

Digest of Papers Microprocesses and Nanotechnology 2007

2007 International Microprocesses and Nanotechnology Conference

November 5-8, 2007

(November 5 Technical Seminar, 6-8 Conference)

Kyoto International Conference Center, Kyoto, Japan

Sponsored by
The Japan Society of Applied Physics

Technical-Cosponsored by
IEEE Electron Device Society

In Cooperation with
Association of Super-Advanced Electronics Technologies
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The Japanese Society of Microscopy
The Surface Science Society of Japan
The Vacuum Society of Japan

Tuesday, November 6

Annex 2

6A-1: Plenary Session

Chairpersons	T. Itani (Selete) Y. Ono (NTT)	
6A-1-0	Opening Remark: H. Arimoto (Fujitsu)	
9:10	MNC 2006 Award Presentation: J. Fujita (Univ. of Tsukuba)	
6A-1-1	20 years of Microprocesses and Nanotechnology Conference (Invited)	
9:30	S. Ishihara Univ. of Tokyo, Japan	2
6A-1-2	Nanoimprint (Technology, Tools, Applications and Commercialization) and New Technologies Beyond	
10:00	(Invited) S.Y. Chou Princeton Univ. and Nanonex Corp., USA	4
Coffee Break	10:40-11:00	
6A-1-3	Silicon VLSI Device Technology and Nanoelectronics (Invited)	
11:00	T. Hiramoto Univ. of Tokyo, Japan	6
6A-1-4	Resist Science and Kinetics (Invited)	
11:40	S. Tagawa Osaka Univ., Japan	8
12:20	Next Conference Infomation: Y. Ochiai (JST), MNC 2007 Information: T. Asano (Kyushu Univ.)	

Annex 2

6A-2: Symposium A: Lithography for Sub-40 nm and Below I

Chairpersons	K. Fujii (NEC Electronics) J. Li (Synopsys)	
6A-2-1	Feasibility Study of Immersion System Using High-Index Materials (Invited)	
13:30	K. Sakai, Y. Iwasaki, S. Mori, A. Yamada, K. Yamashita and T. Nishikawara Canon, Japan	10
6A-2-2	Immersion for 40nm Production with 1.35NA (Invited)	
13:55	C. Wagner and J. Miyazaki ASML, USA	12
6A-2-3	Latest Results from the Hyper – NA Immersion Scanners (Invited)	
14:20	M. Imai Nikon, Japan	14
6A-2-4	Reaction Mechanism of EUV Resists	
14:45	M. Toriumi, K. Kaneyama and T. Itani Selete, Japan	16
Coffee Break	15:05-15:15	
Author's Interview	17:10-17:20	

Room B-1

6B-2: Nano-Tool

Chairpersons	Y. Nakayama (Osaka Univ.) M. Nagase (NTT)	
6B-2-1	Three-Dimensional Nanomechanical Device Fabrication by FIB-CVD (Invited)	
13:30	S. Matsui Univ. of Hyogo and CREST-JST, Japan	18
6B-2-2	Chemical Force AFM with CNT Tips (Invited)	
14:00	H. Tokumoto, K. Ide, K. Ukita and H. Azebara Hokkaido Univ., Japan	20
6B-2-3	Emission Property and Structure of Ultra Sharp Tungsten Probe	
14:30	Y. Ikeda 1,2, K. Higashi 1,2, S. Nakazawa 1,2, T. Ichihashi 1,3, S. Matsui 1,4 and J. Fujita 1,2 1 CREST-JST, 2 Univ. of Tsukuba, 3 NEC and 4 Univ. of Hyogo, Japan	22
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Author's Interview	17:00-17:15	

6A-3: Symposium A: Lithography for Sub-40 nm and Below II

Chairpersons	T. Watanabe (Univ. of Hyogo) S. Wurm (SEMATECH)	
6A-3-1 15:15	Development Status of Nikon EUV Exposure Tools (Invited) K. Murakami Nikon, Japan	24
6A-3-2 15:40	Canon's Development Status of EUVL Technologies (Invited) T. Hasegawa, S. Uzawa, H. Kubo, T. Tsuji Canon, Japan	26
6A-3-3 16:05	Results from Alpha Demo and an Update on the Realization of EUV Lithography (Invited) N. Harned 1, H. Meiling 2, U. Mickan 1 and J. Zimmerman 1 1 ASML, USA and 2 ASML, The Netherlands	28
6A-3-4 16:30	Laser Produced Plasma Light Source for HVM-EUVL H. Komori, H. Hoshino, T. Sugauma, K. Nowak, T. Yabu, T. Asayama, Y. Ueno, M. Moriya, M. Nakano, H. Someya, T. Abe, G. Soumagne, A. Endo, H. Mizoguchi, A. Sumitani and K. Toyoda EUVA, Japan	30
6A-3-5 16:50	Development of a LPP EUV Light Source for below-32nm Node Lithography D. Brandt 1, T. Oga 1, N. Farrar 1 and J. Bonafede 2 1 Cymer USA and 2 Cymer Japan, Japan	32
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Chairpersons	T. Tani (Waseda Univ) F. Nihey (NEC)	
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Chairpersons C. Wagner (ASML)
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Chairpersons Y. Hirai (Osaka Pref. Univ.)
E.S. Lee (Korea Inst. of Machinery Materials)

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Chairpersons H. Yamashita (NEC Electronics)
M. Kotera (Osaka Inst. of Technol.)

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- 7A-6-2** Succeeding Optical Lithography with Multiple-E-Beam Direct Write (Invited)
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1 Seoul National Univ. and 2 JEOL, Japan 418
- 7A-6-4** Realization and Simulation of High Aspect Ratio Micro/Nano Structures by Proton Beam Writing
11:35 M. Chatzichristidi 1, E. Valamontes 1,2, I. Raptis 1, J.A. van Kan 3, F. Watt 3
1 NCSR “Demokritos”, Greece, 2 TEI of Athens, Greece, 3 National Univ. of Singapore,
Singapore 420
- Author’s Interview 11:55-12:05

7B-6: Nanoimprint, Nanoprint and Rising Lithography I

Chairpersons H. Hiroshima (AIST)
J. Ahopelto (VTT)

- 7B-6-1** Ultraviolet Nanoimprint Lithography Applicable to Thin-Film Transistor Liquid-Crystal Display (Invited)
10:40 E.-S. Lee, J.-H. Jeong, K.-D. Kim, D.-G. Choi, J.-H. Choi, D.-I. Lee, A.O. Altun and S.-W. Lee
Korea Inst. of Machinery Materials, Korea 422
- 7B-6-2** Reversal Nanoimprint for Three Dimensional Fluidic Biosystems (Invited)
11:05 S.W. Pang
Univ. of Michigan, USA 424
- 7B-6-3** Continuous 2-Sided Roll to Roll Nanopatterning of a Polymer Film
11:30 T. Mäkelä 1, V. Lambertini 2, T. Haatainen 1, P. Majander 1 and J. Ahopelto 1,
1 VTT Micro and Nanoelectronics, Finland and 2 Micro and Nano Technologies, Italy 426
- Author’s Interview 11:45-12:00

7A-7: Resist Materials and Processing

Chairpersons S. Wurm (SEMATECH)
K. Nakano (NEC)

- 7A-7-1** Photoresists Challenges and Potential Solutions for the 32 nm Half-Pitch Node and beyond (Invited)
13:00 S. Wurm, J. Byers, P. Zimmerman, T. Wallow and K. Dean
SEMATECH, USA 428
- 7A-7-2** Optimization of Photo Acid Generator in the PAG-Bonded Resist
13:25 Y. Fukkushima 1, R. Ohnishi 1, T. Watanabe 1, H. Shiotani 1, S. Suzuki 1, M. Hayakawa 2, Y. Endo 2,
T. Yamanaka 2, S. Yusa 1 and H. Kinoshita 1
1 Univ. of Hyogo and 2 Toyo Gosei Kogy, Japan 430
- 7A-7-3** Negative-Tone Molecular Resist with High-Sensitivity for EUV and EB Lithography
13:45 K. Kojima 1, S. Mori 2, H. Hada 3, D. Shiono 3, J. Onodera 3, H. Oizumi 4 and I. Nishiyama 4
1 Hitachi, 2 Hitachi ULSI System, 3 Tokyo Ohka Kogyo and 4 ASET, Japan 432
- 7A-7-4** Two-Dimensional Arrangement of Vertically Oriented Cylindrical Domains of Diblock Copolymers Using
Graphoepitaxy with Artificial Guiding Pattern Layout
14:05 T. Yamaguchi 1, M. Edamoto 1,2, S. Warisawa 2, S. Ishihara 2 and H. Yamaguchi 1
1 NTT and 2 Univ. of Tokyo, Japan 434
- 7A-7-5** Outgas Quantification Analysis of EUV Resists
14:25 J.J. Santillan, S. Kobayashi and T. Itani,
Selete, Japan 436

7A-7-6	Effects of Rate Constant for Deprotection Reaction on Latent Image formation in Chemically Amplified EUV Resists	
14:45	T. Kozawa 1, S. Tagawa 1, J.J. Santillan 2, M. Toriumi 2 and T. Itani 2	
	1 Osaka Univ. and 2 Selete, Japan	438

Coffee Break 15:05-15:30
 Author's Interview 15:05-15:20

Room B-1

7B-7: Nanoimprint, Nanoprint and Rising Lithography II

Chairpersons	A. Yokoo (NTT) S.W. Pang (Univ. of Michigan)	
7B-7-1	Investigation of Dual-Focal-Points Optical System with Bright-Field Illumination and Image Processing for UV Nanoimprint Alignment	
13:00	N. Suehira, A. Terasaki, S. Okushima, J. Seki and H. Ono	
	Canon, Japan	440
7B-7-2	Numerical and Experimental Analysis of Intermittent Line-and-Space Patterns in Thermal Nanoimprint	
13:15	Y. Onishi 1, H. Takagi 2, Y. Hirai 3, M. Takahashi 2, R. Maeda 2, T. Tanabe 3 and Y. Iriye 1	
	1 Mizuho Info. Res. Inst., 2 AIST and 3 Osaka Pref. Univ., Japan	442
7B-7-3	A Novel Contact Imprinting Lithography for Nano-Patterning and Nano-Fabrication	
13:30	Y.-C. Lee and C.-Y. Chiu	
	National Cheng Kung Univ., Taiwan	444
7B-7-4	Quick Cavity Filling in UV-Nanoimprint Using Pentafluoropropane	
13:45	H. Hiroshima	
	AIST, Japan	446
7B-7-5	Novel Fabrication of Micro-Nano Mixed 3D-Structure by Advanced Hybrid Nanoimprint Lithography	
14:05	K. Okuda, D. Morihara, H. Kawata and Y. Hirai	
	Osaka Pref. Univ., Japan	448
7B-7-6	Evaluation of Deteriorated Anti-Stiction Layer in NIL	
14:20	J. Ishihara 1, A. Koszewski 2, M. Kayama 1, H. Kawata 1, Z. Rymuza 2 and Y. Hirai 1	
	1 Osaka Pref. Univ., Japan and 2 Warsaw Univ. of Technol., Poland	450
7B-7-7	Fabrication of Ultra Smooth Mirrors by UV-Nanoimprint	
14:35	W. Ito 1, Y. Kurashima 1, I. Miyamoto 1, H. Ishii 2, T. Itatani 2 and H. Hiroshima 2	
	1 Tokyo Univ. of Sci. and 2 AIST, Japan	452
7B-7-8	Examination of FIB Repair Resolution for UV-Nanoimprint Mold	
14:50	M. Okada 1, 2, K. Nakamatsu 1, 2, 3, R. Kometani 1, 2, 3, K. Kanda 1, 2, Y. Haruyama 1, 2, K. Kaito 4 and S. Matsui 1, 2	
	1 Univ. of Hyogo, 2 CREST-JST, 3 JSPS and 4 SII NanoTechnol., Japan	454
Coffee Break	15:05-15:30	
Author's Interview	15:05-15:20	

Annex 2

7A-8: Susumu Namba Memorial Session

Chairperson	K. Ishibashi (RIKEN)
15:30	K. Ishibashi (RIKEN)
15:35	K. Gamo (NICT)
16:05	R.F. Pease (Stanford Univ.)
16:25	S.K. Min (Kyunghee Univ.)
16:45	E. Hu (UC Santa Barbara)
17:05	M. Hirose (AIST)
17:25	R. Shimizu (IAS)

Swan

18:00-20:00 Banquet
 Namba Award Ceremony
 Most Impressive Poster Award Ceremony, etc

8A-9: Nanofabrication

Chairpersons	H. Ikeda (Shizuoka Univ.) Y. Ishikawa (Univ. of Tokyo)	
8A-9-1 8:50	Directional Control of Single-Walled Carbon Nanotubes on Surface-Engineered Sapphire K. Imamoto, H. Ago, N. Ishigami, K. Ikeda, M. Tsuji, T. Ikuta and K. Takahashi Kyushu Univ., Japan	456
8A-9-2 9:10	Gray-Level Patterning of Gold Nanoparticles with Scanning Probe Lithography of Self-Assembly Monolayer J.-T. Sheu, C.-H. Wu, H.-H. Liu and T.-S. Chao National Chiao Tung Univ., Taiwan	458
8A-9-3 9:30	Roll-To-Roll Processable PEO-LC Block Copolymer Template Films with Normally Oriented Nanocylinder Array Structures T. Iyoda 1,2, K. Kamata 1,2, R. Watanabe 1, M. Komura 1,2 and H. Ochiai 3 1 CREST-JST, 2 Tokyo Inst. of Technol. and 3 Labo. Co. Ltd., Japan	460
8A-9-4 9:50	Molecular Engineering for Future Device Structures: Self-Assembled Monolayers as Diffusion Barriers for Cu Metallization C.M. Whelan, A. Maestre Caro, F. Clemente, G. Beyer, Z. Tokei and V. Sutcliffe IMEC, Belgium	462
Author's Interview	10:10-10:20	
Coffee Break	10:10-10:25	

Room B-1

8B-9: Symposium B: Nanomechanical systems for Nanotechnology I

Chairpersons	S. Akita (Osaka Pref. Univ.) Y. Ono (NTT)	
8B-9-1 9:00	Nanoprocessing of Carbon Nanotubes (Invited) Y. Nakayama Osaka Univ., Japan	464
8B-9-2 9:30	In-situ Visualization of Local Fields at a Sharp Tungsten Emitter Using Low-Voltage Scanning Transmission Electron Microscope J. Fujita 1,2, Y. Ikeda 1,2, T. Ichihashi 1,3 and S. Matsui 1,4 1 CREST-JST, 2 Univ. of Tsukuba, 3 NEC and 4 Univ. of Hyogo, Japan	466
8B-9-3 9:50	Resonant Vibration of Cantilevered Carbon Nanocoil S. Sato 1, L. Pan 1, Y. Nakayama 1,2,3 and S. Akita 1,3 1 Osaka Pref. Univ., 2 Osaka Univ. and 3 CREST-JST, Japan	468
8B-9-4 10:10	Low-Energy Electron Emission Using a Si/SiO ₂ /Si Cathode for Nano-Decomposition K. Nishiguchi, M. Nagase, T. Yamaguchi, A. Fujiwara and H. Yamaguchi NTT, Japan	470
Break	10:30-10:35	
Author's Interview	11:45-12:00	

Annex 2

8A-10: Nanofabrication and Nanomaterials

Chairpersons	T. Chikyo (NIMS) S. Sato (Fujitsu Labs.)	
8A-10-1 10:25	Novel Neutral Beam Etching Processes for Future Nanoscale Devices (Invited) S. Samukawa Tohoku Univ., Japan	472
8A-10-2 10:55	Using FIB SEM to Control the Critical Dimensions of Nano-Structured Materials O. Wilhelmi, S. Reyntjens, D.J. Stokes, L. Roussel and D.H.W. Hubert FEI, The Netherlands	474
8A-10-3 11:15	Improvement of Electron Wavefunction Symmetry in InAs/GaAs Quantum Dots Embedded in an InGaAs Strain-Reducing Layer K. Mukai and K. Nakashima Yokohama National Univ., Japan	476
8A-10-4 11:35	A Novel Method Produces Pd Nanoparticles for Ink-Jet Printing Technology C.C. Tseng, J.L. Kuo, C.P. Chang, W.H. Hwu and M.D. Ger National Defense Univ., Taiwan	478
Author's Interview	11:55-12:05	

8B-10: Symposium B: Nanomechanical systems for Nanotechnology II

Chairpersons	S. Akita (Osaka Pref. Univ.) K. Suzuki (Ritsumeikan Univ.)	
8B-10-1 10:35	Application Oriented Micro-Nano Electro Mechanical Systems (Invited) M. Esashi and T. Ono Tohoku Univ., Japan	480
8B-10-2 11:05	A MEMS Probe Card with High Aspect Ratio Electroplated Posts B.-H. Kim, B.-J. Park, B.-H. Kum and J.-B. Kim UniTest Inc., Korea	482
8B-10-3 11:25	Electrostatic Inkjet Printing of Carbon Nanotube for Cold Cathode Application S. Shigematsu, Y. Ishida, N. Nakashima and T. Asano Kyushu Univ., Japan	484
Author's Interview	11:45-12:00	

8A-11: Nanodevices

Chairpersons	S. Kasai (Hokkaido Univ.) A. Nakajima (Hiroshima Univ.)	
8A-11-1 13:00	Carbon Nanotube Bio Sensor (Invited) K. Matsumoto Osaka Univ., Japan	486
8A-11-2 13:30	Fabrication Process of Carbon Nanotube FETs Using ALD Passivation for Biosensors Y. Nakashima, Y. Ohno, S. Kishimoto, M. Okochi, H. Honda and T. Mizutani Nagoya Univ., Japan	488
8A-11-3 13:50	Fabrication of Bottom-Up Gas Sensors Based on Individual SnO ₂ Nanowires and Suspended Microhotplates A. Romano-Rodríguez 1, F. Hernández-Ramírez 1, J.D. Prades 1, R. Jiménez-Díaz 1, O. Casals 1, A. Tarancón 1, M.A. Juli 1,2, J.R. Morante 1, S. Barth 3,4, S. Mathur 3,4, A. Helwig 5, J. Spannhake 5 and G. Müller 5, 1 Barcelona Univ., Spain, 2 L'Hospitalet de Llobregat, Spain, 3 Leibniz Institute of New Materials, Germany, 4 Wuerzburg Univ., Germany and 5 EADS Innovation Works, Germany	490
8A-11-4 14:10	Direct In-Junction Characterization of Molecular Switching Devices Based on Self-Assembled Monolayer Embedded in Nanowire Junction M. Maitani, H. Yoon, L. Cai, O.M. Cabarcos, T.S. Mayer and D.L. Allara Pennsylvania State Univ., USA	492
8A-11-5 14:30	Study on Nonlinear Electrical Characteristics in GaAs-based Three-branch Nanowire Junctions Controlled by Schottky Wrap Gates S. Kasai, T. Nakamura, S.F. Abd Fadzli and Y. Shiratori Hokkaido Univ., Japan	494
Author's Interview	14:50-15:00	
Coffee Break	14:50-15:05	

8B-11: Microsystem Technology and MEMS I

Chairpersons	K. Suzuki (Ritsumeikan Univ.) T. Ikehara (AIST)	
8B-11-1 13:00	Mechanical Reliability of Micro/Nano-Structures in MEMS Devices (Invited) T. Tsuchiya Kyoto Univ., Japan	496
8B-11-2 13:30	Tuning the Mechanical Properties of SiO ₂ Thin Film Using Plasma Treatments for MEMS Applications W.S. Su 1, H.Y. Huang 2 and W. Fang 2 1 National Nano Device Lab. and 2 National Tsing-Hua Univ., Taiwan	498
8B-11-3 13:45	Silicon Fishbone-Shaped Resonant-Frequency-Tunable MEMS Resonator S. Makita, H. Tanigawa and K. Suzuki Ritsumeikan Univ., Japan	500
8B-11-4 14:00	Analysis of Flow Rate Through Channel in New Design of Active Fountain Pen Nanolithography C. Shin, K. Hwang, Y. Kim and H. Kim Sungkyunkwan Univ., Korea	502

8B-11-5 14:15	Cantilever Fabrication by Force Free Release Transfer Process H. Kawata, K. Ryugou, S. Ohta, M. Yasuda and Y. Hirai Osaka Pref. Univ., Japan.....	504
8B-11-6 14:30	Development of High Performance MEMS-based Fuel Cell for On-Chip Power Application Y. Zhang, J. Lu, M. Ichiki, H.S. Zhou and R. Maeda AIST, Japan.....	506
Break	14:50-15:05	
Author's Interview	15:35-15:50	

Annex 2

8A-12: Bio MEMS, Lab-on-a-Chip

Chairperson	Y. Miyahara (NIMS)	
s	K. Yasuda (Tokyo Medical and Dental Univ.)	
8A-12-1 15:05	Live Cells-Based Cytotoxic Sensor Chip Fabricated in a Microfluidic System (Invited) A. Taniguchi NIMS, Japan.....	508
8A-12-2 15:35	Collagen Micro Flow Channel for in vitro Blood-Brain Barrier Model K. Shibata 1, H. Terazono 2, A. Hattori 2 and K. Yasuda 2 1 Univ. of Tokyo and 2 Tokyo Medical and Dental Univ., Japan.....	510
8A-12-3 15:50	Brain Interface Device for Long-Term Observation of Mouse Brain Using Two-Photon Uncaging Microscopy H. Takehara, S. Mohri, R. Terakado, T. Akagi, J. Noguchi, H. Kasai and T. Ichiki Univ. of Tokyo, Japan.....	512
8A-12-4 16:05	Drug Transport Measurement for Transporter Variants Using Oocyte-based Field Effect Transistor T. Sakata 1 and Y. Miyahara 1,2 1 Univ. of Tokyo and 2 NIMS, Japan.....	514
8A-12-5 16:20	An Electrochemical Localized Surface Plasmon Resonance Biochip based on Core-Shell Structure Nanoparticles Substrate for Sensing of Pore Forming Toxins H.M. Hiep 1, M. Chikae 1, S. Yamamura 1, Y. Takamura 1 and E. Tamiya 1,2 1 Japan Advanced Inst. of Sci. and Technol. and 2 Osaka Univ., Japan.....	516
8A-12-6 16:35	Micro Patterning of pH Gradients by Light-Addressed Electrolysis J. Suzurikawa, M. Nakao, R. Kanzaki and H. Takahashi Univ. of Tokyo, Japan.....	518
8A-12-7 16:50	Fabrication of the Functional 3-D Micromesh Structures Coated with TiO ₂ Particles and Biocatalyst S. Keino, H. Matsumura, M. Ishioka, H. Sato and S. Shoji Waseda Univ., Japan.....	520
Author's Interview	17:05-17:15	

Room B-1

8B-12: Microsystem Technology and MEMS II

Chairpersons	D.F. Wang (Senshu Univ.) T. Ikehara (AIST)	
8B-12-1 14:50	CMOS Integrated Nanomechanical Mass Sensors: Determination of Evaporation Rate of Femtoliter Droplets J. Arcamone 1, T. Ondarçuhu 2, E. Dujardin 2, G. Rius 1 and F. Pérez-Murano 1 1 CNM-IMB (CSIC), Spain and 2 CEMES-CNRS, France.....	522
8B-12-2 15:05	Design of Low-Driving-Voltage Integrated MEMS Switch with Sticking Suppression K. Maeda and K. Suzuki Ritsumeikan Univ., Japan.....	524
8B-12-3 15:20	Fabrication of Volcano-Structured Double-Gate FEAs by Etch-Back Technique T. Soda 1, M. Nagao 2, C. Yasumuro 2, S. Kanemaru 2, T. Sakai 3, N. Saito 3, Y. Neo 1, T. Aoki 1 and H. Mimura 1 1 Shizuoka Univ., 2 AIST and 3 NHK Sci. & Technical Res. Labs., Japan.....	526
Author's Interview	15:35-15:50	
Coffee Break	15:35-15:50	

8B-13: Late News Paper

Chairpersons	Y. Ono (NTT) T. Watanabe (Univ. of Hyogo)	
8B-13-1L 15:50	Evaluation Method of Optical Index of Ta and Ta-based Absorber for EUV Mask Using Extreme Ultraviolet Reflectometer M. Hosoya 1, N. Sakaya 1, O. Nozawa 1, K. Hamamoto 1, O. Nagarekawa 1, T. Watanabe 2, and H. Kinoshita 2 1 HOYA and 2 Univ. of Hyogo, Japan	528
8B-13-2L 16:05	Chemically Amplified Molecular Resists for E-Beam Lithography J. Manyam, F.P. Gibbons, S. Diegoli, M. Manickam, J.A. Preece, R.E. Palmer and A.P.G. Robinson Univ. of Birmingham, UK	530
8B-13-3L 16:20	Spatially Controlled Functionalization and Chemical Manipulation to Fabricate 2D Arrays of Gold Nanoparticles onto ITO O.P. Khatri 1,2, K. Murase 1 and H. Sugimura 1 1 Kyoto Univ. and 2 Japan Society for the Promotion of Sci., Japan	532
8B-13-4L 16:35	Fabrication of Gold-Nanoparticle-Infiltrated Inverse Opal Structures with both Photonic Bandgap and Surface Plasmon Resonance Characteristics H.L. Chen 1, Y.H. Lin 1, S.Y. Chuang 1, D.H. Wan and C.H. Lin 2 1 National Taiwan Univ. and 2 National Nano Device Lab., Taiwan	534
8B-13-5L 16:50	Observation of Size Dependent Structural Defects in Silicon Nanowires S. Akhtar 1, K. Usami 1, Y. Tsuchiya 1, 3, H. Mizuta 2, 3 and S. Oda 1, 3 1 Tokyo Inst. of Technol., 2 Southampton Univ. and Tokyo Inst. of Technol. and 3 SORST-JST, Japan	536
Author's Interview	17:05-17:15	