ICPST-41 (Makuhari Messe, June 25-28, 2024) PROGRAM

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	17:00-19:00 **Welcome Reception**

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	9:30-9:45 **Opening Remarks** Takeo Watanabe (Univ. of Hyogo)			
9:30	**A0. Plenary** Session Chairperson: Takeo Watanabe (Univ. of Hyogo)			
	A00-01 9:45-10:30 "Photo Materials readiness at the eve of High NA EUVL HVM" (Plenary) Danilo De Simone, imec, Belgium			
	10:30-10:50 **Coffee Break**			
10:45 10:50	**A3. Self-Assembly Materials and Processes (DSA, BCP, SAM, ASD, Infiltration, Nanostructured Materials, Advanced Devices using Self Assembly, etc.) I** Session Chairpersons: Seiji Nagahara（Tokyo Electron) and Takuya Isono (Hokkaido Univ.)			**A12. Organic and Hybrid Solar Cells – Materials Device Physics and Processes I** Session Chairperson: Itaru Osaka (Hiroshima Univ.)
	A03-01 10:50-11:20 Self-assembly of carbohydrate block copolymer systems : from nanoparticles to thin films to photonic crystals (Invited) Y. Liao, W.C. Chen and Redouane Borsali, Grenoble Alpes Univ., France			**A12-01** 10:45-11:15 Charges on the Move: the Physics and Perspective of Organic Solar Cells (Keynote) Safa, Shoaee 1,2, 1 Paul Drude Inst. for Solid State Electronics and 2 Univ. of Potsdam, Germany
	A03-02 11:20-11:50 Sequence Control for Various Types of Copolymers toward Sequence-Dependent Self-Assembly (Invited) Makoto Ouchi, Kyoto Univ., Japan			**A12-02** 11:15-11:40 Direct Observation of Charge Formation at the Interfaces between Tin-Based Perovskite and Fullerene Derivatives Revealed by Electron Spin Resonance (Invited) Kazuhiro Marumoto, Univ. of Tsukuba, Japan
	A03-04 11:50-12:10 Systematic synthesis and nanostructural characterization of hybrid material consisting of sugar and inorganic polymer Taiki Nishimura 1, Feng Li 1, Takuya Yamamoto 1, Kenji Tajima 1, Redouane Borsali 2, Hsin-Lung Chen 3, Toshifumi Satoh 1 and Takuya Isono 1, 1 Hokkaido Univ., Japan, 2 Univ. Grenoble Alpes, France and 3 Natl. Tsing Hua Univ., Taiwan			**A12-03** 11:40-11:55 Nongeminate Charge Recombination in Conjugated Polymer Films Blended with Acceptor Molecules Kazuki Kohzuki and Hideo Ohkita, Kyoto Univ., Japan
	12:10-13:40 **Lunch Break**			11:55-13:15 **Lunch Break**
13:00 13:15		**A11. Chemistry for Advanced Photopolymer Sci. I** Session Chairpersons: Haruyuki Okamura (Osaka Metropolitan Univ.) and Akinori Shibuya (FUJIFILM)	**A2. NanobioTechnol. I** Session Chairpersons: Takanori Ichiki(Univ. of Tokyo) and Yukihiro Kanda (iCONM)	**A12. Organic and Hybrid Solar Cells – Materials Device Physics and Processes II** Session Chairperson: Hideo Ohkita (Kyoto Univ.)
13:40	**A3. Self-Assembly Materials and Processes (DSA, BCP, SAM, ASD, Infiltration, Nanostructured Materials, Advanced Devices using Self Assembly, etc.) II** Session Chairpersons: Teruaki Hayakawa (Tokyo Inst. of Technol.) and Redouane Borsali (Cermav, Grenoble Alpes Univ.)	**A11-01** 13:00-13:20 Degradation of Modified Polystyrenes Having Degradable Units by Near Infrared Light Irradiation in The Presence of A Photon Upconversion Nanoparticle and A Photoacid Generator Haruyuki Okamura and Kiwa Mihono, Osaka Metropolitan Univ., Japan	**A02-01** 13:00-13:20 Evaluation of biodegradable PLLA nanofiber-based piezoelectric sensor Kang Qi 1, Hiroaki Takehara 1,2 and Takanori Ichiki 1,2, 1 The Univ. of Tokyo and 2 iCONM, Japan	**A12-04** 13:15-13:40 Improving Performance of Hybrid Sn-Pb Perovskite Solar Cells through Optimized Hole Transport Layer Design (Invited) Chieh-Ting Lin, Natl. Chung Hsing Univ., Taiwan

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	A03-03 13:40-14:10 Post-polymerization modification of pristine PS-b-PMMA (Invited) Takuya Isono, Hokkaido Univ., Japan	**A11-02** 13:20-13:40 Photo-induced Decrosslinking of Oxime-ester Based Covalent Adaptable Networks in Film State Suyama Kanji 1 and Hirokazu Hayashi 2, 1Osaka Metropolitan Univ. and 2 ORIST, Japan	**A02-02** 13:20-13:40 Shape Classification by Deep Learning Analysis Based on Scattered Light Intensity of Nanoparticles in Liquid by NTA Method Keisuke Yamamoto 1, Hiromi Kuramochi 1 and Takanori Ichiki 1,2, 1 The Univ. of Tokyo and 2 iCONM, Japan	**A12-05** 13:40-14:05 Charge Carrier Dynamics of Lead-Based Halide Perovskite (Invited) Yasuhiro Tachibana, RMIT Univ., Australia
	A03-05 14:10-14:40 DSA materials filtration for EUV pattern rectification (Invited) Toru Umeda, Nihon Pall, Japan	**A11-03** 13:40-14:00 The design and synthesis of novel photorelease compounds from 1,4-naphthoquinone derivative Hitomi Betsumiya, Tsumoru Morimoto and Tsuyoshi Kawai, NAIST, Japan	**A02-03** 13:40-14:00 Effects of solvents on the preparation of PLLA/PEDOT:PSS conductive polymer alloys Yukihiro Kanda 1,2, Takuma Jinbo 1,2, Hiroaki Takehara 1,2 and Takanori Ichiki 1,2, 1 iCONM and 2 The Univ. of Tokyo, Japan	**A12-06** 14:05-14:30 Tautomeric Organic Semiconductors Exhibiting Intramolecular Double Proton Transfer (Invited) Keisuke Tajima 1, Kyohei Nakano 1, Iat Wai Leong 2, Daisuke Hashizume 1, Kirill Bulgarevich 1, Kazuo Takimiya 1,3, Yusuke Nishiyama 4 and Toshio Yamazaki 1, 1 RIKEN, 2 Osaka Univ., 3 Tohoku Univ. and 4 JEOL, Japan
		A11-04 14:00-14:20 Synthesis, self-assembly and applications of carbohydrate-based amphiphiles Sami HALILA, Grenoble Alpes Univ., France	14:00-14:10 **Coffee Break**	
14:10	**A03-06** 14:40-15:10 Kinetics and Orientation Study of Fast Assembling Flouro-BCP (Invited) Zhenyu Yang, Tangjun Zhang, Xiaofei Qian and Hai Deng, Fudan Univ., China	14:20-14:30 **Coffee Break**	**A2. NanobioTechnol. II** Session Chairpersons: Takanori Ichiki(Univ. of Tokyo) and Yukihiro Kanda (iCONM)	**A12-07** 14:30-14:55 Development of p/n Heterojunction Nanoparticle Photocatalyst Based on Crystalline Semiconducting Polymer for Highly Efficient Hydrogen Evolution (Invited) Tsubasa Mikie, Kouichiro Hayashi, Chiyu Fujita, and Itaru Osaka, Hiroshima Univ., Japan
14:30	**A03-07** 15:10-15:30 Synthesis of Poly (heptafluorobutyl methacrylate)-*b*-Poly (diaryliodonium-1-(methacryloyloxy) benzene-4-sulfonate acid salt) and the Directed Self-assembly Study Xiaofei Qian, Guangya Wu, Tao Liu, Hai Deng, Fudan Univ., China	**A11. Chemistry for Advanced Photopolymer Sci. II** Session Chairpersons: Haruyuki Okamura (Osaka Metropolitan Univ.) and Kanji Suyama (Osaka Metropolitan Univ.)	**A02-04** 14:10-14:30 Functionalization of poly-L-lactic acid microneedle tips using photopolymerization of hydrogels Masahiro Fukuhara 1,2, Yukihiro Kanda 1,2, Hiroaki Takehara 1,2, Akira Matsumoto 1,2,3 and Takanori Ichiki 1,2, 1 Univ. of Tokyo, 2 iCONM and 3 Tokyo Medical and Dental Univ., Japan	**A12-08** 14:55-15:10 The Correlation between Reduction Potentials by Cyclic Voltammetry and Electron Affinities by Low-Energy Inverse Photoelectron Spectroscopy Mihiro Kubo and Hiroyuki Yoshida, Chiba Univ., Japan
	15:30-15:50 **Coffee Break**	**A11-05** 14:30-14:50 Effect of light-sensitive azo-based polymer matrices on fluorescent one-dimensional nanostructures Mina Han, Kongju Natl. Univ., Korea	**A02-05** 14:30-14:50 Development of microfluidic devices for automated collection of extracellular vesicles Kento Toyoda, Takanori Ichiki, Naohiro Seo and Chiharu Mizoi, The Univ. of Tokyo, Japan	15:10-15:25 **Coffee Break**
15:25		**A11-06** 14:50-15:10 Influence of Solvents and Substituent Effect on the Photoresponsive Properties of Azo Chromophores Pyae Thu and Mina Han, Kongju Natl. Univ., Korea	**A02-06** 14:50-15:10 Free-flow electrophoresis device for heterogeneous exosome fractionation Shusuke Sato 1 and Takanori Ichiki 1,2, 1 iCONM and 2 The Univ. of Tokyo, Japan	**A12. Organic and Hybrid Solar Cells – Materials Device Physics and Processes III** Session Chairpersons: Itaru Osaka (Hiroshima Univ.) and Hideo Ohkita (Kyoto Univ.)
15:50	**A3. Self-Assembly Materials and Processes (DSA, BCP, SAM, ASD, Infiltration, Nanostructured Materials, Advanced Devices using Self Assembly, etc.) III** Session Chairpersons: Takehiro Seshimo (Tokyo Ohka Kogyo) and Makoto Ouchi (Kyoto Univ.)	**A11-07** 15:10-15:30 Rhodamine B Nanopigment, Thermal Stability improvement in tri-Component Photoinitiating Systems for 3D Printing using hybrid photo-resin Atefeh Nezhadebrahim 1,2, Morteza Ebrahimi 3 and Xavier Allonas 2, 1 Qom Univ. of Technol., Iran, 2 Univ. of Haute Alsace, France, 3 Amirkabir Univ. of Technol., Iran		**A12-09** 15:25-15:50 Development of Nonfullerene Acceptors for Green-Light Wavelength-Selective Organic Solar Cells towards Agrivoltaics (Invited) Yutaka Ie 1, Shreyam Chatterjee 1, Seihou Jinnai 1 and Yasuyuki Watanabe 2, 1Osaka Univ. and 2 Suwa Univ. of Sci., Japan

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	A03-08 15:50-16:20 Achieving Ultra-Small Features with Chemically Engineered Block Copolymers (Invited) Teruaki Hayakawa 1, Shinsuke Maekawa 1, Ryota Uehara 1, Riku Mizusaki 1, Kodai Nagashima 1, Yuta Nabae 1, Kan Hatakeyama 1, Takehiro Seshimo 2, Takahiro Dazai 2 and Kazufumi Sato 2, 1Tokyo Inst. of Technol. and Tokyo Ohka Kogyo, Japan	**A11-08** 15:30-15:50 Surface Hardness of UV-solidified Coatings containing In-situ Synthesized, Self-dispersed Nano-gel domains as a function of Surface Roughness and Viscoelastic Characteristics Atefeh Nezhadebrahim 1, Saeid Rastegar 2, Zahra Ranjbar 3 and Hossein Yazdani-Ahmadabadi 4, 1 Qom Univ. of Technol., 2 RadSys Pooshesh, 3 Inst. for Color Sci. and Technol., Iran and 4 Univ. of British Columbia, Vancouve		**A12-10** 15:50-16:15 Development of Non-Fullerene Acceptors with π-Extended Central Unit for Organic Photovoltaic Devices (Invited) Tomokazu Umeyama, Univ. of Hyogo, Japan **A12-11** 16:15-16:40 The Effects of Perovskite Quantum Dot Additives on the Perovskite Film Property and the Photovolatic Conversion Efficiency Enhancement of Perovskite Solar Cells (Invited) Qing Shen, Univ. of Electro-Communications, Japan
	A03-09 16:20-16:40 Expanding the Formation Region of Double Gyroid Structures from ABC Triblock Terpolymers by Solution Casting Yuta Miyamori, Yuta Nabae, Kan Hatakeyama and Teruaki Hayakawa, Tokyo Inst. of Technol., Japan			**A12-12** 16:40-17:05 Organic Electron Transport Materials for Tin Halide Perovskite Solar Cells (Invited) Tomoya Nakamura and Atsushi Wakamiya, Kyoto Univ., Japan
	A03-10 16:40-17:00 Synthesis of star-shaped ABC miktoarm terpolymers via arm-first approach Kodi Nagashima, Yuta Nabae, Kan Hatakeyama and Teruaki Hayakawa, Tokyo Inst. of Technol., Japan			**A12-13** 17:05-17:20 Recycling and Recovery of Lead Iodide from Waste Perovskite Solar Cells for New Device Fabrication Yu-Kai Chen, Chieh-Ting Lin and Fan-Wei Liu, Natl. Chung Hsing Univ., Taiwan
	A03-11 17:00-17:20 Functional Group Influence on Block Copolymer Segment Interactions: An Analysis via Flory-Huggins and Hansen Solubility Parameters Zhengdan Lin, Kan Hatakeyama, Yuta Nabae and Teruaki Hayakawa, Tokyo Inst. of Technol., Japan			
	A03-12 17:20-17:40 Influence of Casting Solvent on the Higher-Order Structures of ABC/ACB-Type Triblock Copolymers Based on Polystyrene and Polymethacrylates Ryota Uehara 1, Shinsuke Maekawa 1, Takehiro Seshimo 2, Takahiro Dazai 2, Kazufumi Sato 2, Kan Hatakeyama 1, Yuta Nabae 1 and Teruaki Hayakawa 1, 1 Tokyo Inst. of Technol. and 2 Tokyo Ohka Kogyo, Japan			
	17:40-18:00 **Coffee Break**			
	18:00-20:00 Panel symposium "Advanced Packaging for More Moore and More than Moore era" Pannelist Dr. Markus Wöhrmann (Fraunhofer Institute) Prof. Samuel Serna (MIT) Dr. Tetsuo Enomoto (Resonac) Dr. Sanjay Malik (Fujifilm) Dr. Ksenija Varga (EV Group) Prof. Takeyasu Saito (Osaka Metropolitan Univ.) Chairperson(s) Prof. Takumi Ueno Dr. Yasuharu Murakami (Resonac)			

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9:00	**A5. EUV Lithography I** Session Chairpersons: Takeo Watanabe (Univ. of Hyogo) and Danilo de Simone (imec)	**A10. Strategies and Materials for Advanced Packaging Next Generation MEMS Flexible Devices I** Session Chairpersons: Takumi Ueno (Shinshu Univ.) and Sanjay Malik (FUJIFILM)	**A4. Computational / Analytical Approach for Lithography Processes I** Session Chairpersons: Tomoki Nagai (JSR) and Kenji Yoshimoto (Kanazawa Univ.)	
9:30	**A05-01** 9:00-9:30 EUV lithography: A material world (Invited) Anna Lio, Intel, USA	**A10-01** 9:00-9:30 Novel Chemical Mechanical Polishing Process for Fine Redistribution Layer with Patterned Photosensitive Organic Dielectrics/Copper (Invited) Takeyasu Saito, Osaka Metropolitan Univ., Japan	**A04-01** 9:00-9:30 Computational lithography for anti-spacer multi-patterning (Invited) Ulrich Welling 1, Hironobu Taoka 1, Hans-Jürgen Stock 1, Wolfgang Demmerle 1, Bernd Küchler 1, Lawrence Melvin 1, David Power 2, Charlotte Cutler 2, Michael Murphy 2 and Jody Grzeskowiak 2, 1 Synopsys, Japan and 2 TEL Technol. Center, America, USA	**B2. プラズマ光化学と高分子表面機能化 I** Session Chairpersons: 呉 準席(大阪公立大学) 近藤 伸一(岐阜薬科大学)
	A05-02 9:30-10:00 EUV CAR-NTD with new developer for chemical stochastic defect reduction (Invited) Toru Fujimori, Keiyu Ou, Naohiro Tango, FUJIFILM, Japan	**A10-02** 9:30-10:00 Ultra-Efficient Broadband Fiber-to-Chip Coupling via Two-Photon Polymerization (Invited) Samuel Serna 1,2, Luigi Ranno 2, Shaoliang Yu 2,3, Drew Weininger 2, Qingyang Du 2, Jia Xu Brian Sia 2, Cosmin Popescu 2, Lionel C. Kimerling 2, Anuradha Agarwal 2 and Tian Gu 2, 1 Bridgewater State Univ., 2 MIT, USA and 3 Zhejiang Lab., China	**A04-02** 9:30-10:00 Stochasticity in extreme ultraviolet lithography (Invited) Takahiro Kozawa, Osaka Univ., Japan	**B02-01** 9:30-9:50 大気圧 Ar を使用したマイクロ波アフターグロープラズマによるポリテトラフルオロエチレンの高速表面処理 小駒 益弘, 田中邦翁, 上智大学
	A05-03 10:00-10:20 Advanced development techniques for extreme-tight pitch patterning Hikari Tomori 1, Cong Que Dinh 1, Seiji Nagahara 2, Kanzo Kato 2, Shinichiro Kawakami 1, Yuhei Kuwahara 1, Soichiro Okada 1, Kayoko Cho 1, Junji Nakamura 1, Shoichi Terada 1, Makoto Muramatsu 1, Alexandra Krawicz 2, Kathleen McInerney 2, Nathan Antonovich 2 and Lior Huli 2, 1 Tokyo Electron Kyushu and 2 TEL Technol., Japan	**A10-03** 10:00-10:30 Directing Network Degradability Using Wavelength-Selective Thiol-Acrylate Photopolymerization (Invited) Kailong Jin and Saleh Alfarhan, Arizona State Univ., USA	**A04-03** 10:00-10:30 Atomistic Mechanism of Chemical Vapor Deposition Process by Tight-Binding Quantum Chemical Molecular Dynamics Simulations (Invited) Momoji Kubo and Nobuki Ozawa, Tohoku Univ., Japan	**B02-02** 9:50-10:10 CCP-CVD 法により作製した SiO:CH 微粒子堆積膜のマイクロスケール構造 駒崎陸 1, 中泉有稀 1, 井上泰志 1, 高井治 2, 1 千葉工業大学, 2 関東学院大学
10:30 10:40 10:50	10:20-10:30 **Coffee Break** **A5. EUV Lithography II** Session Chairpersons: Hiroto Kudoh (Kansai Univ.) and Alex Robinson (Univ. of Birmingham) **A05-04** 10:30-10:50 A Novel Process to Reduce Roughness in Chemical Amplified Resists (CAR) for Next-Generation Lithography Kayoko Cho 1, Cong Que Dinh 1, Hikari Tomori 1, Seiji Nagahara 2, Arisa Hara 1, Seiji Fujimoto 1, Makoto Muramatsu 1, 1 Tokyo Electron Kyushu and 2 Tokyo Electron, Japan	10:30-10:40 **Coffee Break** **A10. Strategies and Materials for Advanced Packaging Next Generation MEMS Flexible Devices II** Session Chairpersons: Yasuharu Murakami (Resonac) and Samuel Serna (MIT) **A10-04** 10:40-11:10 Innovative thin film polymer application for component embedding and polymer hybrid bonding (Invited) Markus Woehrmann, Thomas Fritzsch, Robert Gernhardt, Charles-Aix Manier and Violeta Prodanovic, Fraunhofer IZM, Germany	10:30-10:50 **Coffee Break** **A4. Computational / Analytical Approach for Lithography Processes II** Session Chairpersons: Tomoki Nagai (JSR) and Takahiro Kozawa (Osaka Univ.) **A04-04** 10:50-11:20 Hybrid Simulation of Pattern Formation for Chemically Amplified Resists in Electron Beam Lithography (Invited) Masaaki Yasuda, Daiki Nakamura and Hiroto Wakamatsu, Osaka Metropolitan Univ., Japan	**B02-03** 10:10-10:30 プラズマ放電により成膜された DLC 膜におけるケモメトリックスを応用したラマンスペクトル解析 小佐野芳寿 1,2, 福江紘幸 1, 鷹林将 1, 國次真輔 1, 今井裕一 1, 中谷達行 1, 1 三菱鉛筆, 2 岡山理科大学 10:30-10:50 Coffee Break **B2. プラズマ光化学と高分子表面機能化 II** Session Chairpersons: 井上 泰志(千葉工業大学) 中谷 達行(岡山理科大学)
10:50	**A05-05** 10:50-11:10 Influence of the solvent in resist solution and thin films on aggregation size of chemical components Shinji Yamakawa 1, Kouji Kuramoto 2, Yuri Ebuchi 1, Atsunori Nakamoto 1, Tetsuo Harada 1 and Takeo Watanabe 1, 1 Univ. of Hyogo and 2 KH Neochem, Japan	**A10-05** 11:10-11:40 Highly Functional Materials for Advanced Package (Invited) Tetsuya Enomoto, Mika Kobune, Kazutoshi Furuzono, Masahiro Matsunaga, Naoki Takahara and Takashi Kawamori, Resonac, Japan	**A04-05** 11:20-11:50 Computational approach towards precise control of DSA interfacial roughness (Invited) Kenji Yoshimoto, Kanazawa Univ., Japan 11:50-13:30 **Lunch Break**	**B02-04** 10:50-11:10 大気圧ヘリウムマイクロプラズマアレーを用いたポリマー表面の処理時間依存性 今中海舟, 白藤立, 呉準席, 大阪公立大学

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	A05-06 11:10-11:30 Spatial Distribution Analysis of Functional Groups in Resist Thin Films Using Reflection-mode Resonant Soft X-ray Scattering Yuri Ebuchi, Atsunori Nakamoto, Shinji Yamakawa, Tetsuo Harada and Takeo Watanabe, Univ. of Hyogo, Japan	**A10-06** 11:40-12:00 Key Dielectric Material Requirements for Advanced Packaging Applications (Invited) Sanjay Malik, Dimitri Janssen, Stefan Vanclooster, Stephanie Dilocker, Fujifilm Electronic Materials, USA	11:50-13:30 **Lunch Break**	**B02-05** 11:10-11:30 紫外吸収分光法を用いたプラズマ活性種中の活性窒素酸素種の定量測定 東尚希 1, 加藤晴輝 1, Endre J. Szili 2, 白藤立 1, 呉 準席 1, 1 大阪府立大学, 2 Univ. of South Australia
	A05-07 11:30-11:50 Observation Result of Chemical Composition Distribution of Resist Thin Film by Photoemission Electron Microscopy Tsukasa Sasakura, Shinji Yamakawa, Tetsuo Harada and Takeo Watanabe, Univ. of Hyogo, Japan			**B02-06** 11:30-11:50 メカノケミカル固相重合による pH 応答性高分子ミセルの開発 近藤伸一 1, 土井直樹 1, 笹井泰志 2, 山内行玄 3, 葛谷昌之 1, 1 岐阜薬科大学, 2 岐阜医療科学大学, 3 松山大学
	11:50-13:50 **Lunch Break**	12:00-13:20 **Lunch Break**		11:50-13:30 **Lunch Break**
13:00 13:20 13:30		**A10. Strategies and Materials for Advanced Packaging Next Generation MEMS Flexible Devices III** Session Chairpersons: Markus Woehrmann (Fraunhofer IZM) and Sanjay Malik (FUJIFILM)	**A13. Fundamentals and Applications of Biomimetics Materials and Processes I** Session Chairpersons: Atsushi Sekiguchi (Litho Tech Japan) and Hiroyuki Mayama (Asahikawa Medical Univ.)	**B3. 一般講演 I** Session Chairpersons: 堀邊 英夫(大阪公立大学) 山本 雅史(香川高専)
		A10-07 13:20-13:50 Pushing the Limits of Digital Patterning by EVG's Maskless Lithography and High–Resolution Wave Control Mosaics (Invited) Ksenija Varga 1, Martin Weinhart 1, Roman Holly 1, Tobias Zenger 1, Boris Považay 1, Thomas Uhrmann 1, Hirotaka Takishita 2, Yoshinori Taguchi 2, Johannes Koch 3 and Matthias Schicke 3, 1 EV Group, Austria, 2 Fujifilm Electronic Mterials, Japan and Fujifilm Electronic Materials, Belgium	**A13-01** 13:00-13:30 Bio-inspired Adhesive with Reset-On Demand, Reuse-Many (RORM) Modes (Keynote) Masanobu Naito, NIMS, Japan	
			A13-02 13:30-13:50 Formation of Double Roughness Structure on PVDF/PMMA Blended Film Using Atmospheric Pressure Low-Temperature Plasma Masashi Yamamoto 1, Ayumu Takada 1, Nanaho Fujii 1, Atsushi Sekiguchi 2 and Hideo Horibe 3, 1 Natl. Inst. of Technol., Kagawa College, 2 Litho Tech Japan and 3 Osaka Metropolitan Univ., Japan	**B03-01** 13:30-14:00 二流体ジェット噴射面での物質攪拌効果の検討 真田俊之 1, 土居尚人 1, 渡部真将 1, 高橋広毅 2, 濱田 聡美 2, 今井正芳 2, 1 静岡大学, 2 荏原製作所
13:50	**A5. EUV Lithography III** Session Chairpersons: Shinji Yamakawa (Univ. of Hyogo) and Robert Brainard (Univ. at Albany)	**A10-08** 13:50-14:20 Cautions in analyses of the oxidation state of a copper surface. (Invited) Yugo Kubo, Sumitomo Electric Industries, Japan	**A13. Fundamentals and Applications of Biomimetics Materials and Processes II** Session Chairpersons: Masanobu Naito (NIMS) and Takayuki Murosaki (Asahikawa Medical Univ.)	**B03-02** 14:00-14:20 レーザーを用いたレジスト剥離における照射条件の最適化 面地和樹 1, 中尾友哉 1, 東田悠佑 1, 林克樹 1, 安國良平 1, 吉村政志 2, 山本竜也 3, 水谷匡希 3, 堀邊英夫 3, 神村共住 2, 1 大阪工業大学, 2 大阪大学, 3 大阪公立大学
	A05-08 13:50-14:20 Dry Deposition and Dry Development of Metal Oxide-Based Photoresist (Invited) Nizan Kenane 1, Will Wu 1, Guoyan Zhang 1, Steven Zhang 1, Linh Hoang 1, Timothy Weidman 1, Ji Yeon Kim 1, Da Li 1, Jengyi Yu 1, Samantha Tan 1, Benjamin Kam 2, Ching-Chung Huang 2, Ali Haider 2, Anuja De Silva 2, Nitinkumar Upadhyay 3, Nicolas Maldonado Pinos 3, Gregory Denbeaux 3, Robert Brainard 3 and Mark H. Sherwood 4, 1 Lam Research, Fremont, 2 Lam Research, IMEC 3 Univ. at Albany, and 4 IBM, USA	**A10-09** 14:20-14:40 Quantum film photoactive layers for infra-red CMOS image sensors Loic Paillardet 1, Benedicte Mortini 1, Halim Bilgen 1, Olivier Arnaud 1, Lucie Mazet 1, Stephane Allegret-Maret 1, Romain Duru 1, Maud Bidaud 1, Ajay Singh 1, Andras Pattantyus-Abraham 1, Jonathan Steckel 1, Dmitri Aldakov 2 and Jean-Marie Verilhac 3, 1 STMicroelectronics, 2 CNRS and 3 CEA-LITEN, France	**A13-03** 13:50-14:10 Environmentally friendly photolithography Technol. using water-developable photoresist materials derived from plants Yuna Hachikubo, Sayaka Miura, Mano Ando, Rio Yamagishi and Satoshi Takei, Toyama Pref. Univ., Japan	**B03-03** 14:20-14:40 液中レーザー粉砕法を応用した有機-ポリマーハイブリッドナノマテリアルへの展開 安國良平, 砂田明子, 増田直人, 阿部晃汰, 神村共住, 大阪工業大学
	A05-09 14:20-14:40 Novel EUV Underlayer Design for Metal Oxide Resist Patterning Jiyoung Hwang, Jung-June Lee, Hyeonwoo Shin, Bonki Ku, Jae Hwan Sim and Jae-Bong Lim, DuPont Electronics & Industrial, Korea	**A10-10** 14:40-15:00 Development of Low Temperature Processable Polyimides for Organic Hybrid Bonding Applications Masaya Jukei 1, Kouta Nomura 1, Takenori Fujiwara 2, Hitoshi Araki 1, Tomoyuki Honda 1, Yu Souji 1, 1 Toray Industries, 2 Toray Singapore Research Center, Japan	**A13-04** 14:10-14:30 The development of bile duct stent having antifouling propertiesby using atmosphere pressure cold plasma (2) Atsushi Sekiguchi 1, Masashi Yamamoto 2 and Masayasu Aikawa 3, 1 Litho Tech Japan, 2 Kagawa Univ. and 3 Saitama Medical Univ., Japan	14:40-14:50 **Coffee Break**
	A05-10 14:40-15:00 Going Beyond the Ohnishi Parameter: Fast Etch Underlayers for EUV Lithography Stanfield Youngwon Lee, Min Kyung Jang, Jae Yun Ahn, Jin Hong Park and JaeBong Lim, DuPont Electronic & Industrial, Korea		14:30-14:50 **Coffee Break**	

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14:50	**A05-11** 15:00-15:20 Positive-Tone Organoantimony Resists for EUV Jordan Greenough 1, Ricardo Burke 2, Nitin Uphadyay 2, Munsaf Ali 2, Shaheen Hasan 3, Jacob Sitterly 2, Amir Hegazy 2, Steven Grzeskowiak 2 and Robert L. Brainard 2, 1 Geminatio, 2 Univ. at Albany and 3 Rensselaer Polytechnic Inst., USA	**A10-11** 15:00-15:20 Crack resistance evaluation method of photoimageable dielectrics for redistribution layer Kenichi Takeuchi, Chiharu Koga, Tomoaki Shibata, Yu Aoki and Yukika Aoki, Resonac, Japan	**A13. Fundamentals and Applications of Biomimetics Materials and Processes III** Session Chairpersons: Atsushi Sekiguchi (Litho Tech Japan) and Masanobu Naito (NIMS)	**B3. 一般講演 II** Session Chairpersons: 堀邊 英夫(大阪公立大学) 部家 彰(兵庫県立大学)
	A05-12 15:20-15:40 Positive-Tone Organoantimony Resists: Mechanistic Studies Jordan Greenough 1, Ricardo Burke 2, Nitin Uphadyay 2, Munsaf Ali 2, Shaheen Hasan 3, Jacob Sitterly 2, Steven Grzeskowiak 2 and Robert L. Brainard 2, 1 Geminatio, 2 Univ. at Albany and 3 RPI, USA	**A10-12** 15:20-15:40 Chemically amplified photosensitive polyimides with controllable taper angles Lizhe Wang 1, Xue-yuan Cao 2, Bin Jia 2, Lili Yuan 1, Shiyong Yang 1,3 and Haixia Yang, 1, 1 Chinese Academy of Sci.s, 2 MINSEOA Advanced Material and 3 Univ. of Chinese Academy of Sci.s, China	**A13-05** 14:50-15:10 TBA Takayuki Murosaki, Asahikawa Medical Univ., Japan **A13-06** 15:10-15:30 Spontaneous Locomotion of a Liquid Marble Irradiated by a Near-Infrared Laser Beam Hiroyuki Mayama, Asahikawa Medical Univ., Japan	**B03-04** 14:50-15:20 マイクロ波励起水蒸気プラズマを用いたフォトレジスト除去プロセスにおける発光分光診断のための基礎検討(Invited) 石島達夫, 三浦敦, 椹森悠介, Thiha Kyaw Swar, 中野裕介, 田中康規, 金沢大学 **B03-05** 15:20-15:40 現像液中の(ポリ)グリセロールがポジ型感光性ポリイミドの溶解性と感度に及ぼす影響 梶田舜平 1, 森清 1, 堀邊英夫 2, 1 阪本薬品工業, 2 大阪公立大学
15:30	15:40-15:50 **Coffee Break**	15:40-15:50 **Coffee Break**	**A13. Fundamentals and Applications of Biomimetics Materials and Processes IV** Session Chairpersons: Hiroyuki Mayama (Asahikawa Medical Univ.) and Masashi Yamamoto (Kagawa College)	
15:50	**A5. EUV Lithography IV** Session Chairpersons: Toru Fijimori (Fujifilm) and Anna Lio (Intel)	**A10. Strategies and Materials for Advanced Packaging Next Generation MEMS Flexible Devices IV** Session Chairpersons: Yasuharu Murakami and Ksenija Varga (EV group)		**B3. 一般講演 III** Session Chairpersons: 堀邊 英夫(大阪公立大学) 石島 達夫(金沢大学)
	A05-13 15:50-16:10 EUV lithography patterning using Multi-Trigger Resist at low dose and high resolution Alex Robinson 1,2, Carmen Popescu 2, Greg O'Callaghan 2, Alexandra McClelland 2, Catherine Storey 2, John Roth 3 and Ed Jackson 3, 1 Univ. of Birmingham, 2 Irresistible Materials and 3 Nano-C, UK	**A10-13** 15:50-16:10 Superhydrophobic and conductive flexible sensor powered by reservoir computing for estimation of wind and rain volume Naruhito Seimiya 1, Seiji Wakabayashi 2, Guren Matsumura 3, Haruki Nakamura 1, Kohei Nakajima 4 and Kuniharu Takei 1, 1 Hokkaido Univ., 2 Osaka Pref. Univ., 3 Osaka Metropolitan Univ. and 4 The Univ. of Tokyo, Japan	**A13-07** 15:30-15:50 Evaluation of Antibacterial Property of COP Resin Surfaces with Micro Rough Surface Formed by Fine Particle Bombarding. (Invited) Tomoko Nishitani 1,2, Tomohiro Shimizu 1, Shoso Shingubara 1, Takeshi Ito 1, 1 Kansai Univ. and 2 Surf Technol., Japan	**B03-06** 15:40-16:00 ポリグリセリン系メタクリレートを含むネガ型フォトレジストの銅基板への密着性と解像性 松下周平, 梶田瞬平, 森清, 阪本薬品工業
	A05-14 16:10-16:30 Synthesis of resist materials containing hemiacetal groups and their resist sensitivity Kouta Iwane 1, Hiroto Kudo 1, Kazumasa Okamoto 2 and Takahiro Kozawa 2, 1 Kansai Univ. and 2 Osaka Univ., Japan	**A10-14** 16:10-16:30 Flexible kirigami-structured strain sensor Masaki Teramoto and Kuniharu Takei, Hokkaido Univ., Japan	**A13-08** 15:50-16:10 Antifouling evaluation of polymer nanopillars against SiO_2 particulate matters (Invited) Zihao Zhao, Nan Liang, Tomohiro Shimizu, Shoso Shingubara and Takeshi Ito, Kansai Univ., Japan	**B03-07** 16:00-16:30 原子状水素アニールによる Si リッチ SiOx 膜のエッチング機構 (Invited) 部家 彰, 太田 和志, 井上 尚三, 春山 雄一, 春山 雄一, 住友 弘二, 兵庫県立大学
	A05-15 16:30-16:50 Synthesis Botryosin-type resist materials containing acetal groups in the main chain and its resist sensitivity Riku Akabane 1, Hiroto Kudo 1, Kazumasa Okamoto 2 and Takahiro Kozawa 2, 1 Kansai Univ. and 2 Osaka Univ., Japan	**A10-15** 16:30-16:50 Characteristic of Immunosorbent Assay using Micro Capillary Arrays coated by SiCOxHy CVD Films Mana Honkawa 1, Daisuke Fujiki 1, Nobuyuki Terayama 2, Munehiro Sugiyama 3, Sho Amano 1, Masahiro Takeo 1, Tsunemasa Saiki 4 and Yuichi Utsumi 1, 1 Univ. of Hyogo, 2 Shinko Seiki, 3 Juntendo Univ. Shizuoka Hospital and 4 Hyogo Prefectural Inst. of Technol., Japan	**A13-09** 16:10-16:30 Evaluating the Anti-biofilm Performance of Si and Resin Based Nanopillars (Invited) Satoka Matsumoto 1, Shigemitsu Tanaka 2, Toshihiro Nagao 2, Tomohiro Shimizu 1, Shoso Shingubara 1 and Takeshi Ito 1, 1 Kansai Univ. and 2 Osaka Research Inst. of Industrial Sci. and Technol., Japan	
	A05-16 16:50-17:10 Current status of EUV flood exposure tool at NewSUBARU BL03 Ryuta Shiga, Shinji Yamakawa, Tetsuo Harada and Takeo Watanabe, Univ. of Hyogo, Japan			
	A05-17 17:10-17:30 Evaluation of the basic behavior of acrylic resin changing its composition by KrF, ArF and EUV exposure Yosuke Ohta 1, Atsushi Sekiguchi 1, Takeo Watanabe 2, Tetsuo Harada 2, Shinji Yamakawa 2, Hiroki Yamamoto 3 and Tadayuki Fujiwara 1, 1 Litho Tech Japan, 2 Univ. of Hyogo and 3 Natl. Inst.s for Quantum Sci. and Technol., Japan	**A10-16** 16:50-17:10 Investigation of control of water contact angle by composition control of SiCOxHy film formed on Si substrate. Daisuke Fujiki 1, Mana Honkawa 1, Nobuyuki Terayama 2, Eiji Komatu 2, Jun Asano 2, Sho Amano 1, Tsunemasa Saiki 3, Satoru Suzuki 1 and Yuichi Utsumi 1, 1 Univ. of Hyogo, 2 Sinko Seiki and 3 Hyogo Prefectural Inst. of Technol., Japan		

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	17:40-17:50 **PST Award**			

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18:00-20:00
Banquet

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9:00	**A6. Nanoimprint I** Session Chairperson: Jun Taniguchi (Tokyo Univ. of Sci.)	**A8. Photopolymers in 3-D Printing / Additive Manufacturing** Session Chairpersons: Masaru Mukai (Yokohama Natl. Univ.) and Samuel Serna (MIT)		
9:30	**A06-01** 9:00-9:30 Nanoimprinting Lithography – Efficient scaling of complex shaped nano patterns for high volume production (Invited) Thomas Achleitner, EV Group, Austria	**A08-01** 9:00-9:30 Photothermally Driven Microgel Actuators Made by Micro Stereolithography (Invited) Masaru Mukai, Shogo Oishi and Shoji Maruo, Yokohama Natl. Univ., Japan	**A14. Polyimides and High Thermally Stable Resins - Functionalization and Practical** Session Chairpersons: Hitoshi Araki (Toray) and Teruaki Hayakawa (Tokyo Inst. of Technol.)	
	A06-02 9:30-9:50 Feature-size control by pattern transfer etching in nanoimprint lithography for half-pitch 24 nm damascene interconnect Kenta Suzuki 1, Tetsuya Ueda 1, Hiroshi Hiroshima 1, Yoshihiro Hayashi 1, Masaki Ishida 2, Tomomi Funayoshi 2, Hiromi Hiura 2, Noriyasu Hasegawa 2 and Kiyohito Yamamoto 2, 1 AIST and 2 Canon, Japan	**A08-02** 9:30-10:00 Digital photo patterning polymers using a DLP 3D printer (Invited) Mikihiro Hayashi 1,2, 1 Nagoya Inst. of Technol. and 2 JST-PRESTO, Japan	**A14-01** 09:30-10:00 Polyimides Compositions with Low Dielectric Property and Good Flexibility Corresponding to Redistribution Layers for Next Generation Heterogeneous Integration technologies (Invited) Takashi Tasaki, Takashi Yamguchi, Taiyo Nakamura and Madoka Yamashita, Arakawa Chemical Industries, Japan	
10:00	**A06-03** 9:50-10:10 Effect of substrate stiffness on PMMA pattern profiles by thermal nanoimprint process. Hiroaki Kawata, Rina Tsunetou, Yoshihiko Hirai and Hisao Kikuta, Osaka Metropolitan Univ., Japan	**A08-03** 10:00-10:20 Fabrication of NIL 3D resist masters by grayscale Electron Beam Lithography Diana Stephany Fernandez Rodas 1,2, Jérôme Rêche 1,2 and Raluca Tiron 1,2, 1 Univ. Grenoble Alpes and 2 CEA-Leti, France	**A14-02** 10:00-10:20 Novel Low Df Photosensitive Material for Redistribution Layer Akihiko Otoguro, Toshiharu Kuboyama and Osamu Onishi, Sumitomo Bakelite, Japan	**B3. 一般講演 II** Session Chairpersons: 岡村 晴之（大阪公立大学） 山川 進二（兵庫県立大学）
	A06-04 10:10-10:30 Nanoimprint lithography of hyaluronic acid and collagen using TiO_2-SiO_2 gas-permeable mold for medical application Rio Yamagishi and Satoshi Takei, Toyama Prefectural Univ., Japan	**A08-04** 10:20-10:40 Novel Visible-Light Tri-Component Photoinitiating System for DLP 3D Printing: Achieving Superior Resolution and Minimal Shrinkage Atefeh Nezhadebrahim 1,2, Morteza Ebrahimi 3 and Xavier Allonas 2, 1 Qom Univ. of Technol., Iran, 2 Univ. of Haute Alsace, France, 3 Amirkabir Univ. of Technol., Iran	**A14-03** 10:20-10:40 Polyimide-based release material for rapid and precise mass transfer of semiconductor chips Koki Ishida, Risano Nakajima, Kenta Aoshima, Yukari Jo, Takenori Fujiwara and Daichi Miyazaki, Toray Industries, Japan	**B03-08** 10:00-10:20 スペックル光リソグラフィによる段差面へのランダムパターン一括形成技術 菊池裕希，田浦りこ，大井一樹，岩岡友希，堀内敏行，小林宏史，東京電機大学
	10:30-10:50 **Coffee Break**		**A14-04** 10:40-11:00 Synthesis and Dielectric Properties of Polyimides Containing Double-Decker Silsesquioxane (DDSQ) in the main chain Natsuko Sashi, Erina Yoshida, Hayato Maeda, Kan Hatakeyama, Yuta Nabae, Ririka Sawada, Shinji Ando and Teruaki Hayakawa, Tokyo Inst. of Technol., Japan	**B03-09** 10:20-10:40 円錐ミラーを用いたパイプ試料への内面円周一括露光技術 服部将太郎，新谷賢司，小林賢治，堀内敏行，小林宏史，東京電機大学
10:50	**A6. Nanoimprint II** Session Chairperson: Hiroaki Kawata (Osaka Metropolitan Univ.)			**B03-11** 10:40-11:00 分岐アルキル鎖を有するポリアクリレートで表面修飾したシリカ微粒子からなるコロイド結晶膜 三島卓也，松浦佐和，岩田直人，古海誓一，東京理科大学
	A06-05 10:50-11:10 Hybrid Soft Replica Molds for Residual Layer-Free Patterning Yuri Nakamura and Jun Taniguchi, Tokyo Univ. of Sci., Japan		**A14-05** 11:00-11:20 Synthesis and Structural Characterization of Polyimides Containing Diphenylsiloxane Unit Riku Takahashi, Kan Hatakeyama, Yuta Nabae and Teruaki Hayakawa, Tokyo Inst. of Technol., Japan	**B03-12** 11:00-11:20 クマリン部位を有するポリアクリレート共重合体のモノマー配列の違いが光二量化反応へ及ぼす影響 伊藤 晨翔，岩田 直人，古海 誓一，東京理科大学
	A06-06 11:10-11:30 Durability test of replica mold in UV nanoimprinting and enlargement of mold patterned area by molds stitching Jun Taniguchi 1, Risa Tanaka 2 and Takeshi Ohsaki 2, 1 Tokyo Univ. of Sci. and 2 Toyo Gosei, Japan		**A14-06** 11:20-11:40 Synthesis and properties of substituted polyphenylene ether sulfone with 4-cyclohexylphenoxy groups in the side chains Kenatro Sone, Hayato Maeda, Kan Hatakeyama, Yuta Nabae and Teruaki Hayakawa, Tokyo Inst. of Technol., Japan	**B03-13** 11:20-11:40 Photoreaction of polysilyne and methyl methacrylate Yukihito Matsuura 1, Rikuo Kodama 1 and Tomoharu Tachikawa 2, 1 Natl. Inst. Of Technol., Nara College and 2 Osaka, Gas Chemicals Japan
	A06-07 11:30-11:50 Application of self-aligned quadrable patterning to fabrication of nanoimprint mold with sub-12-nm half-pitch Kenta Suzuki, Tetsuya Ueda, Hiroshi Hiroshima and Yoshihiro Hayashi, AIST, Japan			
	11:50-13:20 **Lunch Break**		11:50-13:20 **Lunch Break**	

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13:20	**A5. EUV Lithography IV** Session Chairpersons: Taku Hirayama (HOYA) and Yoshio Kawai (Shin-Etsu Chemical)			
13:40	**A05-18** 13:20-13:50 Advanced Spectroscopic Evaluation to Overcome Limitations of Chemically Amplified and Metal Oxide Resists for High NA EUV Lithography (Invited) Eric Mattson, James Blackwell, Florian Gstrein, Lauren Doyle, Marie Krysak, Brandon Holybee, Rob Jordan, Blake Bluestein, Charles Mokhtarzadeh and Scott Clendenning, Intel, USA		**B1. ポリイミド及び高温耐熱樹脂—機能化と応用—** Session Chairpersons: 早川 晃鏡(東京工業大学) 荒木 斉(東レ)	
	A05-19 13:50-14:10 Behavior of Secondary Electrons: Estimation of the Ionization Yield in Poly(hydroxystyrene) under EUV Irradiation Based on Binary Encounter Theory and Continuous Slowing-Down Spectrum Takumi Ueno, Shinshu Univ., Japan		**B01-01** 13:40-14:00 5,5',6,6'-テトラヒドロキシ-3,3,3',3'-テトラメチルスピロビスインダンをコアとする固有細孔熱硬化性低誘電・低誘電損失樹脂の開発 芝崎 祐二, 川畑篤史, 昆野祐, 岩手大学	
	A05-20 14:10-14:30 Evaluation of electron blur for different electron energies Oleg Kostko 1, Maximillian Mueller 2 and Patrick Naulleau 1,3, 1Lawrence Berkeley Natl. Lab., 2 San Jose State Univ. and 3 EUV Tech, Martinez, USA		**B01-02** 14:00-14:20 イソソルビド骨格と長鎖アルキル基を主鎖に有するバイオベースポリイミドの熱・光学・誘電物性 澤田梨々花, 劉浩男, 矢島和尚, 高雄惇英, 安藤慎治, 東京工業大学	
	A05-21 14:30-14:50 Investigating Byproduct Formation in Positive Tone Resists with Nanoprojectile Secondary Ion Mass Spectrometry Michael J. Eller 1, Jander Cruz 1, Dmitriy S. Verkhoturov 2, Stanislav V. Verkhoturov 2 and Emile A. Schweikert 2,3, 1 California State Univ., 2 Texas A&M Univ. and 3 Bienne Technol. LLC, USA		**B01-03** 14:20-14:40 三成分化学増幅型ポリイミドレジストにおけるポリイミド樹脂のTg とレジスト感度との関係 間所 大貴 1, 高嶋 克彰 1, 田中 進 1, 山岡 洸平 2, 弓場 智之 2, 堀邊 英夫 1, 1 大阪公立大学, 2 東レ	
	A05-22 14:50-15:10 Wafer Edge Protection Layer: A solution for Metal Contamination Issue in Advanced Patterning Process Takanori Kudo 1, JoonYeon Cho 2, Aritaka Hishida 3, Salem Mullen 1, Elizabeth Wolfer 1, Orest Polishchuk 1, Charito Antonio 1 and Zhong Li 1, 1 EMD Electronics, USA, 2 Merck Electronics, Korea and 3 Merck Electronics, Japan		**B01-04** 14:40-15:00 PBI ナノファイバー/Nafion 電解質膜の燃料電池特性に与える熱処理の影響 達川あかり, 中江豊崇, 山登正文, 川上浩良, 東京都立大学	
	A05-23 15:10-15:30 Spin-on Metal Oxide Hard Mask as Undelayer for EUV Lithography with Chemically Amplified Resist Zhong Li 1, Viktor Kampitakis 2, Youngjun Her 2, Charito Antonio 1, Takanori Kudo 1, Salem Mullen 1, Elayaraja Muthuswamy 1, Orest Polishchuk 1, Elizabeth Wolfer 1, Adam Ware 1, Dong Yang 1, JoonYeon Cho 3 and Aritaka Hishida 4, 1EMD Electronics, USA, 2 Merck Chemicals NV, Belgium, 3 Merck Electronics, Korea and 4 Merck Electronics, Japan			
	15:30-15:40 **Closing Remarks** Takeo Watanabe (Univ. of Hyogo)			