natl. Taiwan Univ. and 6 Academia Sinica, Taiwan	19C-10-4 15:10 Negative Type EB- and EUV Resist Materials based on Water-Wheel Like Cyclic Oligomer (Noria) H. Seki ¹ , Y. Kato ¹ , H. Kudo ¹ , T. Nishikubo ¹ , K. Maruyama ² , T. Kai ² , T. Shimokawa ² , H. Oizumi ³ and T. Itani ³ 1 Kanagawa Univ., 2 JSR and 3 Selete, Japan
19D-10-9 Single-Hole Charging and Discharging Phenomena in Carbon Nanotube Field-Effect Transistor-Based Nonvolatile Memory T. Otori, S. Nagaso, Y. Ohno, K. Maehashi, K. Inoue and K. Matsumoto Osaka Univ., Japan	19D-10-10 Resistance Switching in a SiC Nanowire/ Au Nanoparticle Network Y. Mori, H. Kohno and S. Takeda Osaka Univ., Japan	19C-10-5 15:30 High Sensitivity and Resolution Fullerene Resist J. Manyam, M. Manickam, J.A. Preece, R.E. Palmer and A.P.G. Robinson Univ. of Birmingham, UK
19D-10-11 Enormous Magneto-Resistance Switching observed in Partially Ni-Filled AAO on Si S. Yamanishi ¹ , Y. Shiotani ¹ , K. Murakami ² , M. Takai ² , T. Shimizu ³ and S. Shingubara ¹ 1 Kansai Univ., 2 Osaka Univ. and 3 Seicho, Japan	19D-10-12 Effect of Strained Channel on Electrical Characteristics of Capacitorless DRAM Cell M.-S. Kim, J.-S. Oh and W.-J. Cho Kwangwoon Univ., Korea	19C-10-6 15:50 High Resolution Negative-Working Molecular Resist derived from Truxene S. Hattori, A. Yamada, S. Saito and K. Asakawa Toshiba, Japan
19D-10-13 Charge Trapping Characteristics of High-K HfO ₂ with Variable Thickness for High Performance Non-Volatile Memory Applications H.-W. You ¹ , G.-H. Park ¹ , J.-W. Jung ² and W.-J. Cho ¹ 1 Kwangwoon Univ. and 2 Sejong Univ., Korea	19D-10-14 Electrical Properties of HfO ₂ with High-k Tunnel Layer Charge Trap Flash Memory S.-M. Oh ¹ , K.-S. Kim ¹ , G.-H. Park ¹ , J.-W. Jung ² and W.-J. Cho ¹ 1 Kwangwoon Univ. and 2 Sejong Univ., Korea	19C-9, 10: 16:10-16:25 , Author's Interview

<p>19D-10-15 A Local-Trapping, Low-Voltage and High-Speed Program Technique by a Substrate Forward-Assisted Electron Injection in 2-Bit SONOS Flash Memory Y. Zhang, H.-M. An, H.D. Kim, Y.J. Seo and T.G. Kim Korea Univ., Korea</p>	<p>19D-10-16 A Four-Bit/Cell SONOS Array with Common Source Line for High-Density Flash Memory Applications H.-M. An 1, Y. Zhang 1, H.D. Kim 1, Y.J. Seo 1, B. Kim 2 and T.G. Kim 1 1 Korea Univ. and 2 Jinju Natl. Univ., Korea</p>	<p>19D-10-17 Charge Injection Characteristics of NiSi-Nanodots/Silicon-Quantum-Dots Hybrid Floating Gate in MOS Structures M. Ikeda, S. Nakanishi, N. Morisawa, K. Makihara and S. Miyazaki Hiroshima Univ., Japan</p>
<p>19D-10-18 Carrier Charging Mechanism of Metal-Silicide Nanocrystals with Multi-Stacked Tunnel Layer D.U. Lee 1, K.B. Seo 1, S.J. Han 1, J.S. Kim 1, S.P. Kim 1, E.K. Kim 1, G.-H. Park 2 and W.-J. Cho 2 1 Hanyang Univ. and 2 Kwangwoon Univ., Korea</p>	<p>19D-10-19 Electrical Characteristics of TiSi₂ Nanocrystal Nonvolatile Memory with Barrier Engineered Tunnel Layer S.J. Han 1, D.U. Lee 1, K.B. Seo 1, S.P. Kim 1, E.K. Kim 1, J.-S. Oh 2 and W.J. Cho 2 1 Hanyang Univ. and 2 Kwangwoon Univ., Korea</p>	<p>19D-10-20 Characteristics of Nonvolatile Memory with Au@CdS Core/Shell Nanoparticles as Floating Gates B.-S. Jang, C.-C. Chen and J.-T. Sheu Natl. Chiao Tung Univ., Taiwan</p>
<p>19D-10-21 Low Temperature Poly-Si TFT Nonvolatile Memory using Ni Nanocrystals as Charge Trapping Centers fabricated by Hydrogen Plasma Process T. Wang 1, P.-L. Gao 1, M.-W. Ma 1, S.W. Hung 2 and C.-T. Kuo 3 1 Natl. Chiao Tung Univ., 2 Natl. Tsing Hua Univ. and 3 Min Dao Univ., Taiwan</p>	<p>19D-10-142L Electron-Phonon Interaction in Suspended Si Double Quantum Dots J. Ogi 1,4, T. Ferrus 2, T. Kodera 1, Y. Tsuchiya 3,4, K. Uchida 1, 4, D. A. Williams 2, S. Oda 1,4 and H. Mizuta 1,3,4 1 Tokyo Inst. of Technol., Japan, 2 Hitachi Cambridge Lab., UK, 3 Univ. of Southampton, UK and 4 SORST-JST, Japan</p>	<p>19D-10-143L Towards a Sub-10nm Optical Fibre Light Source G. Brambilla and F. Renna Univ. of Southampton, UK</p>
<p>19D-10-22 Fabrication of Self-Organized Microstructures on Fluoropolymer Surface Using ion Beam Irradiation A. Kitamura 1, T. Kobayashi 2, A. Suzuki 1 and T. Terai 1 Univ. of Tokyo 1 and Riken 2, Japan</p>		
Nanofabrication		
<p>19D-10-23 Bottom-Up Fabrication of Hierarchically Organized Metal Oxides Nanostructures by Glancing Angle Deposition and Anodic Oxidation I. Turkevych 1, Y. Pihosh 2, K. Hara 1 and M. Kondo 1 1 AIST and 2 NIMS, Japan</p>	<p>19D-10-24 Effects of Annealed ZnO Buffer Layer on Structural and Optical Properties of ZnO Nanorods by Hydrothermal Process A.R. Kim, J.Y. Lee, B.R. Jang, H.S. Kim, H.K. Park and N.W. Jang Korea Maritime Univ., Korea</p>	<p>19D-10-25 Advances in Selective Wet Etching for Nano Scale NiPt Salicide Fabrication M.M. Chu and J.-H. Chou Natl. Cheng Kung Univ., Taiwan</p>
<p>19D-10-26 Formation of ZnO Nanoscaled Photonic Crystal by Laser interference Lithography followed by Hydrothermal Synthesis J.A. Kim 1, T.U. Kim 1,2, S.H. Kim 2, H.C. Ki 2, D.G. Kim 2, H.J. Kim 2, J.-H. Moon 1 and J.H. Kim 1 1 Chonnam Natl. Univ. and 2 Korea Photonics Technol. Inst., Korea</p>	<p>19D-10-27 Highly Controllable Silicon Nano-Grass and Nano-Wire formation using a Hydrogenation Assisted Deep Reactive Ion Etching M. Mehran, Z. Sanaee and S. Mohajezadeh Univ. of Tehran, Iran</p>	<p>19D-10-28 Size Control of SiGe Nanowire Arrays using Au-Assisted Chemical Etching and Subsequent Oxidation C.C. Lai, S.L. Cheng and S.W. Lee Natl. Central Univ., Taiwan</p>
<p>19D-10-29 Fabrication and Simulation of Micron- Scaled 3-D Inductors H. M. Lee, Y. C. Lee, C. T. Chao, J. Y. Ou and J. C. Wu Natl. Changhua Univ. of Education, Taiwan</p>	<p>19D-10-30 The Fabrication of Flexible Thin Film with Pattern Structure and Macroporous Array consisting of Nanoparticles by the Electrophoretic Deposition Process Y.-W. Chung, H.-C. Fang and J.-H. Lee ITRI, Taiwan</p>	<p>19D-10-31 Photoisomerization of Sterically Hindered Azobenzene Disulfide Self-Assembled Monolayers on Gold D. Ishikawa 1, T. Honda 1, E. Ito 2, M. Han 1,2 and M. Hara 1,2 1 Tokyo Inst. of Technol. and 2 RIKEN, Japan</p>
<p>19D-10-32 Fabrication of Nano-Stacks on Thin Graphite Layer and Observation of Size Dependent Nonlinear Transport Characteristics V. Gunasekaran and S.-J. Kim Jeju Natl. Univ. Korea</p>	<p>19D-10-33 Planarization of Patterned Surface using N₂ Cluster Ion Beams N. Toyoda 1, T. Hirota 1, T. Mashita 1, I. Yamada 1, H. Tani 2, K. Nagato 3, T. Hamaguchi 3 and M. Nakao 3 1 Univ. of Hyogo, 2 Kansai Univ. and 3 Univ. of Tokyo, Japan</p>	<p>19D-10-34 Electronic Structures and Magnetism of fcc Fe/Cu(111) Thin Films H. Choi and Y.-C. Chung Hanyang Univ., Korea</p>
<p>19D-10-35 One-Pot Fabrication of Magnetism- Controlled Silica Nanospheres via Sol-Gel Reaction of Citrate-Capped Magnetites and TEOS Alkoxide D. Yang and S.-W. Lee Kyungwon Univ., Korea</p>	<p>19D-10-36 Surface Morphology of DLC Film and Si Wafer Milled With 30kVGa-FIB T. Kaito 1, M. Yasutake 1, A. Yasaka 1 and I. Miyamoto 2 1 SII NanoTechnol. and 2 Tokyo Univ. of Sci., Japan</p>	<p>19D-10-37 Transmission Electron Beam Drilling for Nanoscale Fabrication T.-C. Lin 1 and C.S. Wu 2 1 Natl. Yunlin Univ. of Sci. and Technol. and 2 Natl. Changhua Univ. of Education, Taiwan</p>
<p>19D-10-38 Prediction of Ion Energy Spectrum during Plasma Etching for Trenches with Different Aspect Ratio A.P. Palov 1, Y.A. Mankelevich 1, T.V. Rakhimova 1 and D. Shamiryan 2 1 Moscow State Univ., Russia and 2 IMEC, Belgium</p>	<p>19D-10-39 Patterning of InAs Nanowire by Dip-Pen Nanolithography (DPN) T. Wang, Y. Shimuzi and H. Ushijima AIST, Japan</p>	<p>19D-10-40 Fabrication of Nanoparticles Film from a Surfactant-Containing Aqueous Suspension by Electrical-Assisted Deposition Techniques in the Liquid- and Gas-Phase M.N. Naim 1, M. Iijima 1, M. Kuwata 2, H. Kamiya 1 and I.W. Lenggoro 1 1 Tokyo Univ. of Agriculture and Technol. and 2 Soka Univ., Japan</p>

<p>19D-10-41 CIGS Solar Cells with an Indium-Based Buffer Layers fabricated by Facing Target Sputtering and Chemical-Bath-Deposition J.H. Moon, Y.S. Jung, K.H. Kim, H.W. Choi and S.J. Park Kyungwon Univ., Korea</p>	<p>19D-10-42 On the Monolayer Chirality of Discotic Hexakis-(3,4-Dodecyloxyphenylethynyl) Benzene S.-L. Lee, Y.-C. Chu and C.-H. Chen Natl. Taiwan Univ., Taiwan</p>	<p>19D-10-144L Preparation of Monodispersed Gold Nanoparticles using Room-Temperature Atmospheric H₂/Ar Microplasma Jet and the Subsequent Deposition on Nonheat-Resistant Materials in Open Air Y. Shimizu, K. Kawaguchi, T. Sasaki and N. Koshizaki AIST, Japan</p>
<p>19D-10-145L Investigation of Dry and Wet Etching of PVD-TiN for Nanoscale FinFETs Y. X. Liu 1, T. Kamei 2, K. Endo 1, S. O'uchi 1, J. Tsukada 1, H. Yamauchi 1, T. Hayashida 2, Y. Ishikawa 1, T. Matsukawa 1, K. Sakamoto 1, A. Ogura 2 and M. Masahara 1 1 AIST and 2 Meiji Univ., Japan</p>		
<p>Nanomaterials</p>		
<p>19D-10-43 Anti-Aging Mechanism of Fullerene-Containing Natural Rubber H. Kondo 1,2, Y. Ohtake 2 and Y. Izumi 1 1 Yamagata Univ. and 2 Chemicals Evaluation and Res. Inst., Japan</p>	<p>19D-10-44 DC Plasma-Assisted Thermal Chemical Vapor Deposition of Single-Walled Carbon Nanotubes Y. Fukuda 1, J. Takayama 1, N. Asaoka 1, Y. Suda 2, H. Sugawara 1 and A. Murayama 1 1 Hokkaido Univ. and 2 Toyohashi Univ. of Technol., Japan</p>	<p>19D-10-45 Dispersion of Single-Walled Carbon Nanotubes by Proteins A. Hirano 1, Y. Maeda 2,3, T. Akasaka 1 and K. Shiraki 1 1 Univ. of Tsukuba, 2 Tokyo Gakugei Univ. and 3 PRESTO-JST, Japan</p>
<p>19D-10-46 Optical and Paramagnetic Properties of Size-Controlled Sepia-Ink Particles T. Matsuura 1, M. Hino 1, S. Akutagawa 2, Y. Shimoyama 2, T. Kobayashi 3, Y. Taya 3 and T. Ueno 4 1 Hokkaido Univ., 2 Muroran Inst. of Technol., 3 Hokkaido Industrial Technol. Ctr. and 4 Hakodate Natl. College of Technol., Japan</p>	<p>19D-10-47 Diffusion Dynamics of Lithium Ion on the Nano-Carbon Materials H. Tachikawa 1, Y. Nagoya 1 and H. Kawabata 2 1 Hokkaido Univ. and 2 Kyoto Univ., Japan</p>	<p>19D-10-48 Evaporation Dynamics of Water Molecules on Nanocarbon Materials : A DFT and MD Study S. Abe, Y. Nagoya, F. Watari and H. Tachikawa Hokkaido Univ., Japan</p>
<p>19D-10-49 Optimization of Swnts Synthesis Process in Five-Stage AACVD System T. Sugihara, H. Takano, and M. Itoh Doshisha Univ., Japan</p>	<p>19D-10-50 Utilization of Ammonia Gas for Green Synthesis of Antimicrobial-Bacterial Cellulose C. Katepetch and R. Rujiravanit Chulalongkorn Univ., Thailand</p>	<p>19D-10-51 Cluster-Nature Solvent Features of Single-Wall Carbon Nanohorns F. Torrens 1 and G. Castellano 2 1 Univ. of Valencia and 2 San Vicente Mártir, Spain</p>
<p>19D-10-52 The Effect of the Morphology on the Field Emission Properties of the Carbon Nanomaterials grown in Organic Liquid C. Arai 1, H. Gamo 2, T. Shibasaki 1, T. Ando 3 and M. N.-Gamo 1 1 Toyo Univ., 2 Toppan Printing and 3 NIMS, Japan</p>	<p>19D-10-53 Catalytic Synthesis of Spiralled Carbon Nanofilaments using Pd Catalyst M. Kikuchi 1, H. Gamo 2, K. Nakagawa 3, T. Ando 4 and M. Nishitani-Gamo 1 1 Toyo Univ., 2 Toppan Printing 3 Kansai Univ. and 4 NIMS, Japan</p>	<p>19D-10-54 Si-Carbon Composite Synthesized by Semi Mass Production Method for High Capacitive Anode J.A. Shim 1, S.H. Kim 1, C.W. Park 2 and Y.S. Yoon 1 1 Yonsei Univ. and 2 Sodiff Advanced Materials, Korea</p>
<p>19D-10-55 Atomic Investigation of Ti/Al(001) Interface by Molecular Dynamics Simulation G. Yoon, S.-G. Lee, B.-H. Kim and Y.-C. Chung Hanyang Univ., Korea</p>	<p>19D-10-56 High-Performance n-Type Materials for Bulk Heterojunction Organic Photovoltaic Cell Y. Tajima 1 and Y. Numata 2 1 RIKEN and 2 NIMS, Japan</p>	<p>19D-10-57 Withdrawn</p>
<p>19D-10-58 Hydrothermal Synthesis of Pt-Ru-W Anode Catalyst for Methanol Oxidation supported on Multi-Walled Carbon Nanotubes J.Y. Oh, S.H. Kim, N. Kakati and Y.S. Yoon Yonsei Univ., Korea</p>	<p>19D-10-59 Synergistic Effects due to the Mixed Dipersants of Polysaccharide and Surfactant on the Selective Chiral Separation for Single-Walled Carbon Nanotubes with Density Gradient Ultracentrifugation Y. Kaminosono, K. Uchida, K. Tsuchiya, T. Ishii and H. Yajima Tokyo Univ. of Sci., Japan</p>	<p>19D-10-60 Peculiar Electronic States induced by Ring Closure of Single Wall Carbon Nanotubes T. Suzuki 1,2, A. Hida 1 and K. Ishibashi 1 1 RIKEN and 2 Tokyo Univ. of Sci., Japan</p>
<p>19D-10-61 Electroless Deposition of Ni Nanoparticles on Graphene Sheets C.A. Wang 1, N.W. Pu 1, Y. Sung 2, Y.M. Liu 1 and M.D. Ger 1 1 Natl. Defense Univ. and 2 Chung Shan Inst. of Sci. and Technol., Taiwan</p>	<p>19D-10-62 Carbon Nanotube Field Emission Cathode Fabricated with Modified Electroless Plating K.J. Chung 1, Y.M. Liu 1, Y. Sung 2, W.D. Chen 1, N.W. Pu 1 and M.D. Ger 1 1 Natl. Defense Univ. and 2 Chung Shan Inst. of Sci. and Technol., Taiwan</p>	<p>19D-10-63 Structure and Conductance of Au-Doped Germanium Nanocontacts T. Kase and T. Kizuka Univ. of Tsukuba, Japan</p>
<p>19D-10-64 Synthesis of Nickel-Encapsulated Carbon Nanocapsules and Nanotubes using Ni-Doped Fullerene Nanofibers A. Akagawa 1, K. Miyazawa 2 and T. Kizuka 1 1 Univ. of Tsukuba and 2 NIMS, Japan</p>	<p>19D-10-65 Current-Voltage Characteristics of Silver Nanocontacts H. Masuda and T. Kizuka Univ. of Tsukuba, Japan</p>	<p>19D-10-66 In Situ Transmission Electron Microscopy of Bending Process of Crystalline C₇₀ Nanotubes T. Tokumine 1, K. Miyazawa 2 and T. Kizuka 1 1 Univ. of Tsukuba and 2 NIMS, Japan</p>
<p>19D-10-67 Synthesis of Iron-Carbide-Encapsulated Carbon Nanocapsules using Fe-Doped Fullerene Nanofibers J. Fujii 1, K. Miyazawa 2 and T. Kizuka 1 1 Univ. of Tsukuba and 2 NIMS, Japan</p>	<p>19D-10-68 Current-Voltage Characteristics of Gold Nanocontacts T. Matsuda and T. Kizuka Univ. of Tsukuba, Japan</p>	<p>19D-10-146L ZnO Films Fabricated by Microwave Plasma Jet Sintering System C.H. Su and C.M. Huang National Taipei Univ. of Technol., Taiwan</p>

<p>19D-10-147L Transformation of Insulating Nanowires into Carbon Nanotubes by Applying an Electric Current H. Kohno 1, T. Nogami 1, Y. Ohno 2 and S. Ichikawa 1 1 Osaka Univ. and 2 Tohoku Univ., Japan</p>	<p>19D-10-148L Single-crystal ZnO Porous Nanostructures by Hydrothermal Growth and Thermal Annealing Y.-I. Shih, J.-H. Huang, Y.-C. Lin, M.R.S. Huang and C.-P. Liu National Cheng-Kung Univ., Taiwan</p>	
<p>Nano-Tool</p>		
<p>19D-10-69 Metrology of Nano-Thickness Foils Wide Field of View Homogeneity by Conventional and Phase Contrast Soft X-Ray Imaging A.Y. Faenov 1,2, T.A. Pikuz 1,2, Y. Fukuda 1, M. Kando 1, H. Kotaki 1, T. Homma 1, K. Kawase 1, T.I.Y. Skobelev 2, S.V. Gasilov 2, T. Kawachi 1, H. Daido 1, T. Tajima 1, Y. Kato 3 and S.V. Bulanov 1 1 JAEA, Japan, 2 Russian Academy of Sci., Russia and 3 Creation of New Photonics Industries, Japan</p>	<p>19D-10-70 Measurement of Thin Film Thickness on a Roller by using a Focusing Reflectometer G.-Y. Chen, Y.-P. Chen, H.-C. Chiu, C.-H. Chiang, C.-T. Tseng, C.-H. Lee and L.A. Wang Natl. Taiwan Univ., Taiwan</p>	<p>19D-10-71 Mechanical Properties of Vertically Aligned Multi-Walled Carbon Nanotube/Parylene Nanocomposites C.-L. Wu 1, C.-M. Lin 2, Y.-K. Chih 1, M.-C. Yip 2 and W. Fang 2 1 Industrial Technol. Res. Inst. and 2 Natl. Tsing Hua Univ., Taiwan</p>
<p>19D-10-72 Fracture Mechanism of Nanoindentation of Graphite with a Conical Indenter T.-H. Fang 1 and W.-J. Chang 1 Natl. Formosa Univ. and 2 Kun Shan Univ., Taiwan</p>	<p>19D-10-73 Pushing Force Planning during AFM-Based Nanoparticle Manipulation on Stepped Substrate H. Babahosseini, S.H. Mahboobi and A. Meghdari Sharif Univ. of Technol., Iran</p>	<p>19D-10-74 Fabrication of Nano Channels with High Aspect Ratio on Silicon Substrate by Local FIB Implantation and DRIE J. Han, T.-G. Kim, B.-K. Min and S.J. Lee Yonsei Univ., Korea</p>
<p>19D-10-75 Development of FIB/SEM-Integrated Nanotweezers for Nano-Particle Removal T. Umemoto 1, M. Yasutake 1, H. Shigemura 2 and O. Suga 1 1 Seiko Instruments and 2 Selete, Japan</p>	<p>19D-10-76 Uncertainty Analysis on Precision Measurement for Polystyrene Particle Sizes using Dynamic Light Scattering S.P. Pan 1,2, H.F. Weng 2, C.M. Lin 2 and T.S. Liu 1 1 Natl. Chiao Tung Univ. and 2 Industrial Technol. Res. Inst., Taiwan</p>	<p>19D-10-77 Precision Measurement of Sub 50 nm Linewidth by Stitching Double-Tilt Images S.P. Pan, H.C. Liou and J.R. Chen Industrial Technol. Res. Inst., Taiwan</p>
<p>19D-10-78 Selective Adhesion of Living Cells on Patterned Resist Substrate N. Shimamoto 1,2,3, K. Matsuki 3,4, R. Harigai 3,4, N. Yoshino 3,4, Y. Edagawa 3,4, N. Takeda 3, T. Ueda 1,2, K. Ijiro 1,2 and Y. Osada 2 1 Hokkaido Univ., 2 RIKEN 3 Waseda Univ. and 4 Waseda Inst. of Advanced Study, Japan</p>	<p>19D-10-149L Production of Nano-Particles Created with Several Materials for Labeling of Biological Molecules H. Kim 1, H. Takei 1,2 and K. Yasuda 1,3 1 Kanagawa Academy of Sci. and Technol., 2 Toyo Univ. and 3 Tokyo Medical and Dental Univ., Japan</p>	<p>19D-10-150L High-Sensitive Charge Detection using Anti-Symmetric Vibration in Coupled Micromechanical Resonators N. Kitajima 1,2, H. Okamoto 1, T. Kamada 1,3, K. Onomitsu 1, S. Warisawa 2, S. Ishihara 2, and H. Yamaguchi 1,3 1 NTT, 2 Univ. of Tokyo and 3 Tohoku Univ., Japan</p>
<p>Nanoimprint, Nanoprint and Rising Lithography</p>		
<p>19D-10-79 Viscosity Characteristics of Spin-Coated UV Nanoimprint Resin H. Atobe 1,2,3, H. Hiroshima 1,3 and Q. Wang 1,3 1 AIST, 2 Tokyo Univ. of Sci. and 3 CREST -JST, Japan</p>	<p>19D-10-80 A Photo-Polymerization Resist for UV Nanoimprint Lithography C.-C. Wu, S.L.-C. Hsu and W.-C. Liao Natl. Cheng Kung Univ., Taiwan</p>	<p>19D-10-81 The Numerical Simulation of Glass Imprinting for Molding Temperature Prediction M. Yasui 1, M. Arai 2, H. Ito 2, T. Ino 2, M. Takahashi 3, S. Kaneko 1, Y. Hirabayashi 1 and R. Maeda 3 1 Kanagawa Industrial Technol. Ctr., 2 Shinshu Univ. and 3 AIST, Japan</p>
<p>19D-10-82 In-Situ Monitoring of Pattern Filling and Residual Layer Thickness in Nano-Imprint Lithography by Surface Plasmon Resonance H. Hocheng 1, W.-H. Hsu 1, H.-H. Lin 2, C.-H. Lee 2 and J.-T. Shy 1 1 Natl. Tsing Hua Univ. and 2 ITRI, Taiwan</p>	<p>19D-10-83 Efficiency Improvement of OLED with Gravure Printed Bi-Layer Structure of MEH-PPV and Rubrene A. Kim, H. Lee, J. Lee, S.M. Cho and H. Chae Sungkyunkwan Univ., Korea</p>	<p>19D-10-84 Alignment Control of Photoreactive Polymer Liquid Crystal by Thermal Nanoimprint M. Okada 1,3, S. Manabe 1, M. Kondo 1, H. Ono 2, A. Emoto 2, Y. Haruyama 1, K. Kanda 1, K. Kuramoto 1, N. Kawatsuki 1 and S. Matsui 1 1 Univ. of Hyogo, 2 Nagaoka Univ. of Technol. and 3 JSPS, Japan</p>
<p>19D-10-85 Microimprint using Inorganic-Organic Hybrid Material by the Sol-Gel Method K.-Y. Lu 1, W.-H. Yang 2, T.-H. Chou 2, T.-M. Chen 2 and J.-C. Hwang 1 1 Yuan-Ze Univ. and 2 ITRI, Taiwan</p>	<p>19D-10-86 Room-Temperature Nanoimprint using Liquid-Phase HSQ with h-PDMS Mold Y. Kang 1,2, M. Okada 1,2,3, C. Minari 1, K. Kanda 1,2, Y. Haruyama 1,2 and S. Matsui 1,2 1 Univ. of Hyogo, 2 CREST-JST and 3 JSPS, Japan</p>	<p>19D-10-87 Influence of Recoating a Silica Surface with Antisticking Layers formed from Fluoroalkyl-Containing Trimethoxysilane Derivatives by Chemical Vapor Surface Modification A. Kohno 1,2, N. Sakai 3, S. Matsui 2,4 and M. Nakagawa 1,2 1 Tohoku Univ., 2CREST-JST, 3 Toyo Gosei and 4 Univ. of Hyogo, Japan</p>
<p>19D-10-88 In-Situ Error Estimation of Microstructure Patterning on Glass Substrate by Imprinting Process L.K. Chen, Y.M. Hung, and C.K. Sung Natl. Tsing Hua Univ., Taiwan</p>	<p>19D-10-89 Impact of Mold Side Wall Profile on Demolding Characteristics K. Kubo 1, Y. Watanabe 1, J. Sakamoto 1, H. Kawata 2, M. Yasuda 1,2 and Y. Hirai 1,2 1 Osaka Pref. Univ. and 2 CREST-JST, Japan</p>	<p>19D-10-90 Enhanced Transmittance of Fresnel Lens for Concentrated Photovoltaic Device using Nano-Imprint Lithography K.-S. Han, J.-H. Shin and H. Lee Korea Univ., Korea</p>
<p>19D-10-151L Nanoimprint using the Mold of Crosslinked PTFE Fabricated by Focused Ion Beam T. Takahashi 1, N. Fukutake 1, Y. Takasawa 1, T. Gowa 1, T. Tatsumi 1, T. Sasaki 1, A. Oshima 2, S. Tagawa 1,2, and M. Washio 1 1 Waseda Univ. and 2 Osaka Univ., Japan</p>		

Bio MEMS, Lab on a Chip		
19D-10-91 Cell Movement and Actindistribution of Lung Cancer Cells under Electric Field C.-W. Huang 1,2, J.-Y. Cheng 2,3,4, M.-H. Yen 1,2, C.-Y. Huang 2, C.-H. Lee 2,3 and T.-H. Young 1 1 Natl. Taiwan Univ., 2 Academia Sinica, 3 Natl. Yang-Ming Univ. and 4 Natl. Taiwan Ocean Univ., Taiwan	19D-10-92 Fabrication of Electrodes for Multiplex Nerval Interface M. Kato 1, E. Blasius 2, Y. Ukita 1,3, K. Mabuchi 4 and Y. Utsumi 1 1 Univ. of Hyogo, Japan, 2 Univ. Karlsruhe, Germany, 3 JSPS and 4 Univ. of Tokyo, Japan	19D-10-93 Particle Capture in a Droplet by LDEP C.-H. Chen 1, S.-L. Tsai 1, L.-S. Jang 1 and Y.-C. Hsu 2 1 Natl. Cheng Kung Univ. and 2 Southern Taiwan Univ., Taiwan
19D-10-94 Immunoassay using Antibody-Bound Poly-Tetrafluoroethylene Capillary-Bundle Structure for Environmental Analysis Y. Ukita 1,2, S. Kondo 1, C. Kataoka 3, M. Takeo 1, S. Negoro 1 and Y. Utsumi 1 1 Univ. of Hyogo, 2 JSPS and 3 Carbuncle Bio-Scientific LLC., Japan	19D-10-95 The Effect of Intermittent Mechanical Stimulation on Hydrogel Scaffold S.K. Choi 1, J.H. Park 2, S.-J. Lee 3, I.H. Lee 1, S.S. Kang 1 and T.J. Ko 4 1 Chungbuk Natl. Univ., 2 POSTECH, 3 Gyeongbuk Hybrid Technol. Inst. and 4 Yeungnam Univ., Korea	19D-10-96 Fabrication of Enzyme Electrodes for Glucose/O ₂ Biofuel Cell T. Miyake 1,2, M. Oike 1, S. Yoshino 1, Y. Yatagawa 1, K. Haneda 1, H. Kaji 1,2 and M. Nishizawa 1,2 1 Tohoku Univ. and 2 JST, Japan
19D-10-97 In-Situ Detection of ATP released from Reactive Oxygen Species stimulated HeLa Cells using Silicon Nanowire FETs Y.-J. Huang , C.-C. Chen and J.-T. Sheu Natl. Chiao Tung Univ., Taiwan	19D-10-98 Micro Droplet PCR: Development of High-Speed Real-Time PCR System for Rapid and Precise Nucleotide Recognition H. Terazono 1,2, H. Takei 1,2,3 and K. Yasuda 1,2 1 Kanagawa Academy of Sci. and Technol., 2 Tokyo Medical and Dental Univ. and 3 Toyo Univ., Japan	19D-10-99 Microfluidic Devices integrated with CMOS MEMS Impedance Sensor C.-C. Wu 1, C.-F. Liu 1, L.-S. Jang 1 and Y.-C. Hsu 2 1 Natl. Cheng Kung Univ. and 2 Southern Taiwan Univ., Taiwan
19D-10-100 Nanoimprint Lithography-Based Flexible Photonic Crystal for Label-Free Biosensing T. Endo 1, S. Ozawa 2, N. Okuda 2, Y. Yanagida 1, S. Tanaka 2 and T. Hatsuzawa 1 1 Tokyo Inst. of Technol. and 2 SCIVAX, Japan		
Microsystem Technology and MEMS		
19D-10-101 NEXAFS Studies on VUV and Oxygen Plasma Pretreated PMMA Surfaces for Investigation of Low-Temperature Bonding Mechanisms H. Shinohara, J. Mizuno and S. Shoji Waseda Univ., Japan	19D-10-102 Vacuum Ultraviolet (VUV) Treatment for Au-Au Flip-Chip Bonding N. Unami 1, K. Sakuma 1,2, J. Mizuno 1 and S. Shoji 1 1 Waseda Univ. and 2 IBM Tokyo Res. Lab., Japan	19D-10-103 Evaluation of Resonance Characteristics Change of Silicon Resonators due to Surface Treatment H. Shimizu, J.-J. Delaunay, R. Kometani, S. Warisawa and S. Ishihara Univ. of Tokyo, Japan
19D-10-104 Remote Atmosphere Pressure Monomer Plasma Treatment Technique for Selected Area Surface Energy Control A.R. Han 1, H.J. Lee 1, N.K. Lee 1, J.H. Song 1 and S.-H. Kim 2 1 Korea Inst. of Industrial Technol. and 2 Applied Plasma, Korea	19D-10-105 Effects of Adhesive Contact Area on Adhesive Bend Strength Between Micro-Sized SU-8 Columnar Specimens and a Si Substrate C. Ishiyama, A. Shibata, M. Sone and Y. Higo Tokyo Inst. of Technol., Japan	19D-10-106 Simple and Low Cost Fabrication of Capacitance Sensors T. Kasahara 1, M. Mizushima 2, H. Shinohara 1, T. Obata 3, T. Futakuchi 3, J. Mizuno 1 and S. Shoji 1 1 Waseda Univ., 2 Oga and 3 Toyama Industrial Technol., Japan
19D-10-107 Pressure and Cavity-Volume Effects of Convective Tilt Sensor D.W. Jung, J.C. Choi and S.H. Kong Kyungpook Natl. Univ., Korea	19D-10-108 Fabrication and Characteristics of MEMS -Based Gas Flow Sensor J.C. Choi and S.H. Kong Kyungpook Natl. Univ., Korea	19D-10-109 Photonic Crystal Filter integrated with Photodiodes W.Y. Chiu, Y.H. Wu, Y.J. Chan, C.-H. Hou, H.-T. Chien and C.-C. Chen Natl. Central Univ., Taiwan
19D-10-110 The Development of SAW Gyroscope Based on Progressive Wave H. Oh, K. Lee and S. Yang Ajou Univ., Korea	19D-10-111 High-Q Micromachined Silicon Disk Resonator transduced by Piezoelectric Lead Zirconate Titanate Thin Film J. Lu 1,2, T. Suga 1, Y. Zhang 2, T. Itoh 2, R. Maeda 2 and T. Mihara 3 1 Univ. of Tokyo, 2 AIST and 3 Olympus, Japan	19D-10-112 2.5 GHz Low insertion Loss MEMS Hybrid Phase Shifters H. Ado, T. Furutsuka and K. Suzuki Ritsumeikan Univ., Japan
19D-10-113 BZ Oscillation of the Patterned Gel induced by DC Voltage Stimulation Y. Shiraki, J. Nishikawa and S. Shingubara Kansai Univ., Japan	19D-10-114 A Concept of Micro-Column Electron Beam Microscope using a Field Emitter Array Built-In Electrostatics Lens A. Koike 1, T. Tagami 1, Y. Takagi 1, M. Nagao 2, T. Yoshida 2, S. Kanemaru 2, T. Aoki 1, H. Mimura 1 and Y. Neo 1 1 Shizuoka Univ. and 2 AIST, Japan	19D-10-152L Characterization of Two Beam-Shaped Cantilevers Coupled with a Micromechanical Element D.F. Wang 1, J. Feng 2, T. Ono 2 and M. Esashi 2 1 Ibaraki Univ. and 2 Tohoku Univ., Japan
19D-10-153L MEMS-FET Hybrid Switch for Energy Scavenging System S.M. Kang, K.J. Park, J.W. Park, Y.-R. Kim, S.-C. Ko, C.-W. Baek and H.S. Kim Chung-Ang Univ., Korea	19D-10-154L Fabrication of Nano-Pillar Array using p-Type Silicon for Solar Cell Application H.H. Ryu 1, J.H. Kim 2 and S.H. Kong 1 1 Kyungpook National Univ. and 2 DGIST, Korea	

MNC 2009 has received financial assistance from the following organizations and companies as of November 9, 2009.

Sapporo City

The Association of Super-Advanced Electronics Technologies (ASET)

Foundation for Promotion of Material Science and Technology of Japan

Canon Inc.

DAICEL CHEMICAL INDUSTRIES, LTD.

Fujitsu Limited

Hitachi, Ltd.

HOYA CORPORATION

Litho Tech Japan Corporation

NEC Corporation

NEC Electronics Corporation

Nippon Telegraphy and Telephone Corporation (NTT)

Renesas Technology Corp

Semiconductor Leading Edge Technologies, Inc.

Sony Corporation

Tokyo Electron Limited

TOSHIBA Corporation

ULVAC, Inc.