

Symposia	DATE	Presentation number	Start	End	Presentation title	Author	Affiliation
OP	28, June	1OP01	9:00	9:15	Opening Remarks		
S1	28, June	1S101	9:15	10:00	Future of Computing: Chip and Chiplet	*Huiming Bu[1]	1. VP, Hybrid Cloud Technology Research & Albany Operation, IBM Research at IBM
A1	29, June	2A101	11:10	11:30	Dependence of Dissolution Kinetics of Main-Chain Scission Type Resists on Molecular Weight	*Akihiro Konda[1], Hiroki Yamamoto[2], Takahiro Kozawa[1], Shusuke Yoshitake[3]	1. Osaka University, 2. National Institutes for Quantum Science and Technology, 3. NuFlare Technology Inc.
A2	29, June	2A201	13:00	13:25	Polymeric nanoparticle-based fluorescent probes for intracellular small molecule (ATP) sensing [invited]	*Mitsuru Naito[1], Nodoka Takahashi[1], Ken Miyajima[1], Kanjiro Miyata[1]	1. Graduate School of Engineering, The University of Tokyo
	29, June	2A202	13:25	13:50	Designing Er ³⁺ /Ho ³⁺ -Doped Near-Infrared Fluorescent Ceramic that Works Free from Optical Absorption by Water [invited]	*Masakazu Umezawa[1], Hiroyuki Kurahashi[1], Karina Nigoghosian[1,2], Kyohei Okubo[1], Kohei Soga[1]	1. Tokyo University of Science, 2. Present Affiliation: University College Dublin
	29, June	2A203	13:50	14:10	Effect of physiological degradation on mechanical properties of PLGA nanofiber films.	*Afraz Khan[1], Hiroaki Takehara[1,2], Takanori Ichiki[1,2]	1. Department of Materials Engineering, University of Tokyo, 2. Innovation Center of NanoMedicine (iCONM)
	29, June	2A204	14:10	14:30	Electrical and optical properties characterization of PANI-PVAc blend films	*QI KANG[1], Hiroaki Takehara[1,2], Takanori Ichiki[1,2]	1. Tokyo Univ., 2. iCONM
	29, June	2A205	14:30	14:50	Microwiring process for bioabsorbable electronics	*Kazuki Shimada[1], Hiroaki Takehara[1,2], Takanori Ichiki[1,2]	1. Department of Materials Engineering, The University of Tokyo, 2. Innovation Center of NanoMedicine (iCONM)
	29, June	2A206	14:50	15:00	Coffee Break		
	29, June	2A207	15:00	15:25	Elaborate Assembly of Platinum-Complexed Polymeric Micelles for Targeted Chemotherapy	*Yuki Mochida[1]	1. Kawasaki Institute of Industrial Promotion
	29, June	2A208	15:25	15:50	Microfabrication processes of biomedical materials towards implantable electronic and optical devices [invited]	*Hiroaki Takehara[1]	1. The University of Tokyo
	29, June	2A209	15:50	16:10	Design, challenges, and perspectives of polymeric micelles for bimodal NIR/MR imaging	*THI KIM DUNG DOAN[1,2], Masakazu Umezawa[3], Kyohei Okubo[3], Masao Kamimura[3], Masayuki Yamaguchi[2], Hirofumi Fujii[2], Kohei Soga[1,3]	1. Research Institute for Biomedical Science, Tokyo University of Science, 2. Division of Functional Imaging, Exploratory Oncology Research & Clinical Trial Center, National Cancer Center, 3. Department of Material Science and Technology, Tokyo University of Science
	29, June	2A210	16:10	16:30	Bioabsorbable microneedle devices with high aspect ratio	*Yukihiro Kanda[1], Hiroaki Takehara[1,2], Takanori Ichiki[1,2]	1. The University of Tokyo, 2. iCONM
29, June	2A211	16:30	16:50	Development of painlessly insertable polymer microneedles	*Mizuki Inada[1], Yukihiro Kanda[1], Takanori Ichiki[1,2], Hiroaki Takehara[1,2]	1. The University of Tokyo, 2. iCONM	
	28, June	1A301	14:00	14:40	DSA and Patterning Ecosystem Enablement [Keynote Lecture]	*Chandra Sarma[1]	1. Intel Corp

A3	28, June	1A302	14:40	15:00	Precise Introduction of Discrete Oligopeptide at Junction of PS-PMMA Block Copolymer toward Phase Separation with Lower Molecular Weight [invited]	*Makoto Ouchi[1]	1. Kyoto University
	28, June	1A303	15:00	15:20	Rectification of Extreme Ultraviolet Lithography Patterns using Directed Self-Assembly of Block Copolymers: a Study on Hexagonal Contact Hole Arrays [invited]	*Lander Verstraete[1], Hyo Seon Suh[1], Julie Van Bel[1], Philippe Bezdard[1], Waikin Li[1], Purnota Hannan Timi[1], Nadia Vandenbroeck[1], Roberto Fallica[1], Andreia Santos[2], Shinji Miyazaki[3], Boaz Alperson[4], YoungJun Her[5], Carmen Popescu[6], Alexandra McClelland[6], Alex Robinson[6]	1. imec, 2. SCREEN SPE Germany, 3. Merck electronics LTD, 4. EMD performance materials Corp., 5. Merck Chemicals, 6. Irresistible Materials
	28, June	1A304	15:20	15:40	Effect of Modified Chemical Junction of a Diblock Copolymer on the Microphase Separation Behavior	*Yoshihiro Agata[1], Yuta Nabaie[1], Toshiaki Ougizawa[1], Teruaki Hayakawa[1]	1. Department of Materials Science and Engineering, School of Materials and Chemical Technology, Tokyo Institute of Technology
	28, June	1A305	15:40	16:00	Substituent effect on self-assembly and the resulting fluorescence efficiency	Mina Han[1], *Pyae Thu[1]	1. Kongju National University
A4	30, June	3A401	9:00	9:30	Stochastic Defect Formation Analysis in an EUV Photoresist Using Computational Methods [invited]	*Lawrence S Melvin[1], Yudhishtir Kankel[1], Zachary A Levinson[1], Ulrich Welling[1], Hironobu Taoka[1], Hans-jurgen Stock[1], Wolfgang Demmerle[1]	1. Synopsys
	30, June	3A402	9:30	10:00	Application of machine learning to development of chemically amplified resist materials and processes [invited]	*Takahiro Kozawa[1]	1. Osaka University
	30, June	3A403	10:00	10:30	Atomistic Dynamics and Mechanism of SiO ₂ Plasma Etching Processes: Tight-Binding Quantum Chemical Molecular Dynamics Simulations [invited]	*Momoji Kubo[1]	1. Institute for Materials Research, Tohoku University
	30, June	3A404	10:30	11:00	Stochastic simulation of pattern formation in EUV resists with photo-decomposable quenchers [invited]	Kyohei Imai[1], Bunta Inoue[1], Yoshihiko Hirai[1], *Masaaki Yasuda[1]	1. Osaka Metropolitan University
	30, June	3A405	11:00	11:30	Bottom-up Multiscale Approach to Predict Physical Properties of Polymer Melts [invited]	*Kenji Yoshimoto[1]	1. Toray Industries, Inc.
	29, June	2A501	9:00	9:30	Advanced Photoresists for 0.55 NA EUV Lithography: Status, Progress, and Challenges [Invited]	*Florian Gstrein[1,2]	1. Intel, 2. Components Research
	29, June	2A502	9:30	10:00	Controlled Sequence Photoresists from Polypeptoids [Invited]	Florian Kaefer[1], Zoey Meng[2], Rachel Segalman[2], *Christopher Ober[1]	1. Cornell University, 2. University of California at Santa Barbara
	29, June	2A503	10:00	10:30	Advances in high NA EUV patterning and fundamental radiation chemistry diagnostics [Invited]	*Patrick Naulleau[1]	1. Lawrence Berkeley National Laboratory
	29, June	2A504	10:30	10:40	Coffee Break		
	29, June	2A505	10:40	11:00	Nanometrology for evaluating EUV resists for molecular homogeneity and rare sites	*Michael J Eller[1], Jander Cruz[1], Dmitriy S Verkhoturov[2], Stanislav V. Verkhoturov[2], Emile A Schweikert[2]	1. California State University Northridge, 2. Texas A&M University
	29, June	2A506	11:00	11:30	Recent status of the stochastic issues of photoresist materials in EUV lithography [Invited]	*Toru Fujimori[1]	1. FUJIFILM Corporation

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29, June	2A507	11:30	12:00	Synthesis and resist sensitive property of iodine-containing materials using extreme ultraviolet (EUV) exposure tool [Invited]	Hiroto Kudo[1], *Yutaro Iwashige[1], Kazumasa Okamoto[2], Takahiro Kozawa[2]	1. Kansai Univ., 2. Osaka Univ.
29, June	2A508	13:50	14:10	Comparison of photoresist sensitivity between KrF, EB and EUV exposure	*Yosuke Ohta[1], Atsushi Sekiguchi[1], Shinji Yamakawa[2], Tetsuo Harada[2], Takeo Watanabe[2], Hiroki Yamamoto[3]	1. Litho Tech Japan, 2. University of Hyogo, 3. National Institutes for Quantum Science and Technology
29, June	2A509	14:10	14:30	Development of Selenonium PAGs in EUV Lithography toward High Sensitivity Achievement	*Tomohito Kizu[1], Shinji Yamakawa[2], Takeo Watanabe[2], Seiji Yasui[1], Tomoyuki Shibagaki[1]	1. San-Apro Ltd., 2. Laboratory of Advanced Science and Technology for Industry, University of Hyogo
29, June	2A510	14:30	14:50	Grazing Incidence Resonant Soft X-ray Scattering for the Chemical Structure Size Distribution Analysis in EUV resist	*Atsunori Nakamoto[1], Shinji Yamakawa[1], Tetsuo Harada[1], Takeo Watanabe[1]	1. University of Hyogo
29, June	2A511	14:50	15:20	Recent Research activity for EUV Lithography at QST [Invited]	*Hiroki YAMAMOTO Yamamoto[1], Yuji Hosaka[1], Kimio Yoshimura[1], Masahiko Ishino[1], Dinh Thanhhung[1], Masaharu Nishikino[1], Yasunari Maekawa[1]	1. National Institutes for Quantum Science and Technology
29, June	2A512	15:20	15:50	Effect of alternative developer solutions on EUVL patterning [Invited]	*JULIUSJOSEPH SANTILLAN[1], TOSHIRO ITANI[1]	1. Osaka University
29, June	2A513	15:50	16:00	Coffee Break		
29, June	2A514	16:00	16:45	[Keynote Lecture] Patterning readiness towards High NA EUV lithography	*Danilo De Simone[1]	1. IMEC
29, June	2A515	16:45	16:55	Coffee Break		
29, June	2A516	16:55	17:25	Process and Sensitivity Optimisation of the Multi-Trigger Resist [Invited]	Carmen Popescu[1], Greg O'Callaghan[1], Alexandra McClelland[1], John Roth[2], Ed Jackson[2], *Alex Robinson[1]	1. Irresistible Materials, 2. Nano-C
29, June	2A517	17:25	17:55	Chemical mechanisms of metal-based EUV resists [Invited]	*Albert Manfred Brouwer[1]	1. University of Amsterdam
29, June	2A518	17:55	18:25	EUV Metal Oxide Resist Development Technology for Improved Sensitivity, Roughness and Pattern Collapse Margin for High Volume Manufacturing [Invited]	*Cong Que DINH[1], Seiji Nagahara[2], Yuhei Kuwahara[1], Arnaud Dauendorffer[1], Keisuke Yoshida[1], Makoto Muramatsu[1], Shinichiro Kawakami[1], Satoru Shimura[1], Kosuke Yoshihara[1], John S. Petersen[3], Danilo De Simone[3], Philippe Foubert[3], Geert Vandenberghe[3], Lior Hui[4], Steven Grzeskowiak[4], Alexandra Krawicz[4], Nayoung Bae[4], Kanzo Kato[4], Kathleen Nafus[5], Angélique Raley[5]	1. Tokyo Electron Kyushu, 2. Tokyo Electron Ltd., 3. imec, 4. TEL Technology Ctr., America, 5. Tokyo Electron America, Inc.
29, June	2A519	18:25	18:45	Influence of counteranions in the performance of tin-based EUV photoresists.	*Quentin Evrard[1], Najmeh Sadegh[1], Benjamin Watts[3], Nicola Mahne[2], Angelo Giglia[2], Stefano Nannarone[2], Yasin Ekinci[3], Michaela Vockenhuber[3], Alfred M. Brouwer[4]	1. Advanced Research Center for Nanolithography, 2. Consiglio Nazionale delle Ricerche - Istituto Officina dei Materiali, 3. Paul Scherrer Institute, 4. Van't Hoff Institute for Molecular Sciences
29, June	2A601	13:00	13:20	Nanoimprint with CO ₂ Ambient	*Toshiki ITO[1], Isao KAWATA[1], Yuto ITO[1]	1. Canon Inc.

A6	29, June	2A602	13:20	13:40	3D simulation and experiment of the fluid flow around structure with nano step made by UV-NIL	*Tadashi Ando[1], Yusei Honda[1], Tomoki Yanagawa[1], Noriyuki Unno[2], Jun Taniguchi[1], Shin-ichi Satake[1]	1. Department of Applied Electronics, Faculty of Advanced Engineering, Tokyo University of Science, 2. Department of Mechanical Engineering, Faculty of Engineering, Sanyo-Onoda City University
	29, June	2A603	13:40	14:00	Fabrication of a Rose-Petal-Inspired Micro/Nanostructured Surface via the Ultraviolet Nanoimprint Lithography and Roll-Press Methods	*Kazuki Fujiwara[1], Hiroyuki Sugawara[2], Jun Taniguchi[1]	1. Tokyo University of Science, 2. GEOMATEC Co., Ltd.
	29, June	2A604	14:00	14:20	Using Machine Learning to Predict the Durability of a Mold for Producing Nanostructures in Ultraviolet Nanoimprint Lithography	Kazuki Okamoto[1], Tomohito Wakasa[1], Jun Taniguchi[1], *Shin-ichi Satake[1]	1. Tokyo University of Science
	29, June	2A605	14:20	14:40	Fabrication of freestanding double-sided through-hole electrode films using imprint technique	Atsuhiko Furuta[1], *Jun Taniguchi[1]	1. Tokyo University of Science
	29, June	2A606	15:00	15:20	Process design for glycerol contained PVA based on hybrid deep learning system	*Kai Kameyama[1], Yusei Kunitou[1], Hiroaki Kawata[1], Masaaki Yasuda[1], Yoshihiko Hirai[1]	1. Osaka Metropolitan University
	29, June	2A607	15:20	15:40	Droplet-Dispensed Ultraviolet Nanoimprint Lithography in Mixed Condensable Gas of Trans-1,3,3,3-Tetrafluoropropene and Trans-1-Chloro-3,3,3-Trifluoropropene	*Kenta Suzuki[1], Tatsuya Okawa[1], Sung-Won Youn[1]	1. National Institute of Advanced Industrial Science and Technology (AIST)
	29, June	2A608	15:40	16:00	Fabrication of PDMS self-standing film with embedded fine polystyrene grating for stretchable optical device by nanoimprint process	*Hiroaki Kawata[1], Ryusei Nagahama[1], Akio Mizutani[1], Hisao Kikuta[1], Yoshihiko Hirai[1]	1. Osaka Prefecture University
	29, June	2A609	16:00	16:20	Computational study of release process on tilted diffraction structure for AR glasses	Ryuhei Yamamura[1], Yusei Kunitou[1], Masaaki Yasuda[1], *Yoshihiko Hirai[1]	1. Osaka Metropolitan University
	29, June	2A610	16:20	16:40	Coffee Break		
A7	29, June	2A701	11:40	12:00	Metal purifiers specific to lithography materials	*Yoshiaki Yamada[1], Robb Fang[2], Alexander Zhu[2]	1. Nippon Cobetter Co., Ltd., 2. Hangzhou Cobetter filtration equipment Co., Ltd
A8	29, June	2A801	15:00	15:20	Development of Photo-Polymer with Controllable Mechanics and Optical Properties by Using Reversible Addition-Fragmentation Chain-Transfer (RAFT) Polymerization [Invited]	*Masaru Mukai[1], Shoji Maruo[1]	1. YOKOHAMA National University
	29, June	2A802	15:20	15:40	Flexible in-plane micro-supercapacitor prepared by laser annealing and ablation of a graphene/polyamide composite	*Akira Watanabe[1], Ashiqur Rahman[1,2], Jinguang Cai[3], Md. Akhtaruzzaman[4]	1. IMRAM, Tohoku Univ., 2. American International Univ. Bangladesh, 3. China Acad. Eng. Phys., 4. Univ. Kebangsaan Malaysia
	29, June	2A803	15:40	16:00	Cobalt-based microfabrication using femtosecond laser pulse-induced thermochemical reduction of glyoxylic acid cobalt complex	*Mizue Mizoshiri[1], Kazuki Yamamoto[1], Hikaru Nakatani[1], Tomoji Ohishi[2]	1. Nagaoka University of Technology, 2. Shibaura Institute of Technology
	29, June	2A805	16:00	16:20	High-performance phthalonitrile polymer materials via vat photopolymerization	*Sergey Sergeevich Nechausov[1]	1. Lomonosov Moscow State University

A9	30, June	3A901	10:00	10:20	Micro Stirrer with Heater Mounted on SAW Actuator for High-speed Chemical Reaction	*Masatoshi Takahashi[1], Yuichi Utsumi[1], Akinobu Yamaguchi[1], Masahiro Takeo[2], Satoshi Amaya[3], Hiroaki Sakamoto[4], Tsunemasa Saiki[5,6]	1. Laboratory of Advanced Science and Technology for Industry, University of Hyogo, 2. Department of Chemical Engineering, Graduate School of Engineering, University of Hyogo, 3. Department of Mechanical Engineering, Graduate School of Engineering, University of Tokyo, 4. Frontier Fiber Technology and Science, Graduate School of Engineering, University of Fukui, 5. Hyogo Prefectural Institute of Technology, 6. Department of Electronics and Computer Science, Graduate School of Engineering, University of Hyogo
	30, June	3A902	10:20	10:40	Impacts of Thermal Fluctuation on Opto-Electronic Properties of Microcrystalline Oligophenyleneethynylene Chains: An Analog of Crystalline Domains of Linear Coniugated Polymers	*Ysuke Hattori[1], Wakana Matsuda[1], Shu Seki[1]	1. Department of Molecular Engineering, Kyoto University
A10	30, June	3A1001	9:00	9:30	Revealing Interfacial Chemistry at Metal and Polyimide by Cutting-Edge Analytical Methods [Invited]	*Yugo Kubo[1]	1. Analysis Technology Research Center, Sumitomo Electric Industries, Ltd.
	30, June	3A1002	9:30	9:50	Patterning Strategies for High Density Packages for Diverse Applications [Invited]	*Sanjay Malik[1]	1. FUJIFILM ELECTRONIC MATERIALS U.S.A., Inc.
	30, June	3A1003	9:50	10:10	Novel temporary bonding/debonding system enabling advanced packaging process	*Tetsuya Enomoto[1], Emi Miyazawa[1], Yuta Akasu[1], Takashi Kawamori[1], Yuki Nakamura[2], Shogo Sobue[2]	1. Showa Denko Materials Co.,Ltd. Research & Innovation Promotion Headquarters, 2. Showa Denko Materials Co.,Ltd. Information & Communication Business Headquarters
	30, June	3A1004	10:10	10:30	Characterization of Polyimide based Photoimageable Dielectric Materials for Adhesive Bonding by Surface Modification and Chemical Mechanical Polishing	*Raj Sakamuri[1], Michaela Connell[1], Stephanie Dilocker[1], Eric Turner[1], Sanjay Malik[1]	1. Fujifilm Electronic Materials Inc
	30, June	3A1005	10:30	10:40	Coffee Break		
	30, June	3A1006	10:40	11:00	Highly stable flexible tactile pressure sensor array	*Haruki Nakamura[1], Seiji Wakabayashi[1], Satoko Honda[1], Takayuki Arie[1], Seiji Akita[1], Kuniharu Takei[1]	1. Osaka Prefecture University
	30, June	3A1007	11:00	11:20	“Stretchable and gas-impermeable packaging film for flexible battery using the liquid metal”	*Nyamjargal Ochirkhuyag[1], Satoru Mizuguchi[1], Yuuki Nishitai[1], Kazuhide Ueno[1], Hiroki Ota[1]	1. Yokohama National University
	30, June	3A1008	11:20	11:40	A breathable and stretchable sensor sheet design for wearable device	*YAN XUAN[1], Hyuga Hara[1], Satoko Honda[1], Yanpeng Li[1], Yusuke Fujita[1], Takayuki Arie[1], Seiji Akita[1], Kuniharu Takei[1]	1. Department of Physics and Electronics, Osaka Prefecture University
	30, June	3A1009	11:40	12:00	Transparent and breathable ion gel-based temperature and humidity selective sensors	*Yuji Isano[1], Hajime Fujita[2], Koki Murakami[1], Sijie Ni[1], Yuta Kurotaki[1], Tamami Takano[1], Yutaka Isoda[1], Ryosuke Matsuda[1], Fumika Nakamura[1], Yuuki Nishitai[1], Nyamjargal Ochirkhuyag[1], Kota Inoue[1], Hiroki Kawakami[1], Yusuke Okubo[3], Kazuhide Ueno[1], Toshinori Fujie[2], Hiroki Ota[1]	1. Yokohama National University, 2. Tokyo Institute of Technology, 3. National Institute of Health Science
	30, June	3A1010	13:00	13:30	Material for Microelectronics Packaging Development Trends from Patents analysis [Invited]	*Masao Tomikawa[1]	1. Toray Industries Inc.
	30, June	3A1011	13:30	13:50	Low Transmission Loss Cu Wirings with Smooth Seed Layer and High Adhesion against Prepregs	*Kazue Hirano[1]	1. Showa Denko Materials Co.,Ltd.

	30, June	3A1012	13:50	14:10	Negative photo-definable polyimide dry films for fine and high aspect ratio patterning	*Keigo Kato[1], Yoshiko Tatsuta[1], Kazuyuki Matsumura[1], Akira Shimada[1]	1. Toray Industries, Inc.
	30, June	3A1013	14:10	14:40	Thin film polymers for advanced packaging – improved material properties in new applications [Invited]	*Markus Woehrmann[1], Michael Schiffer[1], Martin Schneider–Ramelow[2]	1. Fraunhofer IZM, 2. Technical University of Berlin
A11	28, June	1A1101	13:00	13:20	Visible–Light Sensitive Reworkable Resins for Dental Application	*Haruyuki Okamura[1], Yuka Iwamoto[1], Hitoshi Kawanabe[2]	1. Osaka Pref. Univ., 2. Ohu Univ.
	28, June	1A1102	13:20	13:40	Photo–degradation of Di– and Tri–functional Oxime Ethers Bearing Polyphthalaldehydes Arms	*Kanji Suyama[1], Hirokazu Hayashi[2], Hideki Tachi[2]	1. Osaka Metropolitan Univ., 2. Osaka Research Institute of Industrial Science and Technology (ORIST)
	28, June	1A1103	13:40	14:00	Unimolecular benzodioxole–based photoinitiators for free radical and cationic photopolymerization under LED light irradiation	Mengqi Li[1], Peng Hu[1], Junzhe Zhu[1], Ren Liu[1], *Zhiquan Li[2]	1. Jiangnan University, 2. Guangdong University of Technology
A12	28, June	1A1201	10:00	10:30	Modulating Crystal Packing of Fused–Ring Electron Acceptor to Achieve High Photovoltaic Performance [invited]	*Yanming Sun[1]	1. Beihang University
	28, June	1A1202	10:30	11:00	Controls of Molecular Orientations in Organic Solar Cells [invited]	Fengkun Chen[1], Kyohei Nakano[1], Yumiko Kaji[1], *Keisuke Tajima[1]	1. RIKEN CEMS
	28, June	1A1203	11:00	11:20	Synthesis, Properties and Application of New Terminal Units for Nonfullerene Acceptor with P3HT based Organic Solar Cells	*SHREYAM CHATTERJEE[1], YUTAKA IE[1]	1. Institute of Scientific and Industrial Research (SANKEN), Osaka University, Japan
	28, June	1A1204	11:20	11:30	Coffee Break		
	28, June	1A1205	11:30	12:00	Charge Collection Materials for Efficient Perovskite Solar Cells [invited]	*Atsushi Wakamiya[1], Tsukasa Funasaki[1], Shuai Feng Hu[1], Truong Minh Anh[1], Kaneko Ryuji[1], Ohashi Noboru[1], Tomoya Nakamura[1], Richard Murdey[1]	1. Kyoto University
	28, June	1A1206	12:00	12:30	Synthesis, optical property and photoexcited carrier dynamics of phase stable and less–defect perovskite nanocrystals for application in solar cells [invited]	*Qing Shen[1], Chao Ding[1]	1. The University of Electro–Communications
	28, June	1A1207	12:30	13:00	Efficient and scalable all–perovskite tandem solar cells [invited]	*Hairen Tan[1]	1. Nanjing University
	28, June	1A1208	14:00	14:30	Material Design for Stretchable Polymer Solar Cells [invited]	*Bumjoon Kim[1]	1. KAIST
	28, June	1A1209	14:30	15:00	Effect of UV–light irradiation on charge–accumulation states in PTzBT polymer solar cells [invited]	Dong Xue[1], *Kazuhiro Marumoto[1,2]	1. Division of Materials Science, University of Tsukuba, 2. Tsukuba Research Center for Energy Materials Science (TREMS), University of Tsukuba
	28, June	1A1210	15:00	15:20	Exciton Dynamics of Fused Ring Conjugated Molecule Based on Dithienonaphthobisthiadiazole	*Yuki Sato[1], Tsubasa Mikie[2], Hiroya Yamada[1], Itaru Osaka[2], Hideo Ohkita[1]	1. Kyoto University, 2. Hiroshima University
	28, June	1A1211	15:20	15:30	Coffee Break		
	28, June	1A1212	15:30	16:00	Back–Contact Perovskite Solar Cells [invited]	*Udo Bach[1]	1. Monash University, ARC Centre of Excellence in Exciton Science, Department of Chemical and Biological Engineering
	28, June	1A1213	16:00	16:30	By passing wires – Monolithic Integrated Devices for Solar Driven Hydrogen Production and Solar Batteries [invited]	*Anita Ho–Baillie[1]	1. The University of Sydney
	28, June	1A1214	16:30	17:00	Metal halide perovskite nanocrystals: optical property and stability [invited]	*Yasuhiro Tachibana[1]	1. RMIT University
	28, June	1A1215	17:00	17:10	Coffee Break		

	28, June	1A1216	17:10	17:40	Electron injection and collection barriers at organic/metal interface [invited]	*Hiroyuki Yoshida[1], Syun Fukushima[1]	1. Chiba University
	28, June	1A1217	17:40	18:10	Synthesis and Characterization of a Non-Conjugated Backbone Polymer Bearing [1]Benzothieno[3,2-b][1]benzothiophene with a Herringbone Packing Motif [invited]	Kakaraparthi Kranthiraja[1], Mayuka Nomura[1], Fumitaka Ishiwari[1], *Akinori Saeki[1]	1. Osaka University
	28, June	1A1218	18:10	18:30	Impact of Backbone Linkage Pattern on the Structural Order and Photovoltaic Properties in Thiazole-Based Polymers	*Yoshikazu Teshima[1], Masahiko Saito[1], Tsubasa Miki[1], Itaru Osaka[1]	1. Hiroshima Univ.
A13	29, June	2A1301	9:00	9:30	Nature-Friendly Processes for Creating Functional Materials/Surfaces [Keynote Lecture]	*ATSUSHI HOZUMI[1]	1. AIST
	29, June	2A1302	9:30	9:55	Fabrication of polymeric film with nano-pillar array to mimic 3D nanostructures on cicada wing [invited]	*Takeshi Ito[1], Natsuki Ogawa[1], Kodai Sato[1], Tomohiro Shimizu[1], Shoso Shingubara[1], Hioaki Kojima[2], Hitoshi Ishiguro[3]	1. Kansai University, 2. National Institute of Information and Communication Technology, 3. Kanagawa Institute of Industrial Science and Technology
	29, June	2A1303	9:55	10:15	Surface Characterization Tool for Marine Fouling by Cypris-immobilized Scanning Probe Microscopy	*Motoyasu Kobayashi[1], Ryota Satoh[1]	1. Kogakuin University
	29, June	2A1304	10:15	10:25	Coffee Break		
	29, June	2A1305	10:25	10:45	Fabrication of glass microchannels using plant roots and nematodes	*Tetsuro Koga[1], Fujio Tsumori[1]	1. Kyushu University
	29, June	2A1306	10:45	11:05	Biomimetic wave propagation in magnetic soft actuator	*Fujio Tsumori[1], Hayato Shinoda[1]	1. Kyushu University
	29, June	2A1307	11:05	11:25	Development of Bile Duct Stent with Antifouling Property Using Atmospheric Pressure Low-Temperature Plasma	*Masashi Yamamoto[1], Tomoyuki Hamasaki[1], Atsushi Sekiguchi[2,3], Hiroko Minami[3], Masayasu Aikawa[4], Hideo Horibe[5]	1. National Institute of Technology, Kagawa College, 2. Osaka Prefecture University, 3. Litho Tech Japan Corporation, 4. Saitama Medical University International Medical Center, 5. Osaka City University
	29, June	2A1308	13:00	13:20	Developing an endoscope lens with anti-fogging and anti-fouling properties using nanoparticle materials	*Atsushi Sekiguchi[1], Atsushi Sekiguchi[2], Hiroko Minami[1]	1. Litho Tech Japan Corporation, 2. Osaka Prefecture University
	29, June	2A1309	13:20	13:40	Adhesion Probability of Droplets onto Structured Surface	*Hiroyuki Mayama[1]	1. Department of Chemistry, Asahikawa Medical University
	29, June	2A1310	13:40	14:00	Growth behaviors of marine benthic diatoms on the surfaces with micro dimple arrays	*Takayuki Murosaki[1], Taiki Kishigami[2], Yasuyuki Nogata[3], Yuji Hirai[4]	1. Department of Chemistry, Asahikawa Medical University, 2. Graduate School of Science and Engineering, Chitose Institute of Science and Technology, 3. Sustainable System Research Laboratory, Central Research Institute of Electric Power Industry, 4. Department of Applied Chemistry and Bioscience, Faculty of Science and Engineering, Chitose Institute of Science and Technology
	30, June	3A1401	13:00	13:20	Water-soluble bio-sourced resists for DUV lithography in a 200/300mm pilot line environment	*ARNAUD BAZIN[1], Alexandre Teolis[2], Isabelle Servin[1], Paule Durin[3], Olha Sysova[4], Didier Leonard[5], Olivier Soppera[4], Jean-Louis Leclercq[3], Yann Chevlot[3], Raluca Tiron[1], Stephane Trombotto[2]	1. Univ. Grenoble Alpes, 2. Univ. Claude Bernard Lyon, 3. Univ. Lyon, Institut des Nanotechnologies de Lyon, 4. Univ. de Haute-Alsace, 5. Univ. Lyon,

A14	30, June	3A1402	13:20	13:40	Evaluation of Surface-Enhanced Raman scattering substrate consisting of gold nanoparticles grown on nanoarrays of boehmite fabricated using magnetron sputtering process	*Taku Tanaka[1], Syunya Saegusa[1], Masayuki Naya[2,1], Takao Fukuoka[3,1], Yuichi Utsumi[1], Syo Amano[1], Akinobu Yamaguchi[1]	1. Laboratory of Advanced Science and Technology for Industry, University of Hyogo., 2. Keio University, 3. Kyoto University
	30, June	3A1403	13:40	14:00	Determination of radiation dose leading to molecular chain destruction of amino acids	*Shunya Saegusa[1], Ryo Nakamura[1], Naoya Akamatsu[1], Yuichi Utsumi[1], Tomoko Ishihara[2], Masaki Oura[3], Akinobu Yamaguchi[1]	1. Laboratory of Advanced Science and Technology for Industry, University of Hyogo, 2. Japan Synchrotron Radiation Research Institute, 3. RIKEN SPring-8 Center
P1	30, June	3P101	14:00	16:00	Panel Symposium: "Beyond Sub-10 nm Lithography - From a Materials Design and Development Perspective -"	Dr. De Simone Danilo [1] Dr. Takanori Kawakami [2] Dr. Seiji Nagahara [3] Dr. Chandra Sarma [4] Prof. Takeo Watanabe [5]	1. IMEC, 2. JSR, 3. TEL, 4. Intel, 5. Univ. of Hyogo
CL	30, June	3CL01	16:10	16:30	Closing Remarks		

Symposia number	Symposium name
OP	Opening Remarks
S1	Plenary Lecture
A1	Next Generation Lithography, EB Lithography and Nanotechnology
A2	Nanobiotechnology
A3	Directed Self Assembly (DSA)
A4	Computational / Analytical Approach for Lithography Processes
A5	EUV Lithography
A6	Nanoimprint
A7	193 nm Lithography Extension and EUV HVM Readiness
A8	Photopolymers in 3-D Printing / Additive Manufacturing
A9	2D and Stimuli Responsive Materials for Electronics & Photonics
A10	Strategies and Materials for Advanced Packaging, Next Generation MEMS, Flexible Devices
A11	Chemistry for Advanced Photopolymer Science
A12	Organic and Hybrid Materials for Photovoltaic and Optoelectronic Devices
A13	Fundamentals and Applications of Biomimetics Materials and Processes
A14	General Scopes of Photopolymer Science and Technology
P1	Panel Symposium
CL	Closing Remarks