

Tuesday, October 30

Room C (Zuiten Higashi 4F)

13:10-17:35 MNC 2012 Technical Seminar "DSA"

Room D (Tenku 5F)

17:40-19:40 Get Together Party

Wednesday, October 31

Room A (Zuiten Nishi 4F)

31A-1: Plenary Session

Chairpersons: Y. Ono (Univ. of Toyama) and T. Kozawa (Osaka Univ.)

9:30-9:50

Opening Remark: T. Itani (EIDEC)

Award Presentation: Y. Ono (Univ. of Toyama) and T. Itani (EIDEC)

MNC 2011 Outstanding Paper, Most Impressive Presentation, Most Impressive Poster and Young Author's Award

Announcement from Committee: J. Fujita (Univ. of Tsukuba)

31A-1-1 9:50

Big Data Transforms Our Society (Plenary)

M. Kitsuregawa, Univ. of Tokyo, Japan

Robby (4F in front of Zuiten)

Coffee Break

Room A (Zuiten Nishi 4F)

31A-1-2 10:50

EUV Lithography : Getting Ready for Insertion ? (Plenary)

K. Ronse, IMEC, Belgium

31A-1-3 11:30

Directed assembly of block copolymers for applications in lithography and manufacturing (Plenary)

P. Rincon 1,2, H. Suh 1, J.I. Lee 3, M. Bedolla 3, G. Liu 3, C.C. Liu 3, L. Wan 4, R. Ruiz 4, R. Gronheid 2, H.Yoshida 5, P. Nealey 1, 1 Univ. of Chicago, 2 IMEC, 3 Univ. of Wisconsin, 4 HGST, USA and 5 Hitachi, Japan

LUNCH

Room A (Zuiten Nishi 4F)	Room B (Zuiten Naka 4F)	Room C (Zuiten Higashi 4F)	Room D (Tenku 5F)
31A-2: Symp. B: Nanoimprint I Chairpersons: A. Yokoo (NTT) H.Y. Low (Inst. of Materials Res. and Eng.)	31B-2: Nanostructure Engineered Devices Chairpersons: S. Kasai (Hokkaido Univ.) T. Maemoto (Osaka Inst. of Technol.)	31C-2: Nanomaterials I Chairpersons: T. Chikyo (NIMS) Y. Matsumoto (Tokyo Inst. of Technol.)	31D-2: Graphene I Chairpersons: K. Maehashi (Osaka Univ.) S. Okada (Univ. of Tsukuba)
31A-2-1 13:30 Progress in NaPANIL Project (Invited) J. Ahopelto, VTT Technical Res. Centre, Finland	31B-2-1 13:30 1.3- μ m Quantum Dot DFB Laser with Half-etching Mesa Structure K. Goshima 1, N. Tsuda 1, J. Yamada 1, T. Sugaya 2, K. Komori 2 and T. Amano 2, 1 Aichi Inst. of Technol. and 2 AIST, Japan	31C-2-1 13:30 2D Oxide Nanosheets: Future High-k Dielectrics from Nano Building Blocks (Invited) M. Osada 1,2 and T. Sasaki 1,2 1 NIMS and 2 JST-CREST, Japan	31D-2-1 13:30 Graphene for Future Electronics (Invited) J.-H. Ahn, Sungkyunkwan Univ., Korea
31A-2-2 14:00 Nano-imprint based patterning process for high brightness LEDs (Invited) J. Cho, K. Byeon and H. Lee, Korea Univ., Korea	31B-2-2 13:50 Characteristics of Light Emitting Diodes with a Nanomesh Metal Electrode R. Kitagawa, K. Nakamura, K. Masunaga, E. Tsutsumi, T. Nakanishi, A. Fujimoto and K. Asakawa, Toshiba, Japan	31C-2-2 14:00 Magnetoresistance Effects in Current-Perpendicular-to-Plane Structures based on Fe ₃ Si/FeSi ₂ Artificial Lattices K. Sakai 1, Y. Noda 2, D. Tsumagari 2, T. Sonoda 2, S. Hirakawa 2, K. Takeda 3 and T. Yoshitake 2, 1 Kurume Natl. Coll. of Technol., 2 Kyushu Univ. and 3 Fukuoka Inst. of Technol., Japan	31D-2-2 14:00 Optimization of Gate Insulating Materials on Graphene for Future CMOS Channels by Raman and Photoelectron Spectroscopy D. Kondo 1,2, K. Hayashi 1,2, J. Yamaguchi 1,2, I. Soga 2, S. Sato 1,2 and N. Yokoyama 1,2, 1 AIST and 2 Fujitsu Labs., Japan
31A-2-3 14:30 Development of Micro/Nano Imprint with Bulk Metallic Glasses (Invited) F.-Y. Chang and J. P. Chu, Natl. Taiwan Univ. of Sci. and Technol., Taiwan	31B-2-3 14:10 Novel Delivery Process of High Dense Gold Nanoparticles on Si Substrate to Introduce Plasmon Absorbance S. Saijo 1,2, B. Zheng 1,2, I. Yamashita 1,2, Y. Uraoka 1,2 and Y. Ishikawa 1,2, 1 Nara Inst. of Sci. and Technol. and 2 JST-CREST, Japan	31C-2-3 14:20 Growth of Atomically Thin Hexagonal Boron Nitride Films from Solid Sources S. Suzuki, R.M. Pallares and H. Hibino, NTT, Japan	31D-2-3 14:20 Edge-orientation of Graphene Corner: First-principles Calculations N.T. Cuong 1,3, M. Otani 1,3, and S. Okada 2,3, 1 AIST, 2 Univ. of Tsukuba and 3 JST-CREST, Japan

31A-2 Author's Interview: 16:45-16:55	31B-2-4 14:30 Crucial Role of Ambient Pressure on Thermal Shrinking of Au Nanodot Array G. Meng 1, T. Yanagida 1, K. Nagashima 1, M. Kanai 1, M. Suzuki 2, A. Klamchuen 1, B. Xu 1, F.W. Zhuge 1, S. Rahong 1, Y. He 1 and T. Kawai 1, 1 Osaka Univ. and 2 Kyushu Univ., Japan	31C-2-4 14:40 Production of Graphene Films by Simple Electrochemical Exfoliation using NaCl Solution E. Kano 1, R. Ueki 1, T. Takahashi 1, S. Akiyama 1, J. Tang 1,2, K. Murakami 1 and J. Fujita 1, 1 Univ. of Tsukuba and 2 NIMS, Japan	31D-2-4 14:40 Synthesis of Graphene Nanoribbons from Amyloid Template on Sapphire Substrate by Liquid Gallium Graphitization R. Ueki 1,2, T. Dong 1,2, Y. Kajiwara 1,2, E. Takai 2, Y. Shikiya 2, K. Shiraki 2, Y. Yamada 2, K. Murakami 1,2 and J. Fujita 1,2, 1 TIMS and 2 Univ. of Tsukuba, Japan
	31B-2-5L 14:50 Direct Fabrication of WxCy SNS Josephson Junction by Using Focused-ion-beam Chemical Vapor Deposition J. Dai 1,2, K. Onomitsu 2, R. Kometani 1, Y. Krockenberger 2, H. Yamaguchi 2, S. Ishihara 1 and S. Warisawa 1, 1 Univ. of Tokyo and 2 NTT, Japan	31C-2-5 15:00 Selective-area Metal-organic Vapor Phase Epitaxy of AlGaAs Nanostructures on Crystallized Insulating Al ₂ O ₃ Layers S. Sakita, M. Yatago and S. Hara, Hokkaido Univ., Japan	31D-2-5 15:00 Direct Graphene Growth with Multi Metal Layers without using Chemical Vapor Deposition K. Gumi, Y. Ohno, K. Maehashi, K. Inoue and K. Matsumoto, Osaka Univ., Japan
	31B-2 Author's Interview: 16:55-17:05	31C-2 Author's Interview: 16:55-17:05	31D-2 Author's Interview: 16:55-17:05
Robby (4F in front of Zuiten)			
Coffee Break			
Room A (Zuiten Nishi 4F)	Room B (Zuiten Naka 4F)	Room C (Zuiten Higashi 4F)	Room D (Tenku 5F)
31A-3: Symp. B: Nanoimprint II Chairpersons: S. Matsui (Univ. of Hyogo) J. Ahopelto (VTT Technical Res. Centre)	31B-3: Nanoscale Memory Chairpersons: T. Yanagida (Osaka Univ.) Y. Ishikawa (Nara Inst. of Sci. and Technol.)	31C-3: Nanomaterials II Chairpersons: K. Terabe (NIMS) T. Chikyo (NIMS)	31D-3: Carbons Nanotube II Chairpersons: S. Chiashi (Univ. of Tokyo) M. Tanemura (Nagoya Inst. of Technol.)
31A-3-1 15:15 Progress of Jet and Flash Imprint Lithography for Volume Manufacturing (Invited) H. Wada, Molecular Imprints, Japan	31B-3-1 15:35 Gate Structure Dependence of Variability in Poly-Si FinFET Flash Memories Y.X. Liu 1, T. Kamei 2, T. Matsukawa 1, K. Endo 1, S. O'uchi 1, J. Tsukada 1, H. Yamauchi 1, Y. Ishikawa 1, T. Hayashida 2, K. Sakamoto 1, A. Ogura 2 and M. Masahara 1, 1 AIST and 2 Meiji Univ., Japan	31C-3-1 15:35 Surrounding Effects on Nanoscale Memristive Switching Behaviors K. Nagashima 1, T. Yanagida 1, M. Kanai 1, K. Oka 1, B.H. Park 2, T. Kawai 1,2, 1 Osaka Univ., Japan and 2 Konkuk Univ., Korea	31D-3-1 15:35 Growth Mechanism of Horizontally Aligned Single-walled Carbon Nanotubes on R-cut Crystal Quartz Substrates S. Chiashi, T. Inoue, D. Hasegawa, S. Badar and S. Maruyama, Univ. of Tokyo, Japan
31A-3-2 15:45 Repairable Nanoimprinted Structures (Invited) H.Y. Low, Inst. of Materials Res. and Eng., Singapore	31B-3-2 15:55 Structural Analysis of TiO ₂ /Ti Film Resistive Switched by AFM Probes H. Nakano 1, M. Takahashi 1, M. Sato 1, M. Kotsugi 2, T. Ohkochi 2, T. Muro 2, M. Nihei 1 and N. Yokoyama 1, 1 AIST and 2 JASRI, Japan	31C-3-2 15:55 Observation of Light induced Pyroelectric Transient in Single Sb ₂ Se ₃ Nanowires T.Y. Ko and K.W. Sun, Natl. Chiao Tung Univ., Taiwan	31D-3-2 15:55 Polarization Dependence of G Band of Single-walled Carbon Nanotubes oriented on Quartz Single Crystal Surfaces I. Shimoyama 1,2, X. Li 2 and T. Shimada 2,3, 1 JAEA, Japan, 2 Stanford Univ., USA and 3 Nagoya Univ., Japan
31A-3-3 16:15 Applying Directed Self-assembling and Nanoimprint lithography for Fabrication of Bit Patterned Media (Invited) N. Kihara, Y. Ootera, R. Yamamoto, N. Sasao, T. Shimada, H. Hieda, T. Okino, Y. Kamata, and A. Kikitsu, Toshiba, Japan	31B-3-3 16:15 Confined Resistive Switching of TiO ₂ Dielectrics Resistive Random Access Memory with a Nanopore in the TiO ₂ Film created by Focus Ion Beam C.-H. Wu 1, C.-J. Hsieh 2 and S.-J. Wang 2, 1 Chung Hua Univ. and 2 Natl. Cheng Kung Univ., Taiwan	31C-3-3 16:15 Preparation and Characteristic of Relative Humidity Sensors based on Laterally Grown ZnO Nanowires using Hydrothermal Method F.-S. Tsai, S.-J. Wang, Y.-C. Tu, T.-H. Lin and J.-C. Lin, Natl. Cheng Kung Univ., Taiwan	31D-3-3 16:15 Multiple Investigation of Charge Transfer between Single-walled Carbon Nanotubes and N-type Dopants R. Shimizu 1, S. Matsuzaki 1, K. Yanagi 2 and T. Takenobu 1, 1 Waseda Univ. and 2 Tokyo Metropolitan Univ., Japan
31A-3 Author's Interview: 16:45-16:55	31B-3-4 16:35 Magnetite Bio-nanoparticle for Nano Resistive Memory K. Kado 1,2, T. Ban 1,2, M. Uenuma 1,2, Y. Kakiyama 1,2, B. Zheng 1,2, M. Horita 1,2, Y. Ishikawa 1,2, I. Yamashita 1,2 and Y. Uraoka 1,2, 1 Nara Inst. of Sci. and Technol. and 2 JST-CREST, Japan	31C-3-4 16:35 First-principles Simulation on Polymorph Dependence of Piezoresistivity in Silicon Carbide Nanowires K. Nakamura 1,2, 1 Kyoto Univ., Japan and 2 Egypt-Japan Univ. of Sci. and Technol., Egypt	31D-3-4 16:35 Wave Packet Dynamics Simulations on Electronic Transport in Nano-carbon Materials Y. Takada, K. Takashima and T. Yamamoto, Tokyo Univ. of Sci., Japan
	31B-3 Author's Interview: 16:55-17:05	31C-3 Author's Interview: 16:55-17:05	31D-3 Author's Interview: 16:55-17:05
Robby (4F in front of Zuiten)			
17:10-18:40 Happy Hour			

Thursday, November 1

Room A (Zuiten Nishi 4F)	Room B (Zuiten Naka 4F)	Room C (Zuiten Higashi 4F)	Room D (Tenku 5F)
1A-4: Symp. A: Extreme Ultraviolet Lithography and Lithography Extensions I Chairpersons: T. Sato (Toshiba) J. Miyazaki (ASML)	1B-4: BioMEMS, Lab on a Chip I Chairpersons: K. Furukawa (NTT) K. Tawa (AIST)	1C-4: Nanoimprint, Nanoprint and Rising Lithography I Chairpersons: H. Hiroshima (AIST) F.-Y. Chang (National Taiwan Univ.)	1D-4: Graphene II Chairpersons: D. Kondo (Fujitsu Labs.) M. Nagase (Univ. of Tokushima)
1A-4-1 9:00 Recent Activities on EUVL in NewSUBARU (Invited) H. Kinoshita 1,2 T. Watanabe 1,2 and T. Harada 1,2, 1 Univ. of Hyogo and 2 JST-CREST, Japan	1B-4-1 9:00 Evaluation of Electrophoretic Mobility of Individual Exosomes by Microcapillary Electrophoresis with Laser Dark-field Microscopy K. Kato 1, M. Kobayashi 1, T. Akagi 1, N. Kosaka 2, T. Ochiya 2 and T. Ichiki 1, 1 Univ. of Tokyo and 2 Natl. Cancer Center Research Inst., Japan	1C-4-1 9:00 Continuous and High-throughput Patterning Techniques and Their Applications in Photonics and Transparent Conductors (Invited) L.J. Guo, S.H. Ahn, J.G. Ok and M.K. Kwak, Univ. of Michigan, USA, Univ. of Michigan, USA	1D-4-1 9:00 Electrical Resistivity Measurements of Layer Number Determined Multi-layer Graphene for Future LSI Interconnects K. Ito 1, M. Katagiri 2, T. Sakai 2 and Y. Awano 1, 1 Keio Univ. and 2 LEAP, Japan
1A-4-2 9:30 Current Progress of Advanced EUVL Development in EIDEC (Invited) S. Inoue, H. Watanabe, T. Itani, and I. Mori, EIDEC, Japan	1B-4-2 9:20 Temporal External Field Fluctuation Measurement in Constructive Cardiomyocyte Network for in vitro Predictive Cardiotoxicity T. Hamada, F. Nomura, T. Kaneko, K. Yasuda, Tokyo Medical and Dental Univ., Japan	1C-4-2 9:30 Novel Organic Radiation Detector with Nanoimprinted Structure K. Tada 1, E. Takada 1, K. Tomohiro 2, K. Fujii 1, Y. Masuyama 1 and Y. Hirai 2, 1 Toyama Natl. Coll. of Technol. and 2 Osaka Pref. Univ., Japan	1D-4-2 9:20 Multiple Exciton Generation in Graphene Nanoribbon S. Konabe and S. Okada, Univ. of Tsukuba, Japan
1A-4-3 10:00 Next Generation Lithography: Challenges for High Volume Manufacturing (Invited) S. Sivakumar, Intel, USA	1B-4-3 9:40 Visualizing a Transient Molecular Encounter leading to Single DNA Digestion in Fluid D. Onoshima 1, N. Kaji 1, M. Tokeshi 1,2 and Y. Baba 1,3, 1 Nagoya Univ., 2 Hokkaido Univ. and 3 AIST, Japan	1C-4-3 9:50 Enhanced Light Extraction Efficiency of W-OLED using UV-nanoimprinted AR Structure Glass K.-Y. Cheng 1, C.-K. Huang 2, M.-Y. Chang 2, H.-Y. Lin 1 and T.-H. Chou 1, 1 ITRI and 2 Natl. Sun Yat-Sen Univ., Taiwan	1D-4-3 9:40 Effects of Internal Strain induced by Low-energy Electron Beam Irradiation on Graphene T. Kadowaki 1,2, K. Murakami 1,2 and J. Fujita 1,2, 1 TIMS and 2 Univ. of Tsukuba, Japan
1A-4 Author's Interview: 12:15-12:25	1B-4-4 10:00 Fabrication of Fine mRNA Patterns using Microintaglio Printing Method R. Kobayashi 1, Y. Tanaka 1, S. Ueno 1,2, M. Biyani 1,2 and T. Ichiki 1,2, 1 Univ. of Tokyo and 2 JST-CREST, Japan	1C-4-4 10:10 Study of the Resistance of Antisticking Layer on Repeated UV Nanoimprint S. Iyoshi 1,5, M. Okada 1,5,6, K. Kobayashi 3,5, S. Kaneko 3,5, T. Katase 2, K. Tone 2, Y. Haruyama 1,5, M. Nakagawa 3,5, H. Hiroshima 4,5 and S. Matsui 1,5, 1 Univ. of Hyogo, 2 Meisyo Kiko, 3 Tohoku Univ., 4 AIST, 5 JST-CREST and 6 JSPS, Japan	1D-4-4 10:00 In situ Observation of Graphene during Gate Oxide Formation using Raman Spectroscopy R. Sato, H. Fukidome and M. Suemitsu, Tohoku Univ., Japan
	1B-4-5 10:20 Oxide Nanowires DNA Chip for Long DNA Molecules Manipulation S. Rahong 1, T. Yanagida 1,2, M. Kanai 1, A. Klamchuen 1, M. Gang 1, K. Nagashima 1, T. Yasui 3, N. Kaji 3, Y. Baba 3,4 and T. Kawai 1, 1 Osaka Univ., 2 JST-PRESTO, 3 Nagoya Univ. and 4 AIST, Japan	1C-4-5 10:30 Study of Organic Thin Film Transistors on UV-curable Dielectrics with Periodic Patterns fabricated by Nano Imprint Technology H.J.H. Chen 1, J.-Y. Chen 1, S.-Z. Chen 2 and J.-C. Huang 2, 1 Natl. Chi Nan Univ. and 2 Natl. Tsing Hua Univ., Taiwan	1D-4 Author's Interview: 11:55-12:05
	1B-4 Author's Interview: 10:40-10:50	1C-4 Author's Interview: 12:25-12:35	
Robby (4F in front of Zuiten)			
Coffee Break			
Room A (Zuiten Nishi 4F)	Room B (Zuiten Naka 4F)	Room C (Zuiten Higashi 4F)	Room D (Tenku 5F)
1A-5: Symp. A: Extreme Ultraviolet Lithography and Lithography Extensions II Chairpersons: S. Nagahara (Tokyo Electron) K. Ogino (Fujitsu Semiconductor)	1B-5: 11:05-12:35 Material & Process for MEMS I Chairpersons: H. Takao (Kagawa Univ.) T. Ando (Ritsumeikan Univ.)	1C-5: Nanoimprint, Nanoprint and Rising Lithography II Chairpersons: J. Taniguchi (Tokyo Univ. of Sci.) A. Yokoo (NTT)	1D-5: 10:35-11:55 Carbon Nanotuber II Chairpersons: S. Akita (Osaka Pref. Univ.) S. Chiashi (Univ. of Tokyo)

1A-5-1 10:45 High CE Technology EUV Source for HVM (Invited) H. Mizoguchi and T. Saitou, Gigaphoton, Japan	1B-5-1 11:05 Experimental Nano Mechanics for Silicon & Carbon Nanomaterials Using MEMS Technology (Invited) Y. Isono, Kobe Univ., Japan	1C-5-1 11:05 Solvent Assisted Nanoimprint Lithography as Block Copolymers Directed Selfassembly Tool C. Simao 1, N. Kehagias 1, D. Borah 2,3, B. Kosmala 2,3, M. Salaun 4, M. Zelsmann 4, M.A. Morris 2,3 and C.M. Sotomayor Torres 1,5, 1 UAB, Spain, 2 Tyndall Natl. Inst. UCC and 3 Trinity Coll. Dublin, Ireland, 4 CNRS, France and 5 ICREA, Spain	1D-5-1 10:35 Carbon Nanotube Solar Cell utilizing Semiconducting Carbon Nanotube as Exciton Generators E.-S. Kim and W.-J. Kim, Gachon Univ., Korea
1A-5-2 11:15 Resist materials for EUV lithography (Invited) S. Tarutani, Fujifilm, Japan	1B-5-2 11:35 P-type Sb ₂ Te ₃ and n-type Bi ₂ Te ₃ Films for Thermoelectric Modules deposited by Thermally-assisted Sputtering Method M. Mizoshiri, M. Mikami and K. Ozaki, AIST, Japan	1C-5-2 11:25 Combination of Circular PDMS Mold and Gasbag Roller to Replicate Continuous Anodic Aluminum Oxide Nano Structures by UV Resin on PC Film Y.-H. Lee, R.-H. Hong, K.-H. Lu and S.-Y. Yang, Natl. Taiwan Univ., Taiwan	1D-5-2 10:55 Degradation of Carbon Nanotube Emitters in High Electric Field T. Emi, K. Kuroda, K. Hirahara and Y. Nakayama, Osaka Univ., Japan
1A-5-3 11:45 Challenges of EB Writer for EUV Mask (Invited) S. Yoshitake, S. Wake, Y. Sengoku, S. Hayashi, T. Iijima, M. Ogasawara and K. Hattori, NuFlare Technol., Japan	1B-5-3 11:55 Microfabrication of Super Absorbent Polymer by Nanoimprinting and Post Swelling Process T. Inaba, T. Kano and N. Miki, Keio Univ., Japan	1C-5-3 11:45 Uniform Residual Layer Creation in UV Nanoimprint using Spin Coat Films for Sub-100nm Patterns with Various Pattern Densities K. Suzuki 1,2,3, S.-W. Youn 2,3, Q. Wang 2,3, H. Hiroshima 2,3 and Y. Nishioka 1, 1 Nihon Univ., 2 AIST and 3 JST-CREST, Japan	1D-5-3 11:15 Carbon Nanotube-based Memory with Atomic-Layer-Deposited Dielectrics Y. Fujii, T. Kamimura, Y. Ohno, K. Maehashi, K. Inoue and K. Matsumoto, Osaka Univ., Japan
1A-5 Author's Interview: 12:15-12:25	1B-5-4 12:15 Evaluation of a Capacitive Sensor with a Gold Proof Mass toward Integrated CMOS-MEMS Accelerometers D. Yamane 1, T. Matsushima 2, T. Konishi 2, G. Motohashi 1, H. Ito 1, N. Ishihara 1, H. Toshiyoshi 3, K. Machida 1,2 and K. Masu 1, 1 Tokyo Inst. of Technol., 2 NTT-AT and 3 Univ. of Tokyo, Japan	1C-5-4 12:05 Fabrication of Nano and Micron Size Mixture Patterns by Edge Lithography H. Noma 1,2, J. Sakamoto 1, H. Kawata 1,2, M. Yasuda 1,2 and Y. Hirai 1,2, 1 Osaka Pref. Univ. and 2 JST-CREST, Japan	1D-5-4 11:35 Inkjet Printing of Aligned Carbon-nanotube Thin Films Y. Takagi 1, Y. Nobusa 1, S. Gocho 1, K. Yanagi 2, H. Kataura 3 and T. Takenobu 1, 1 Waseda Univ., 2 Tokyo Metropolitan Univ. and 3 AIST, Japan
	1B-5 Author's Interview: 15:10-15:20	1C-5 Author's Interview: 12:25-12:35	1D-5 Author's Interview: 11:55-12:05
Room A (Zuiten Nishi 4F)	Room B (Zuiten Naka 4F)	Room C (Zuiten Higashi 4F)	Room D (Tenku 5F)
1A-6: Lithography and Metrology Chairpersons: H. Kawai (Nikon) H. Yamashita (HOYA)	1B-6: Material & Process for MEMS II Chairpersons: N. Miki (Keio Univ.) M. Sohigawa (Osaka Univ.)	1C-6: Functional Nanodevices Chairpersons: N. Banno (Leap) Y. Ono (Univ. of Toyama)	1D-6: Nano-Tool Chairpersons: S. Akita (Osaka Pref. Univ.) T. Ono (Tohoku Univ.)
1A-6-1 13:40 Plasmon-enhanced Photochemical Reactions on Nano-engineered Gold Particles (Invited) K. Ueno, Hokkaido Univ. and JST-PRESTO, Japan	1B-6-1 13:40 Micromachining Techniques for Wider Variety of 3D Devices (Invited) M. Sasaki and S. Kumagai, Toyota Technological Inst., Japan	1C-6-1 13:50 Quantum Computing in Silicon with Donor Electron Spins (Invited) M.Y. Simmons, Univ. of New South Wales, Australia	1D-6-1 13:20 High-speed Robotic Tools integrated with Microfluidic Chip for Biomedical Innovation (Invited) F. Arai, Nagoya Univ., Japan
1A-6-2 14:10 EUV Interference Lithography at Swiss Light Source L. Wang, M. Hojeij, M. Vockenhuber, B. Terhalle, E. Kirk, J. Gobrecht and Y. Ekinci, Paul Scherrer Inst., Switzerland	1B-6-2 14:10 Polymer Micro-needle Electrodes coated with Nanoporous Parylene Y. Nishinaka 1, R. Zen 1, G.S. Prihandana 1, Y. Ami 1, N. Miki 1,2, 1 Keio Univ. and 2 JST-PRESTO, Japan	1C-6-2 14:20 Si Phononic Crystal Nanostructures for Controlling Thermal Conduction M. Nomura, Univ. of Tokyo, Japan	1D-6-2 13:50 Quantitative Measurements of Local Charge Density at Solid / Liquid Interfaces by FM-AFM K. Umeda 1, Y. Hirata 2, N. Oyabu 1, K. Kobayashi 1, K. Kazumi 1 and H. Yamada 1, 1 Kyoto Univ. and 2 AIST, Japan
1A-6-3 14:30 An EUV Mask-imaging Microscope for Lithography Generations with sub-16 nm Half Pitch M. Toyoda, K. Yamasoe, K. Uchida and M. Yanagihara, Tohoku Univ., Japan	1B-6-3 14:30 A Post-CMOS Formation Process of High Adhesion SU-8 Structures for Reliable Fabrication of Integrated MEMS Microsensors Y. Maeda, K. Terao, T. Suzuki, F. Shimokawa and H. Takao, Kagawa Univ., Japan	1C-6-3 14:40 Fabrication and Characterization of A GaAs Nanowire Device Having Multiple Asymmetric Gates for Electrical Brownian Ratchet T. Tanaka, Y. Nakano and S. Kasai, Hokkaido Univ., Japan	1D-6-3 14:10 Carbon Nanotube Photo Cathode Array based on Si Pn Junction Photo Diode Y. Tanaka, H. Miyashita, M. Esashi and T. Ono, Tohoku Univ., Japan

1A-6-4 14:50 Highly Precise Cross-sectional Measurement of Photoresist Shrinkage T. Ohashi 1, T. Sekiguchi, A. Yamaguchi 1, J. Tanaka 1 and H. Kawada 2, 1 Hitachi and 2 Hitachi High-Technol., Japan	1B-6-4 14:50 Room Temperature Wafer Bonding of Metal Films using Flattening by Thermal Imprint Process Y. Kurashima, A. Maeda, R. Takigawa and H. Takagi, AIST, Japan	1C-6-4 15:00 Rectification Effects of ZnO-based Transparent Nano-diodes on Glass and Flexible Plastic Substrates Y. Kimura 1, Y. Sun 1, T. Maemoto 1, S. Sasa 1, S. Kasai 2 and M. Inoue 1, 1 Osaka Inst. of Technol. and 2 Hokkaido Univ., Japan	1D-6-4 14:30 Photothermal Actuation of Cantilevered Multiwall Carbon Nanotubes with Bi-material Configuration toward Calorimeter S. Hiroshima 1, A. Yoshinaka 1, T. Arie 1,2 and S. Akita 1,2, 1 Osaka Pref. Univ. and 2 JST-CREST, Japan
1A-6-5 15:10 130-kV High-resolution Electron-Beam Lithography System for Sub-10nm Nanofabrication T. Okino, Y. Kuba, M. Shibata and H. Ohyi, Crestec, Japan	1B-6 Author's Interview: 15:10-15:20	1C-6 Author's Interview: 15:20-15:30	1D-6 Author's Interview: 14:50-15:00
1A-6 Author's Interview: 15:30-15:40			
Robby (4F in front of Zuiten)			
Coffee Break			
Room P1 (Kaiou 4F) and Room P2 (Ginga 4F)			
1P-7: 15:40-17:40 Poster Session I			
Lithography and Metrology			
1P-7-1 Expanded Field of View of Multiple-beam Scanning Electron Microscope M. Sakakibara, M.Enyama, S. Tanimoto and H. Ohta, Hitachi, Japan	1P-7-2 Withdrawn	1P-7-3 120W Injection-locked ArF Excimer Laser for Multi-patterning Lithography Y. Sasaki, T. Asayama, H. Masuda, T. Kumazaki, H. Tsushima, A. Kurosu, K. Kakizaki, T. Matsunaga and H. Mizoguchi, GIGAPHOTON, Japan	1P-7-4 1Xnm Node Fin-type SRAM Layout Design by ArF Computational Lithography and T-CAD Application K. Kadota, K. Fukuda, S.O'uchi and M. Masahara, AIST, Japan
1P-7-5 Estimation of Electron Temperature and Density of the Decay Plasma in a Laser-assisted Discharge Plasma Extreme Ultraviolet Source by using a Modified Stark Broadening Method T. Muto, Q. Zhu, J. Yamada, N. Kishi, M. Watanabe and E. Hotta, Tokyo Inst. of Technol., Japan	1P-7-6 Phase Imaging of EUV Mask using Coherent EUV Scatterometry Microscope T. Harada 1,3, M. Nakasuji 1,3, Y. Nagata 2,3, T. Watanabe 1,3 and H. Kinoshita 1,3, 1 Univ. of Hyogo, 2 RIKEN and 3 JST-CREST, Japan	1P-7-7 Impact of Pattern Profile on Plasmon in Computational Lithography S.-K. Kim, Hongik Univ., Korea	1P-7-8 Withdrawn
1P-7-9 Extreme Ultraviolet Aberration Impact on 14 nm Node 6T-SRAM Design S.-E. Tseng and A. Chen, ASML, Taiwan	1P-7-10 Lloyd's Mirror Interference Lithography using a Single Mode Fiber Spatial Filter E.-C. Chang, Y.-L. Sun, P.-T. Lin, D.G. Mikolas and C.-C. Fu, Natl. Tsing Hua Univ., Taiwan	1P-7-11 Metrology Analysis of Sub-100 nm Grating Patterns using High Precision Transmission Small Angle X-ray Scattering Technique J. Lee, B. Park, S. Lee, S. Ban, S. Moon, T.J. Shin and O. Kim, POSTECH, Korea	1P-7-106L Electron Beam Current Dependence of Surface Potential Distribution at a Resist Film A. Osada, M. Otani, K. Kumagai and M. Kotera, Osaka Inst. of Technol., Japan
Resist Materials and Processing			
1P-7-12 Deprotonation of Poly(4-hydroxystyrene)Intermediates: Pulse Radiolysis Study of EUV and Electron Beam Resist K. Okamoto 1,2, R. Matsuda 1, T. Kozawa 2,3, S. Tagawa 2,3, R. Fujiyoshi 1, T. Sumiyoshi 1, 1 Hokkaido Univ., 2 JST-CREST and 3 Osaka Univ., Japan	1P-7-13 The Analytical Mitigation of EUV Resist for the High Sensitivity and the Low LWR using SR Absorption Spectroscopy T. Watanabe, D. Shiono, Y. Haruyama, K. Emura, T. Urayama, K. Ohmori, K. Sato, T. Harada and H. Kinoshita, Univ. of Hyogo, Japan	1P-7-14 Reactions of Polymer Bound/Blend Photo Acid Generators with Solvated Electrons and Acid Generation Efficiency S. Enomoto 1,2, D.T. Nguyen 1,2 and S. Tagawa 1,2, 1 Osaka Univ. and 2 JST-CREST, Japan	1P-7-15 Negative Tone Development Process and Resist Materials with ArF Immersion Exposure Process S. Tarutani, FUJIFILM, Japan
1P-7-16 Study on Dissolution Behavior of Polymer-bound and Polymer-blended Photoacid Generator Resists H. Yamamoto 1,2, T. Kozawa 1,2 and S. Tagawa 1,2, 1 Osaka Univ. and 2 JST-CREST, Japan			
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1P-7-17 Electric Property of CNT/n-type 6H-SiC Heterojunctions formed by Surface Decomposition of SiC T. Yajima, S. Sakakibara, S. Naritsuka and T. Maruyama, Meijo Univ., Japan	1P-7-18 Nanostructure of PtCo Bimetal Particles for PEFC K. Sato 1, T. Onuma 1, K. Iwasawa 1, M. Eguchi 1, Y. Kobayashi 1, K. Komatsu 2, M. Kobori 2, M. Nishitani-Gamo 2, T. Ando 3, 1 Ibaraki Univ., 2 Toyo Univ. and 3 NIMS, Japan	1P-7-19 Development of High-performance-charcoal-composite Paper and its Electrical Conductivity M. Yoshihara 1, N. Tamura 2 and T. Oya 1, 1 Yokohama Natl. Univ. and 2 Heigen, Japan	1P-7-20 Optical Properties of Quantum Dot consisting of Single-walled Carbon Nanotube/Molecule Heterojunctions A. Hida and K. Ishibashi, RIKEN, Japan

1P-7-21 Electronic Properties of Carbon Nanotubes under the Electric Field A. Yamanaka 1 and S. Okada 1,2 1 Univ. of Tsukuba and 2 JST-CREST, Japan	1P-7-22 Carbon Nanocoil Grown by Chemical Vapour Deposition on SiO ₂ Supported Pd Nanoparticles W.K. Huang 1, K.J. Chung 1, Y.M. Liu 1, N.W. Pu 2, M.D. Ger 1, 1 Natl. Defense Univ. and 2 Yuan Ze Univ., Taiwan	1P-7-23 Electronic Structures of Bilayer Graphene under Electric Field S. Konabe and S. Okada, Univ. of Tsukuba, Japan	1P-7-24 Work Function Tuning of Graphene on Water-adsorbed Corundum Substrate S.B. Cho and Y.-C. Chung, Hanyang Univ., Korea
1P-7-25 Energetics and Electronic Structures of Alkanes Adsorbed on Graphene K. Kamiya 1,2 and S. Okada 1,2, 1 Univ. of Tsukuba and 2 JST-CREST, Japan	1P-7-26 Phosphorescence of Oxygen Functional Group on the Zigzag Edge and Armchair Edge of Graphene as a Light Source in Bio-Led Y.H. Su, Natl. Dong Hwa Univ., Taiwan	1P-7-27 Graphene as a Buffer Layer for the Growth of SiC Thin Film on Insulator on Silicon for Advanced Heterogeneous Integration B. Astuti 1, S.F.A. Rahman 1, M. Tanikawa 2, K. Yasui 2 and A.M. Hashim 1, 1 Univ. Teknologi Malaysia, Malaysia and 2 Nagaoka Univ. of Technol., Japan	1P-7-28 Chemical Vapor Deposited Large-area Graphene for Photovoltaic Device Application G. Kalita 1, S. Sharma 1, M. Umeno 2, Y. Hayashi 1 and M. Tanemura 1, 1 Nagoya Inst. of Technol. and 2 Chubu Univ., Japan
1P-7-29 Inhibitive Corrosion Graphene Layers on Stainless Steel SUS304 J.-N. Shi 1, N.-W. Pu 2, Y.-M. Liu 1, N.-T. Wen 3 and M.-D. Ger 1, 1 Natl. Defense Univ., 2 Yuan Ze Univ. and 3 Chung Shan Inst. of Sci. and Technol., Taiwan	1P-7-30 Bonding Mechanism of Li-graphene with Nitrogen Defects for Hydrogen Storage S. Lee and Y.-C. Chung, Hanyang Univ., Korea	1P-7-31 Performance Enhancement of Electrically Conductive Adhesives using Graphene W.F. Ke 1, J.Y. Chen 1, G.N. Shi 1, N.W. Pu 2, Y.M. Liu 1 and M.D. Ger 1, 1 Natl. Defense Univ. and 2 Yuan Ze Univ., Taiwan	1P-7-32 Edge Effects and Mechanical Deformation Effects on Thermoelectric Power of Graphene Nanoribbons T. Kato 1, S. Usui 2, T. Yamamoto 1, 1 Tokyo Univ. of Sci., 2 QuantumWise, Japan
1P-7-33 Fluorination Process of Graphene using Ar/F ₂ Plasma A. Matsutani, K. Tahara, T. Iwasaki and M. Hatano, Tokyo Inst. of Technol., Japan			
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1P-7-34 CMOS-compatible Tunnel FETs with 14 nm Gate, Sigma-shape Source, and Recessed Channel M.-C. Sun 1,2, S.W. Kim 1, H.W. Kim 1, H. Kim 1 and B.-G. Park 1, 1 Seoul Natl. Univ. and 2 Samsung Electronics, Korea	1P-7-35 Manufacturing P- and N- type Ge gate-all-around FETs on Si S.-H. Hsu 1, C.-L. Chu 1, G.-L. Luo 1, Y.-H. Wang 2, Y.-L. Chen 1, M.-L. Guo 1, D.-H. Zhou 1, 1 Natl. Nano Device Labs. and 2 Natl. Chiao Tung Univ., Taiwan	1P-7-36 Fin Shape Effect on the Electrical Characteristics of N-channel FinFET J.T. Ryu, D.H. Kim and T.W. Kim, Hanyang Univ., Korea	1P-7-37 Comparative Study of Device Performance and Bias-stress Instabilities in Amorphous InGaZnO Thin-film Transistors with Various High-k Gate Dielectrics S.-W. Lee and W.-J. Cho, Kwangwoon Univ., Korea
1P-7-38 High Current Driving of SnO ₂ Channel Thin Film Transistor using HfO ₂ /ZrO ₂ High-k Gate Dielectrics Y.-C. Liu 1, C.-H. Wu 2, C.-C. Chang 2, C.-F. Chang 2, Y.-H. Tsai 2, K.-M. Chang 1 and J.-P. Leu 1, 1 Natl. Chiao Tung Univ. and 2 Chung Hua Univ., Taiwan	1P-7-39 Comparative Analysis of Top and Bottom Contact Organic Thin Film Transistors and Contact Resistance Estimation by 2-D Simulations K. Bhargava, P.A. Palod, A. Bilgaiyan and V. Singh, Indian Inst. of Technol. Indore, India	1P-7-40 Effect of Cooling Condition on Molecular Distribution quenched in Crystal Grains in a Solution-processed Organic Thin-film Transistor J.-H. Bae, J.-S. Park and H.-R. Kim, Kyungpook Natl. Univ., Korea	1P-7-41 Investigation on Effects of Changing Body Doping Concentration in Short-channel Junctionless Transistor H.W. Kim 1, M.-C. Sun 1,2, S.W. Kim 1, J.Y. Seo 1, G. Kim 1, J.H. Kim 1 and B.-G. Park 1, 1 Seoul Natl. Univ. and 2 Samsung Electronics, Korea
1P-7-42 InGaAs-Si Heterojunction Tunneling Field-effect Transistor based on Silicon Substrate S.Y. Woo 1, Y.J. Yoon 1, J.-H. Bae 1, S. Cho 2, J.-H. Lee 1 and I.M. Kang 1, 1 Kyungpook Natl. Univ., Korea and 2 Stanford Univ., USA	1P-7-43 The Enhancement of Detection Limit by Selective Modification on Ultra-Thin Body Field-Effect Transistor H.H. Liu, T.H. Lin and J.T. Sheu, Natl. Chiao Tung Univ., Taiwan	1P-7-44 Collision based Computing for Arrayed Single-electron Oscillators S. Hayashi and T. Oya, Yokohama Natl. Univ., Japan	1P-7-45 Characterization of GaAs-based Three-branch Nanowire Junction Devices by Light-induced Local Resistance Modulation Method M. Sato and S. Kasai, Hokkaido Univ., Japan
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1P-7-46 Annealing and Recrystallization of Polyvinylidene fluoride-trifluoroethylene (70:30 mol %) Thin Film M.H. Wahid 1,2, A.N. Arshad 1, M.D. Rozana 1, S.Z. Saad 1, M. Rusop 1 and W.H. Majid 2, 1 Univ. Teknologi MARA and 2 Univ. Malaya, Malaysia	1P-7-47 NADP+-functionalized Quantum Dots for the Detection of γ -Aminobutyric Acid Z. Fei and J.S. Kim, Gachon Univ., Korea	1P-7-48 Multifunctional Core-shell Nanoparticles as Bioanalytical Tools for in vitro Tracking of DNA-transfection N. Reinhardt, L. Adumeau, O. Lambert, P. Bonafous, S. Ravaine and S. Mornet, Université Bordeaux, France	1P-7-49 Effects of CdSe Quantum Dot Concentration on the Performance of P3HT:PCBM Solar Cells E.-K. Park 1, H.M. Choi 2, D. Han 1, I.A. Ji 2, J.H. Bang 2 and Y.-S. Kim 1, 1 Myongji Univ. and 2 Hanyang Univ., Korea
1P-7-50 Electrochemistry Assisted Laser Ablation in Liquids: A General Strategy for Fabricating Polyoxyometalate Nanostructures P. Liu, Y. Liang, X.Z. Lin and G.W. Yang, Sun Yat-sen Univ., China	1P-7-51 Exploring Index Matched Transparent Conducting Oxide Material for Liquid Crystal on Si Projection Display S.Y. Park, J.H. Lee and B.H. Choi, Korea Inst. of Industrial Technol., Korea	1P-7-52 pH Sensing Characteristics of Extended Gate Field-effect-transistor based on Amorphous InGaZnO Thin Films J.-G. Gu, H.-J. Jang and W.-J. Cho, Kwangwoon Univ., Korea	1P-7-53 Symmetric Linear Polarization of Photoluminescence from InGaAs-buried InAs Quantum Dots controlled by Temperature K. Kikushima 1, T. Tanaka 1, S. Nakashima 1,2 and K. Mukai 1, 1 Yokohama Natl. Univ. and 2 RIKEN, Japan

<p>1P-7-54 Thermal Stability of AlN Layer formed by Translational Kinetic Energy induced N₂ Adsorption on Al(111) Surface M. Jinno 1,2, Y. Teraoka 1,2, T. Takaoka 3, J.R. Harris 1, R. Okada 1,4, Y. Iwai 1,2, A. Yoshigoe 1 and T. Komeda 3, 1 JAEA, 2 Univ. of Hyogo, 3 Tohoku Univ. and 4 Univ. of Tsukuba, Japan</p>	<p>1P-7-55 Stability of Lithium Adatom Adsorption on Hexagonal Boron Nitride Monolayer: Van der Waals Density Functional Theory Y. Hwang and Y.-C. Chung, Hanyang Univ., Korea</p>	<p>1P-7-56 Improved Barrier Properties using Al₂O₃ Single Layer of Organic Light Emitting Diode Lighting Devices M.R. Kim, J.H. Lee and B.H. Choi, Korea Inst. of Industrial Technol., Korea</p>	<p>1P-7-57 Effect of Organic Semiconductor Film Formation on the Magnitude of the Interfacial Trap Density in a Low-voltage Operated Thin-film Transistor J.-H. Bae, H.G. Lee and I.M. Kang, Kyungpook Natl. Univ., Korea</p>
<p>1P-7-58 Nonvolatile Organic Memory Devices with CdSe or CdTe Nanoparticles H.-G. Kim 1, M.-J. Gim 1, H.-J. Jeon 1, M. Kim 1, S.-H. Yoo 2, J.-M. Kim 2 and Y.-S. Kim 2, 1 Gyeonggi Sci. High School and 2 Myongji Univ., Korea</p>			
Nano Tool			
<p>1P-7-59 Thermally-isolated Resonant Thermal Sensor Probe N. Inomata and T. Ono, Tohoku Univ., Japan</p>	<p>1P-7-60 Piezoelectric Optical-absorption Spectroscopy of a GaAs/AlGaAs Heterostructure using Cantilever Mechanical Resonance T. Watanabe 1,2, H. Okamoto 1, K. Onomitsu 1 and H. Yamaguchi 1,2, 1 NTT and 2 Tohoku Univ., Japan</p>	<p>1P-7-61 High Sensitive Si Cantilevers for Magnetic Resonance Force Microscopy M. Toda, Y.J. Seo, Y. Kawai, H. Miyashita and T. Ono, Tohoku Univ., Japan</p>	<p>1P-7-62 Contactless Sheet Resistivity Measurement using Magnetic Force Microscopy F. Wakaya, M. Kajiwara, S. Abo and M. Takai, Osaka Univ., Japan</p>
<p>1P-7-63 Evaluation of Resonance Detection Properties on Vibration Measurement of the Mechanical Resonator using Scanning Probe Microscope R. Kometani, S. Mifune, S. Warisawa and S. Ishihara, Univ. of Tokyo, Japan</p>	<p>1P-7-64 Interaction Force Measurement between Antigens and Antibodies using Carbon Nanotube Cantilevers Y. Terada 1, S. Akita 1,2 and T. Arie 1,2, 1 Osaka Pref. Univ. and 2 JST-CREST, Japan</p>	<p>1P-7-65 Fabrication of Superparamagnetic Nano-particles having Various Diameters by Strict Controlling of Magnetic Material Thickness H. Kim 1, H. Terazono 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>1P-7-66 Welding of Thin Pt Wires having Different Diameters by Joule Heating M. Fujimori, H. Tohmyoh, and M. Saka, Tohoku Univ., Japan</p>
<p>1P-7-67 Fabrication of a Mechanically Exfoliated Graphene Edge Emmitter on a Tungsten Probe and its Field Emission Properties K. Murakami, K. Yoshida, R. Ueki and J. Fujita, Univ. of Tsukuba, Japan</p>			
Nanoimprint, Nanoprint and Rising Lithographyano			
<p>1P-7-68 Development of Cleaning Process for UV Cured Resin Removal on Quartz Substrate for Nanoimprint Lithography M.-S. Kim 1, B.-K. Kang 1, J.-S. Lim 1, J.-H. Jeong 1, J.-K. Kim 2, B.-K. Lee 2 and J.-G. Park 1, 1 Hanyang Univ. and 2 Samsung Electronics, Korea</p>	<p>1P-7-69 Mechanical Properties of Biodegradable Polylactide Structures fabricated using Thermal Nanoimprint P.-T. Teng, F.-Y. Chang, T.-H. Tsai, Taiwan Univ. of Sci. and Technol., Taiwan</p>	<p>1P-7-70 Impact of Residual Strain in an Organic Functional Martial during Thermal Nanoimprint Process T. Shiotsu, N. Nishikura, M. Yasuda, H. Kawata and Y. Hirai, Osaka Pref. Univ., Japan</p>	<p>1P-7-71 Optical Evaluation of Photoinduced Liquid Crystalline Polymer Pattern fabricated by Thermal Nanoimprinting with Linearly Polarized UV Irradiation M. Okada 1, E. Nishioka 1, M. Kondo 1, Y. Haruyama 1, T. Sasaki 2, H. Ono 2, N. Kawatsuki 1 and S. Matsui 1, 1 Univ. of Hyogo and 2 Nagaoka Univ. of Technol., Japan</p>
<p>1P-7-72 A Study of the Roller Imprinting Technology applied to Patterned Sapphire Substrate S.-C. Yeh 1, Y.-Y. Chou 1, Y.-C. Lee 1, P.-J. Tsai 2, J.-W. Pan 2, H.-M. Chou 3, C.-H. Hou 3, Y.-Y. Chang 4, M.-S. Chu 4, M.-L. Hu 4 and C.-H. Ho 4, 1 Chung Yuan Christian Univ., 2 Natl. Chiao Tung Univ., 3 Lextar Electronics and 4 Procrystal Technol., Taiwan</p>	<p>1P-7-73 Ultraviolet-curable Resins comprising a Diacrylate Monomer Hardly Absorbing Condensable Pentafluoropropane (PFP) Gas to achieve High Throughput in Ultraviolet Nanoimprinting using PFP S. Kaneko 1, C.Y. Min 1 and M. Nakagawa 1,2, 1 Tohoku Univ. and 2 JST-CREST, Japan</p>	<p>1P-7-74 Selective Grating Fabrication on Ti-diffused Waveguides in LiNbO₃ by Imprint Lithography M. Nakao, S. Nakajima, S. Shinada and T. Kawanishi, Natl. Inst. of Information and Communications Technol., Japan</p>	<p>1P-7-75 Enhanced Light Extraction from Red Phosphor Films via Nano-imprint Lithography using Zirconia Nanoparticles K.-K. Kim 1, E.-J. Her 1, K.-Y. Ko 2, T.H. Won 2 and J. Ahn 1, 1 Hanyang Univ. and 2 Korea Inst. of Patent Information, Korea</p>
<p>1P-7-76 The Gasbag-assisted Side-emitting UV-curing Imprinting Process for Large-area Replication of Microstructures Y.-Y. Huang, C.-H. Yang, N.-W. Chang and S.-Y. Yang, Natl. Taiwan Univ., Taiwan</p>	<p>1P-7-77 Computational Study on Molecular Orientation of Polymers in Nanoimprint Lithography R. Takai 1, M. Yasuda 1, K. Tada 2, H. Kawata 1 and Y. Hirai 1, 1 Osaka Pref. Univ. and 2 Toyama Natl. College of Technol., Japan</p>	<p>1P-7-78 Thickness Dependency of Polymerization Efficiency on UV-nanoimprint Resins Y. Sawada 1,5, H. Miyake 2, T. Ohsaki 3, M. Okada 1,5, S. Iyoshi 1,5, Y. Haruyama 1,5, H. Hiroshima 4,5 and S. Matsui 1,5, 1 Univ. of Hyogo, 2 Daicel, 3 Toyo Gosei, 4 AIST and 5 JST-CREST, Japan</p>	<p>1P-7-79 Low-temperature Firing of Ag-Cu Nanoparticles during Direct Nanoimprinting H. Tambo, Y. Yokoyama and Y. Sakai, Toyama Industrial Technol. Center, Japan</p>

BioMEMS, Lab on a Chip			
1P-7-80 Isolating Circulating Tumor Cells from Peripheral Blood with Large Volume utilizing Dielectrophoresis in Reversing Stepping Electric Fields H.-H. Wu, G.-H. Chen, C.-T. Huang and C.-P. Jen, Natl. Chung Cheng Univ., Taiwan	1P-7-81 Bright Transmitted-fluorescence Images of Neurons cultured on a Plasmonic Chip with Fluorescence Microscope C. Yasui 1,2, C. Hosokawa 1, T. Fujita 1,3, J. Nishi 4, H. Aota 2, K. Tawa 1,3, 1 AIST, 2 Kansai Univ. 3 Kwansai Gakuin Univ. and 4 Hokkaido Univ., Japan	1P-7-82 Micropatterning of Single Mammalian Cells on the Chitosan Substrate for Drug Screening H.H. Shuai, C.Y. Yang, J.A. Yeh and C.M. Cheng, Natl. Tsing Hua Univ., Taiwan	1P-7-83 Single-cell Isolation and Sizing of Microorganisms by Microenclosure Array with Multipillar Structure A. Matsutani and A. Takada, Tokyo Inst. of Technol., Japan
1P-7-84 Ultra High-speed Microdroplet Polymerase Chain Reaction System for Three-step Reverse Transcription of Single Cells using On-chip Three-channel Switching High-speed Liquid Circulating Module H. Terazono 1, H. Kim 1, H. Takei 2, A. Hattori 3, T. Kaneko 3, K. Yasuda 1,3, 1 Kanagawa Academy of Sci. and Technol., 2 Toyo Univ. and 3 Tokyo Medical and Dental Univ., Japan	1P-7-85 Surface Roughness of Cells as Index of Label-free Cell Identification and Separation in On-chip Imaging Cell Sorting System A. Hattori 1,2, T. Kaneko 1, F. Nomura 1 and K. Yasuda 1,2, 1 Tokyo Medical and Dental Univ. and 2 Kanagawa Academy of Sci. and Technol., Japan	1P-7-86 Novel Single Cell Extraction Method combined with Biomimetic Cell Surface Modification and Microfluidic Device A. Hibino 1, Y. Okamoto 1, T. Yasui 1, N. Kaji 1, M. Tokeshi 1,2 and Y. Baba 1,3, 1 Nagoya Univ., 2 Hokkaido Univ. and 3 AIST, Japan	1P-7-87 Interaction Kinetics of Proteins confined within a Nanocavity evaluated by Real-time Single-molecule Fluorescence Imaging S. Ryu 1, S. Higano 1, K. Ohkubo 1, Y. Asano 1, A. Inoue 1, T. Ueno 2, T. Funatsu 2, T. Tanii 1, 1 Waseda Univ. and 2 Univ. of Tokyo, Japan
1P-7-88 Development of Production Method of Protein Microarray Chips via Puromycin Technology S.R. Kumal 1, M. Biyani 1,2 and T. Ichiki 1,2, 1 Univ. of Tokyo and 2 JST-CREST, Japan	1P-7-89 A Microstructure-embedded Microfluidic Chip for Continuous Sample Separating Applications S.K. Hsiung 1, R.C. Lin 1, H.C. Lee 2, Y.F. Chen 3, C.T. Wu 3 and C.H. Lin 2, 1 Fooyin Univ., 2 Natl. Sun Yat-Sen Univ. and 3 Gene Target Technol., Taiwan	1P-7-90 Development of Wafer-level Fabrication Process for SiO ₂ based Nanowell Array Chip and its Characterization S.-H. Cho 1, J.-K. Lee 2, J.-H. Lee 1, H.Y. Lee 2 and J.-G. Park 1, 1 Hanyang Univ. and 2 Northeastern Univ., Korea	1P-7-91 Application of the ZnO-coated Plasmonic Chip immobilized with Anti-ZnO Antibody to Biosensing K. Tawa 1, C. Sasakawa 1, M. Umetsu 2, H. Nakasawa 2 and I. Kumagai 2, 1 AIST and 2 Tohoku Univ., Japan
1P-7-92 Rapid and Sensitive BDNF Detection with Zinc Oxide Coating Plasmonic Chip M. Satoh 1,2, K. Tawa 1, K. Uegaki 1, T. Hara 1, M. Umetsu 3, H. Nakazawa 3, I. Kumagai 3, H. Aota 2 and M. Kojima 1, 1 AIST, 2 Kansai Univ. and 3 Tohoku Univ., Japan	1P-7-93 Development of On-chip Dual Measurement System for Cardiac Contraction Fluctuation Assay using Simultaneous Recording of Extracellular Field Potential and Optical Image T. Kaneko, F. Nomura, T. Hamada, A. Hattori and K. Yasuda, Tokyo Medical and Dental Univ., Japan	1P-7-94 Fabrication of a Polylactide Micro-needle Array using Transfer Mold Technique for Transdermal Drug Delivery A. Baba, Kyushu Inst. of Technol., Japan	1P-7-95 Quantitative Evaluation of Quasi-electrocardiogram Measurement for Direct Prediction of Lethal Arrhythmic Beating Occurrence using Ring-shaped Cardiomyocyte Network with Ring Electrode Array F. Nomura, T. Kaneko, H. Hattori and K. Yasuda, Tokyo Medical and Dental Univ., Japan
Microsystem Technology and MEMS (Advanced Micro Devices)			
1P-7-96 Fabrication of Silicon Microdisk Resonators with Monolithically Integrated Comb-drive Microactuators Y. Sato, Y. Kanamori and K. Hane, Tohoku Univ., Japan	1P-7-97 Very Low Voltage Nickel MEMS Switch based on Dynamic Driving Method Y. Komai, R. Kitamura, H. Tanigawa and K. Suzuki, Ritsumeikan Univ., Japan	1P-7-98 Implementation of a DETF Resonator in a Wafer-level 0.18- μ m CMOS MEMS Process S.-H. Tseng, Y.-J. Hung, H.-H. Tsai and Y.-Z. Juang, Natl. Applied Res. Labs., Taiwan	1P-7-99 Theoretical Study on Sensitivity of Planar Vibration Sensor L. Zhang, J. Lu, H. Takagi and R. Maeda, AIST, Japan
1P-7-100 Structural and Material Design for Piezoelectric Energy Harvester using Vibration E. Komine 1, K. Sueshige 1, T. Suga 1, M. Ichiki 2,3 and T. Ito 2, 1 Univ. of Tokyo, 2 AIST and 3 JST-PRESTO, Japan	1P-7-101 High Efficiency Near-infrared Detection using Deep-trench Photo-diode T. Matsuda and A. Baba, Kyushu Inst. of Technol., Japan	1P-7-102 An Infrared Detector Array with Incident-ray Concentrating Structure J.C. Choi 1, Y.C. Choi 1, D.G. Jung 1, J.K. Lee 1, W.I. Jang 2 and S.H. Kong 1, 1 Kyungpook Natl. Univ. and 2 ETRI., Korea	1P-7-103 Electrolytic Tilt Sensor with Domed Cavity for Improvement in Response Time J.C. Choi, Y.C. Choi, D.G. Jung, J.K. Lee and S.H. Kong, Kyungpook Natl. Univ., Korea
1P-7-104 All-polymer Tilt Sensor with Conductive Polydimethylsiloxane Electrodes J.K. Lee, J.C. Choi, D.G. Jung, Y.C. Choi and S.H. Kong, Kyungpook Natl. Univ., Korea	1P-7-105 Electrostatically Driven Peristaltic Pump B. Kim1, K.S. Lee 2 and M.A. Shannon 2, 1 Catholic Univ. of Daegu, Korea and 2 Univ. of Illinois, USA		
Commercial Session (Technical Exhibitor)			
GenSys GmbH	NTT Advanced Technology Corporation	NEOARK CORPORATION	Carl Zeiss Microscopy Co., Ltd.
Nanoscribe GmbH	HOLON CO., LTD.		
Room A (Zuiten Nishi 4F)			
18:00-20:00 Banquet MNC 2012 Prof. Namba Award Ceremony Performance by Samba Show			

Friday, November 2

Room A (Zuiten Nishi 4F)	Room B (Zuiten Naka 4F)	Room C (Zuiten Higashi 4F)	Room D (Tenku 5F)
2A-8: 9:00-10:30 Symp. C: Directed Self Assembly I Chairpersons: T. Yamaguchi (NTT) H. Kudo (Kansai Univ.)	2B-8: 9:00-10:00 Advanced Micro Devices Chairpersons: M. Sohgawa (Osaka Univ.) T. Sakata (NTT)	2C-8: 9:20-10:20 Nanomaterials III Chairpersons: T. Chikyo (NIMS) T. Ishida (AIST)	2D-8: 9:00-10:20 Nanofabrication I Chairpersons: T. Hasunuma (Univ. of Tsukuba) K. Kita (Univ. of Tokyo)
2A-8-1 9:00 Self-Assembled Lithography and Potential Applications to Electronic Devices (<i>Invited</i>) K. Asakawa, A. Hieno, S. Hattori, H. Nakamura, T. Nakanishi, R. Kitagawa and A. Fujimoto, Toshiba, Japan	2B-8-1 9:00 Variable Resonant-frequency Tuning for Fishbone-shaped MEMS Resonator based on Multi-physics Simulator S. Kuroda, N. Suzuki, H. Tanigawa and K. Suzuki, Ritsumeikan Univ., Japan	2C-8-4 Withdrawn	2D-8-1 9:00 Biomolecular Adsorption Control for CNT-domain Fabrication I. Hanasaki 1, Y. Isono 1,3, B. Zheng 2,3, Y. Uraoka 2,3 and I. Yamashita 2,3, 1 Kobe Univ., 2 Nara Inst. of Sci. and Technol. and 3 JST-CREST, Japan
2A-8-2 9:30 Chemical Epitaxy of Highly Segregating Block Copolymers for Single-Digit Nano Patterning (<i>Invited</i>) H. Yoshida, Hitachi, Japan	2B-8-2 9:20 Coupling Properties of Freestanding Silicon Nanowire Waveguide Couplers with a Gap-variable Mechanism Y. Akihama, Y. Munemasa, Y. Kanamori and K. Hane, Tohoku Univ., Japan	2C-8-2 9:20 PEGylated Photocurable Silsesquioxane for Nanoimprintable Antibiofouling Material B.K. Lee, D.-P. Kim, J.-H. Ryu, J. Park, Y.-S. Jeong, K.-H. Baek and L.-M. Do, ETRI, Korea	2D-8-2 9:20 Phosphorus Incorporation in 4H-SiC by Irradiation of Excimer Laser in Phosphoric Solution K. Nishi, A. Ikeda, H. Ikenoue and T. Asano, Kyushu Univ., Japan
2A-8-3 10:00 Directed Self-assembly for Functional Carbon Nanostructures (<i>Invited</i>) S.O. Kim, KAIST, Korea	2B-8-3 9:40 High Throughput Size-oriented Passive Droplet Sorting Device using Surface Free Energy with Simple Parallel Guide Grooves Y. Harada, S. Numakunai, D.H. Yoon, T. Sekiguchi and S. Shoji, Waseda Univ., Japan	2C-8-3 9:40 Dynamic Pattern Formation of Liquid Crystals caused by Mixed Self-assembled Monolayer of Ru Complex and Insulating Molecules immobilized on ITO T. Ishida 1, M. Oyama 1, K. Terada 1 and M. Haga 2, 1 AIST and 2 Chuo Univ., Japan	2D-8-3 9:40 Fabrication of the Ordered Array of Optical Centers in Diamond by Low Energy Ion Implantation A. Komatsubara 1, T. Teraji 2, M. Hori 1, K. Kumagai 1, S. Tamura 1, T. Ohshima 3, S. Onoda 3, T. Yamamoto 3, C. Müller 4, B. Naydenov 4, L. McGuinness 4, F. Jelezko 4, T. Tani 1, T. Shinada 5 and J. Isoya 6, 1 Waseda Univ., 2 NIMS, 3 JAEA, Japan, 4 Ulm Univ., Germany, 5 AIST and 6 Univ. of Tsukuba, Japan
2A-8 Author's Interview: 12:15-12:25	2B-8 Author's Interview: 10:00-10:10	2C-8-4 10:00 Conjugated Polymer-dependent Opto-electrical Characteristics of Near Infrared Hybrid Solar Cells M. Nam, S. Kim, M. Kang, S.-W. Kim and K.-K. Lee, Ajou Univ., Korea	2D-8-4 10:00 Anodic Condition Dependence of Current-voltage Characteristic of Resistive Change Memory using Anodic Porous Alumina S. Furuya 1, S. Otsuka 2, T. Shimizu 2, S. Shingubara 2, T. Watanabe 1, Y. Takano 1 and K. Takase 1, 1 Nihon Univ. and 2 Kansai Univ., Japan
		2C-8 Author's Interview: 11:55-12:05	2D-8 Author's Interview: 11:45-11:55
Robby (4F in front of Zuiten)			
Coffee Break			
Room A (Zuiten Nishi 4F)	Room B (Zuiten Naka 4F)	Room C (Zuiten Higashi 4F)	Room D (Tenku 5F)
2A-9: Symp. C: Directed Self Assembly II Chairpersons: T. Azuma (Toshiba) T. Hirayama (Tokyo Ohka)	2B-9: BioMEMS, Lab on a Chip II Chairpersons: T. Ichiki (Univ. of Tokyo) Y. Takamura (JAIST)	2C-9: Nanomaterials IV Chairpersons: T. Ishida (AIST) X.W. Zhao (Tokyo Univ. of Sci)	2D-9: Nanofabrication II Chairpersons: S. Shingubara (Kansai Univ.) T. Asahi (Ehime Univ.)
2A-9-1 10:45 Extending the patterning capability using directed self-assembly (<i>Invited</i>) J. Cheng 1, J. Pitera 1, G. Doerk 1, C.-C. Liu 1, M. Tjio 1, C. Rettner 1, H. Troung 1, H. Tsai 2, K. Lai 3, M. Guillorn 2 and D. Sanders 1, 1 IBM Almaden Res. Ctr., 2 IBM Watson Res. Ctr. and 3 IBM Semicon. Res. and Develop. Ctr., USA	2B-9-1 10:25 A Lab-on-Chip System for Rapid SNP Diagnostics from Human Blood (<i>Invited</i>) I. Yamashita 1 and P. Fiorini 2 Panasonic, Japan and 2 IMEC, Belgium	2C-9-1 10:35 Strong Adhesion of Metal-encrusted Polymer onto Plastic Substrates J. Kawakita, Y. Hashimoto and T. Chikyo, NIMS, Japan	2D-9-1 10:35 Nanopore Based Ionic Field Effect transistor for DNA Manipulation (<i>Invited</i>) M.-H. Lee, K.-B. Park, D.-J. Lee, H.-M. Kim and K.-B. Kim, Seoul Natl. Univ., Korea

<p>2A-9-2 11:15 Lithography Processes using Directed Self-assembly (<i>Invited</i>) M. Muramatsu 1 and K. Tanouchi 1, T. Tomita 1, T. Kitano 1 and S. Nagahara 2, 1 Tokyo Electron Kyushu and 2 Tokyo Electron, Japan</p>	<p>2B-9-2 10:55 Multiplexed and Label-free Detection Platform Combining LSPR and Microfluidics Y. Zhang 1,2, Y. Tang 1, Y.-H. Hsieh 3, C.-Y. Hsu 3, J. Xi 2, K.-J. Lin 3 and X. Jiang 1, 1 Natl. Center for Nanosci. and Technol., 2 Peking Univ., China and 3 Natl. Chung Hsing Univ., Taiwan</p>	<p>2C-9-2 10:55 Adaptability of DLC Film as Electronic Transmission Window T. Kozuki 1, N. Nawachi 2 and K. Itoh 2, 1 Hiroshima Internat. Univ. and 2 Hiroshima Pref. Technol. Res. Inst., Japan</p>	<p>2D-9-2 11:05 Printed Acousto-optical Nanostructures T. Kehoe1, J. Gomis-Bresco 1, J. Cuffe 1, F. Alzina 1, V. Reboud 1,2 D. Mendels 3 and C.M. Sotomayor Torres 1,4,5, 1 Catalan Inst. of Nanotechnol. Spain, 2 CEA-Leti, 3 Cognoscens, France, 4 ICREA and 5 UAB, Spain</p>
<p>2A-9-3 11:45 Block Copolymer Orientation Control using a Top-Coat Surface Treatment (<i>Invited</i>) T. Seshimo, C.M. Baates, M.J. Maher, W.J. Durand, J.D. Cushen, L.M. Dean, G. Blachut, C.J. Ellison, C.G. Willson, Univ. of Texas at Austin, USA</p>	<p>2B-9-3 11:15 A Smart Gel-coupled Biotransistor as a New Basic for Biosensing A. Matsumoto, Y. Maeda and Y. Miyahara, Tokyo Medical and Dental Univ., Japan</p>	<p>2C-9-3 11:15 Photoluminescence and Electronic Properties of Nanocrystalline Si doped SiO₂ Thin Films formed by Co-sputtering K. Hirata, T. Kogawa, Y. Komori and H. Katsumata, Meiji Univ., Japan</p>	<p>2D-9-3 11:25 Large-area Bi-layer Wire-grid Polarizers for Deep-ultraviolet to Infrared using EUV Interference Lithography and Nano Imprint Lithography L. Wang 1, H.H. Solak 3 and Y. Ekinici 1,2, 1 Paul Scherrer Inst., 2 ETH Zurich and 3 Eulitha, Switzerland</p>
<p>2A-9 Author's Interview: 12:15-12:25</p>	<p>2B-9-4 11:35 Fabrication of Nanostructured Silicon Surface for Integrated Microfluidic Separation and Mass Spectrometry K.-H. Chen and C.-W. Tsao, Natl. Central Univ., Taiwan</p>	<p>2C-9-4 Withdrawn</p>	
	<p>2B-9 Author's Interview: 14:10-14:20</p>	<p>2C-9 Author's Interview: 11:35-11:45</p>	<p>2D-9 Author's Interview: 11:45-11:55</p>
<p>Room A (Zuiten Nishi 4F)</p>	<p>Room B (Zuiten Naka 4F)</p>	<p>Room C (Zuiten Higashi 4F)</p>	<p>Room D (Tenku 5F)</p>
<p>2A-10: Resists and DSA Materials and Processing Chairpersons: H. Yamamoto (Osaka Univ.) K. Nozaki (Fujitsu)</p>	<p>2B-10: BioMEMS, Lab on a Chip III Chairpersons: A. Matsumoto (Tokyo Medical and Dental Univ.) Y. Murakami (ToyoHashi Univ. of Technol.)</p>	<p>2C-10: Nanomaterials V Chairpersons: T. Chikyo (NIMS) T. Tani (Waseda Univ.)</p>	<p>2D-10: Nanofabrication III Chairpersons: K.-B. Kim (Seoul Natl. Univ.) T. Hasegawa (NIMS)</p>
<p>2A-10-1 13:40 EUV Resist Materials and Process Development for 16nm Half Pitch (<i>Invited</i>) M. Shimizu and T. Kimura, JSR, Japan</p>	<p>2B-10-1 13:10 Paper-based ELISA for Detecting Various Diseases (<i>Invited</i>) C.-M. Cheng, Natl. Tsing Hua Univ., Taiwan</p>	<p>2C-10-1 13:20 In situ Transmission Electron Microscopy of Single Molecular Junctions using Carbon Nanocapsules Encapsulating Cobalt and Cobalt Carbide D. Matsuura and T. Kizuka, Univ. of Tsukuba, Japan</p>	<p>2D-10-1 13:20 Integration of III-V Nanowires on Si and Device Applications (<i>Invited</i>) K. Tomioka 1,2, M. Yoshimura 1 and T. Fukui 1, 1 Hokkaido Univ. and 2 JST-PRESTO, Japan</p>
<p>2A-10-2 14:10 Stochastic Effects and Resist Variability in High Resolution Lithography A.V. Pret 1,2, R. Gronheid 1, K. Garidis 1,3 and J. Biafore 4, 1 IMEC, Belgium, 2 Kungliga Tekniska Högskolan, Sweden, 3 Katholieke Univ. Leuven, Belgium and 4 KLA-Tencor, USA</p>	<p>2B-10-2 13:40 Fabrication of Pneumatic Valve with Dome-shape Fluid Chamber C.K. Oh, D.K. Lee and O.C. Jeong, Inje Univ., Korea</p>	<p>2C-10-2 13:40 Non Jump-to-contact Approach between Tungsten Nanotips H. Masuda and T. Kizuka, Univ. of Tsukuba, Japan</p>	<p>2D-10-2 13:50 Control of Crystal Orientation and Diameter of Si Nanowire using Anodic Aluminum Oxide Template T. Shimizu and S. Shingubara, Kansai Univ., Japan</p>
<p>2A-10-3 14:30 An in situ Analysis of the Dissolution Characteristics of Half Pitch Line and Space EUV Resist Patterns J.J. Santillan and T. Itani, EIDEC, Japan</p>	<p>2B-10-3 14:00 Study on the Vortex Behaviour in Micro Scale Chamber for the Trapping of Particles B. Sharma 1,2, Y. Ukita 1 and Y. Takamura 1, 1 JAIST and 2 Univ. of Delhi, India</p>	<p>2C-10-3 14:00 In situ Observation of Formation Process of Negative Electron Affinity Surface of GaAs by Surface Photo-absorption K. Hayase 1, T. Nishitani 2,3, K. Suzuki 1, H. Imai 1, J. Hasegawa 1, D. Namba 1 and T. Meguro 1, 1 Tokyo Univ. of Sci., 2 Nagoya Univ. and 3 RIKEN, Japan</p>	<p>2D-10-3 14:10 Orientation-stabilized Lateral-growth of Ge-on-insulator Nano-wires by Rapid-melting-process M. Anisuzzaman 1, S. Muta 1, M. Takahashi 1, A.M. Hashim 1,2, M. Miyao 1 and T. Sadoh 1, 1 Kyushu Univ., Japan and 2 Univ. Teknologi Malaysia, Malaysia</p>
<p>2A-10-4 14:50 Sub-30 nm Contact Hole Process Study using Directed Self-assembly Lithography H. Yonemitsu, H. Sato, Y. Seino, H. Kato, M. Kanno, K. Kobayashi, A. Kawanishi, K. Kodera and T. Azuma, Toshiba, Japan</p>	<p>2B-10 Author's Interview: 14:20-14:30</p>	<p>2C-10 Author's Interview: 14:20-14:30</p>	<p>2D-10 Author's Interview: 14:30-14:40</p>
<p>2A-10 Author's Interview: 15:10-15:20</p>			

Room P1 (Kaiou 4F) and Room P2 (Ginga 4F)

2P-11: 14:40-16:40 Poster Session II

Nanocarbons

<p>2P-11-1 Fabricated the Field Emission Lamp with Carbon Nanocoils-graphene Sheets Hybrids K.J. Chung 1, Y.M. Liu 1, N.W. Pu 2, M.D. Ger 1, C.A. Wang 1, 1 Natl. Defense Univ. and 2 Yuan Ze Univ., Taiwan</p>	<p>2P-11-2 Improvements of the Specific Capacity and High-rate Capability in Li Ion Batteries by Adding Graphene P.C. Wang 1, C.H. Wu 1, G.N. Shi 1, N.W. Pu 2, Y.M. Liu 1 and M.D. Ger 1, 1 Natl. Defense Univ. and 2 Yuan Ze Univ., Taiwan</p>	<p>2P-11-3 Transfer of Graphene onto the Anode of Organic Light Emitting Diodes T.L. Liu 1, G.N. Shi 2, N.W. Pu 1, K.C. Liu 3, C.H. Wu 3, 1 Yuan Ze Univ., 2 Natl. Defense Univ. and 3 Chang Gung Univ., Taiwan</p>	<p>2P-11-4 Boron-doped Ultrananocrystalline Diamond / Nonhydrogenated Amorphous Carbon Composite Films by Coaxial Arc Plasma Deposition Y. Katamune, S. Ohmagari, T. Hanada and T. Yoshitake, Kyushu Univ., Japan</p>
<p>2P-11-5 Fabrication of Cu-based Carbon Nanotube Composite Coating by using an Ultrasonic-assisted Electroplating Method T. Suzuki, M. Kato, T. Fujino and H. Saito, Yamagata Res. Inst. of Technol., Japan</p>	<p>2P-11-6 Giant Chemiresistive Response to Gas Molecules from Semiconducting single-walled Carbon Nanotube Network H. Tabata and M. Katayama, Osaka Univ., Japan</p>	<p>2P-11-7 Low Temperature SWNT Growth from Pt Catalyst using Alcohol Gas Source Method in High Vacuum H. Kondo 1, N. Fukuoka 1, Y. Mizutani 1, R. Ghosh 1, S. Naritsuka 1, T. Maruyama 1, S. Iijima 1,2, 1 Meijo Univ. and 2 AIST, Japan</p>	<p>2P-11-8 Interfacial Nanostructure of the Polymer Electrolyte Fuel Cell Catalyst Layer constructed with Different Ionomer Contents K. Baba 1, T. Onuma 1, K. Iwasawa 1, M. Eguchi 1, Y. Kobayashi 1, K. Komatsu 2, M. Kobori 2, M. Nishitani-Gamo 2, T. Ando 3, 1 Ibaraki Univ., 2 Toyo Univ. and 3 NIMS, Japan</p>
<p>2P-11-9 Carbon Nanofoam Encapsulating Pt Nanoparticles formed by Laser Ablation of Graphite in Liquid Nitrogen H. Kohno, K. Tatsutani and S. Ichikawa, Osaka Univ., Japan</p>	<p>2P-11-10 n-Type Ultrananocrystalline Diamond/Hydrogenated Amorphous Carbon Composite Films prepared by Coaxial Arc Plasma Deposition H. Gima, S. Al-Riyami and T. Yoshitake, Kyushu Univ., Japan</p>	<p>2P-11-11 Heavily Incorporated Nitrogen into Ultrananocrystalline Diamond/Hydrogenated Amorphous Carbon prepared by Pulsed Laser Deposition S. Al-Riyami, H. Gima and T. Yoshitake, Kyushu Univ., Japan</p>	<p>2P-11-12 New Elemental Semiconductors of Fused Small Fullerenes M. Maruyama 1 and S. Okada 1,2, 1 Univ. of Tsukuba and 2 JST-CREST, Japan</p>
<p>2P-11-13 First-principles Simulations of Graphene Dual-double Gate Transistors M. Ohfuchi, Fujitsu Labs., Japan</p>	<p>2P-11-14 Electrochemical Performance of Highly Porous Carbon Nanofiber for Non-aqueous Lithium-air Battery M.J. Song, I.T. Kim, Y.B. Kim and M.W. Shin, Yonsei Univ., Korea</p>	<p>2P-11-15 In situ Non-destructive Impedance Spectroscopic Study of Zn-porphyrin/C₆₀ Hetero-junction Solar Cells S. Ryuzaki 1 and J. Onoe 2, 1 Osaka Univ. and 2 Tokyo Inst. of Technol., Japan</p>	<p>2P-11-16 Topological Line-defect Induced Band Offset in Hexagonal Boron Nitride Y. Tomita 1,2 and S. Okada 1,2, 1 Univ. of Tsukuba and 2 JST-CREST, Japan</p>
<p>2P-11-17 Ultrastable Aqueous Graphite Nanofluids prepared by Single-step Liquid-phase Pulsed Laser Ablation (LP-PLA) S.-W. Yun 1, M.-Y. Choi 1, D.-S. Kim 1, D.-S. Hong 2, J.-H. Kim 2 and Y.-T. Kim 1, 1 Pusan Natl. Univ. and 2 N-BAROTECH, Korea</p>	<p>2P-11-114L Plasma-oxidized Al₂O₃ for Gate Dielectrics in Graphene Field Effect Transistors G.-H. Park, M.-H. Jung, S. Inomata, H. Fukidome, T. Suemitsu, T. Otsuji and M. Suemitsu, Tohoku Univ., Japan</p>	<p>2P-11-115L Position-controlled Direct Graphene Synthesis on SiO₂ Surface by Laser Irradiation K. Koshida, K. Gumi, Y. Ohno, K. Maehashi, K. Inoue and K. Matsumoto, Osaka Univ., Japan</p>	<p>2P-11-116L Highly Sensitive Biosensors Based on Fragment-modified Graphene FET S. Okamoto, T. Ikuta, S. Zaifuddin, Y. Ohno, K. Maehashi, K. Inoue and K. Matsumoto, Osaka Univ., Japan</p>

Nanodevices

<p>2P-11-18 Body Doping Profile of Select Device to Minimize Program Disturbance in 3-D Stack NAND Flash Memory B.-I. Choe 1,2, B.-G. Park 1 and J.-H. Lee 1, 1 Seoul Natl. Univ. and 2 Samsung Electronics, Korea</p>	<p>2P-11-19 Electrical Properties of Organic Bistable Devices fabricated utilizing Multi-core-shell CdSe/CdS/ZnS Nanoparticles Inserted the WO₃ Layer C.H. Yoo, S.H. Ko and T.W. Kim, Hanyang Univ., Korea</p>	<p>2P-11-20 Differentiation of Two Reset Operations in Pt/Cu/TiO₂/Pt Stacked RRAMs S. Jung, J.-H. Oh, K.-C. Ryoo, S. Kim and B.-G. Park, Seoul Natl. Univ., Korea</p>	<p>2P-11-21 Bipolar Resistive Switching Characteristics of Solution-processed HfO₂ for Next-generation Non-volatile Memory Applications D.-H. Lee and W.-J. Cho, Kwangwoon Univ., Korea</p>
<p>2P-11-22 UV Polarization Sensor using Photo-induced Anisotropic Dipole Moment in Photochromic Dye Film with Patterned Orientation D.H. Park, M.-K. Park, C.-S. Park, J.-S. Park, S.-H. Kim and H.-R. Kim, Kyungpook Natl. Univ., Korea</p>	<p>2P-11-23 Fabrication of Hybrid-hyperlens for Superresolution Imaging P.L. Chen 1, Y.H. Lin 1, W.H. Cho 1, B.H. Cheng 2, Y.Z. Ho 3, M.H. Shiao 1, H.N. Lin 4 and D.P. Tsai 3,5, 1 Natl. Applied Res. Labs., 2 Natl. Cheng Kung Univ., 3 Natl. Taiwan Univ., 4 Natl. Tsing Hua Univ. and 5 Academia Sinica, Taiwan</p>	<p>2P-11-24 Withdrawn</p>	<p>2P-11-25 Radiative Recombination Enhancement by Different Indium Composition Multiple Quantum Barriers in GaN Based Leds E. Park 1, G. Kim 1, W. Kim 1, J. Kim 1, D. Kang 2, J.-K. Son 2 and B.-G. Park 1, 1 Seoul Natl. Univ. and 2 Samsung Electronics, Korea</p>
<p>2P-11-26 Coupled InGaAs Quantum Dots-in-a-well Solar Cell K.Y. Chuang, T.E. Tzeng and T.S. Lay, Natl. Sun Yat-Sen Univ., Taiwan</p>	<p>2P-11-27 A cTnT Biosensor by using Nano-Patterned Conductive Molecule CB2C H.-T. Hsueh, C.-C. Peng and C.-T. Lin, Natl. Taiwan Univ., Taiwan</p>	<p>2P-11-28 Development of Carbon Nanostructure Based Highly Transparent and Flexible Field Emitter D. Ghosh, P. Ghosh, T. Noda, Y. Hayashi and M. Tanemura, Nagoya Inst. of Technol., Japan</p>	

Nanofabrication			
2P-11-29 Withdrawn	2P-11-30 Enhancing Air Retention by Bio-mimicking Salvinia Molesta Micro-structures C.-Y. Yang, C.-Y. Yang and C.-K. Sung, Natl. Tsing Hua Univ., Taiwan	2P-11-31 Flexible InP Nanowire Array obtained by Epitaxial Growth and Peeling Off Process T. Endo 1, E. Nakai 1, M. Yoshimura 1, K. Tomioka 1,2 and T. Fukui 1, 1 Hokkaido Univ. and 2 JST-PRESTO, Japan	2P-11-32 Localized Electroless Ag Plating at a Tip Apex for Scanning Kelvin Probe Microscopy C.-T. Lin 1, M.-H. Yu 2, J. Su 1, P.-L. Chen 1, M.-H. Shiao 1 and M.-N. Chang 2, 1 Natl. Applied Res. Labs. and 2 Natl. Chung Hsing Univ., Taiwan
2P-11-33 Effect of Collision of Plumes on Formation of Compound Nanocrystal by Double Laser Ablation Y. Hashiguchi 1, H. Fukuoka 2, N. Sakamoto 3, Y. Yokoyama 1, A. Sugimura 1 and I. Umezu 1, 1 Konan Univ., 2 Nara Natl. Coll. of Technol. and 3 Iwaki Meisei Univ., Japan	2P-11-34 Insertion of Particles into Sub-100 nm Porous Structures by Electrophoresis Method K. Kusdianto, K. Sasaki and I.W. Lenggono, Tokyo Univ. of Agriculture and Technol., Japan	2P-11-35 Crystallization of Surface Layer of Magnetic Films with Gas Cluster ion Beams N. Toyoda, A. Yamaguchi, A. Fujimoto and I. Yamada, Univ. of Hyogo, Japan	2P-11-36 Fabrication of Sub-wavelength Antireflective Structure and Enhance the Efficiency of InGaAs Solar Cells C.-C. Chang, Y.-Y. Chou, and Y.-C. Lee, Chung Yuan Christian Univ., Taiwan
2P-11-37 Photoemission Analysis of Oxidation States formed by Supersonic O ₂ Beams on Ge(111)-c(2×8) Surface R. Okada 1,2, A. Yoshigoe 1, Y. Teraoka 1,3, A. Jinno 1,3, Y. Yamada 2 and M. Sasaki 2, 1 JAEA, 2 Univ. of Tsukuba and 3 Univ. of Hyogo, Japan	2P-11-38 Enhancement of Oxidation of Ge(100)-2×1 Surface caused by Supersonic O ₂ Molecular Beams A. Yoshigoe 1, R. Okada 1,2, Y. Teraoka 1,3, A. Jinno 1,3, Y. Yamada 2 and M. Sasaki 2, 1 JAEA, 2 Univ. of Tsukuba and 3 Univ. of Hyogo, Japan	2P-11-39 Nanocrystalline V-doped CaCu ₃ Ti ₄ O ₁₂ Powders prepared by a Simple PEG Sol-gel Method and its Giant Dielectric Properties N. Sangwon and P. Thongbai, Khon Kaen Univ., Thailand	2P-11-40 Fabrication of the Metal Slit Pattern for Angle controlled Lateral Electric Field to InAs / GaAs QDs and their Optical Properties S. Odashima 1, H. Nakajima 1,2 and I. Suemune 1, 1 Hokkaido Univ. and 2 JSPS, Japan
2P-11-41 Formation of Silicon Supersaturated with Deep Impurities by Pulsed Laser Melting Method D. Kawabe, Y. Matsuda, A. Sugimura and I. Umezu, Konan Univ., Japan	2P-11-42 Fabrication of Nanostructured Cu ₂ ZnSnS ₄ using Electrodeposition with AAO Template Y. Tanaka 1, C. Wang 1, A. Kondou 1, T. Terui 2, S. Tanaka 2, T. Shimizu 1 and S. Shingubara 1, 1 Kansai Univ. and 2 Natl. Inst. of Information and Communications Technol., Japan	2P-11-43 Rectifying Optical Antenna Array—sensing and Light Energy Harvesting M.Y. Kang 1, M.-H. Lee 1, H.-M. Kim 1, G. Fernandes 2, J. Xu 1,2 and K.-B. Kim 1, 1 Seoul Natl. Univ., Korea and 2 Brown Univ., USA	2P-11-44 Temperature Dependence of Resistance of Conductive Filament formed by Dielectric Breakdown S. Otsuka, T. Kato, T. Kyomi, Y. Hamada, Y. Tada, T. Shimizu and S. Shingubara, Kansai Univ., Japan
2P-11-45 Selective Adsorption of Ta ₂ O ₅ Nanoparticles synthesized by Biomimetalization T. Ban 1,2, M. Uenuma 1,2, Y. Ishikawa 1,2, I. Yamashita 1,2 and Y. Uraoka 1, 2, 1 Nara Inst. of Sci. and Technol. and 2 JST-CREST, Japan	2P-11-46 Nanopore Based Ionic Field Effect Transistor M.-H. Lee, S.-W. Nam and K.-B. Kim, Seoul Natl. Univ., Korea	2P-11-47 Height and Edge Shape Correction on the Nanostructure Fabrication by Focused-ion-beam Chemical Vapor Deposition Y. Murao, R. Kometani, S. Warisawa and S. Ishihara, Univ. of Tokyo, Japan	2P-11-48 Surface Plasmon Effect on Emission Efficiency of InGaN/GaN Multi-quantum Wells by Stripe Patterned Silver Film K.S. Lee, S.P. Kim, D.U. Lee and E.K. Kim, Hanyang Univ., Korea
2P-11-49 Fabrication of the High Density Capacitors for the Embedded Substrate using the Hydrophobic and Hydrophilic Properties of SAM M. Ichiki 1,3, S. Makino 2 and B.J. Kim 2, 1 AIST, 2 Univ. of Tokyo and 3 JST-PRESTO, Japan	2P-11-50 Low-cost Patterning Process for the Fabrication of Sub-32 nm Devices S. Pauliac-Vaujour, P. Brianceau and C. Comboroure, CEA-LETI, France	2P-11-117L Role of Au Nanoparticle Decoration on Cross-linked WO ₃ Nanodomains for Selective Gas Sensing Y.-S. Shim 1,2, H.G. Moon 1, D.H. Kim 1, H.W. Jang 3, Y.S. Yoon 2, 1 KIST, 2 Yonsei Univ. and 3 Seoul Natl. Univ., Korea	2P-11-118L Direct EB Patterning of Functional Oxide Mask on Non-plant Surfaces Applied for GaAs Nanostructures Y. Matsuoka, K. Ashida and T. Kaneko, Kwansai Gakuin Univ., Japan
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