

<http://www.spst-photopolymer.org>

Final Edition

ICPST-37

Scientific Program

**The 37th International Conference of
Photopolymer Science and Technology**

**Materials & Processes for
Advanced Microlithography, Nanotechnology
and Phototechnology**

May 18-21, 2020

**International Conference Hall
Makuhari Messe, Chiba, Japan**

(5 minutes walk from JR Kaihin Makuhari Station)

**Sponsored and Organized by
The Society of Photopolymer Science and Technology (SPST)**

In Cooperation with
The Technical Association of Photopolymer, Japan
The Chemical Society of Japan
The Society of Polymer Science, Japan
Chiba University
Endorsed by
The Japan Society of Applied Physics

International Conference Schedule

May 18 (Monday) Registration 15:00-17:00 (Room D)

May 18 (Monday) Registration and Welcome Reception 17:00-19:00 (Room D)

	May 19 Tuesday	May 20 Wednesday	May 21 Thursday
Lobby	Registration 9:00-17:00	Registration 9:00-17:00	Registration 9:00-15:00
Room A	Opening Session Plenary Session EUV Lithography Computational / Analysis Approach For Lithography p.3	EUV Lithography Photopolymers in 3-D Printing/Additive Manufacturing Strategies and Materials for Advanced Packaging, Next Generation MEMS PST Award Ceremony p.11	EUV Lithography Directed Self Assembly (DSA) Closing Session p.16
Room B	Flexible Packaging Advanced Materials for Photonic / Electronic Device and Technology Panel Symposium p.5	Organic and Hybrid Solar Cells – Materials, Device Physics, and Processes Fundamentals and Applications of Biomimetics Materials and Processes p.14	Fundamentals and Applications of Biomimetics Materials and Processes Nanoimprint Lithography Chemistry for Advanced Photopolymer Science p.18
Room C	Organic and Hybrid Solar Cells – Materials, Device Physics, and Processes p.8	光機能性デバイス材料 Japanese Symposium: Photofunctional Materials for Electronic Devices p.21	ポリイミド及び 高温耐熱樹脂- 機能化と応用 Japanese Symposium: Polyimides and High Temperature Polymers -Functionalization and Practical Applications- p.24
Room D	Nanobiotechnology p.9	プラズマ光化学 と高分子表面 機能化 Japanese Symposium: Plasma Photochemistry and Functionalization of Polymer Surface レジスト除去技術 Japanese Symposium: Resist Removal Technology p.22	一般講演 Japanese Symposium: General Scopes of Photopolymer Science and Technology p.26

May 19, Tuesday

Room A (Room 301)

English Symposia: Materials & Processes for Advanced Microlithography, Nanotechnology and Phototechnology

Opening Session

9:30-9:45

Chairperson: Minoru Tsuda, Conference Chair of ICPST-37

Published
conference
paper

Opening Remarks

Takeo Watanabe, Symposium Chair of EUV Lithography, the Symposium of most contributing to Journal of Photopolymer Science and Technology, **32** (2019)

Overview of Scientific Program ICPST-37

Masayuki Endo, Chairperson of the Program Committee ICPST-37

Plenary Session

9:45-10:35

Chairpersons: Takeo Watanabe, University Hyogo and Tomoki Nagai, JSR

(9:45-10:35)

Plenary Lecture A-1 Development of Materials Informatics Platform

Yasumitsu Orii, Hiroyuki Toda, Shuichi Hirose, Masakazu Kobayashi, NAGASE

10:35-10:45

Break

EUV Lithography

10:45-12:10

Chairpersons: Taku Hirayama, HOYA and Patrick Naulleau, LBNL

(10:45-11:30)

Keynote Lecture A-2 What We Learn from the EUVL History and Prospect for EUVL in the Future

Takeo Watanabe, Center for EUVL, Laboratory of Advanced Science and Technology for Industry, University of Hyogo

(11:30-11:50)

A-3 Update of Development Progress of the High Power LPP-EUV Light Source Using a Magnetic Field

Koichiro Kouge, Shinji Nagai, Tsukasa Hori, Yoshifui Ueno, Tatsuya Yanagida, Kenichi Miyao, Hideyuki Hayashi, Yukio Watanabe, Tamotsu Abe, Hiroaki Nakarai, Takashi Saito, and Hakaru Mizoguchi, Gigaphoton

33 (1) 37

(11:50-12:10)

A-4 Progress towards High-EUV Photoresists

Jara Garcia Santaclara, Rik Hoefnagels, and Gijsbert Rispens, ASML

12:10-13:10

Lunch

Continue to the following page

English Symposia: Materials & Processes for Advanced Microlithography, Nanotechnology and Phototechnology

- 13:10-14:50 Chairpersons: Hiroaki Oizumi, Gigaphoton and Gergory Denbaux, SUNY Polytechnic Institute
- (13:10-13:40) **A-5** Novel EUV Resist Materials - The Quest for Low-Noise, High-Contrast Resists [Invited] (30 min.)
Florian Gstrein, Intel Corporation, Components Research
- (13:40-14:00) **A-6** Monolayer Lithography? Exploiting Inhibition Contrast from the Extreme Ultraviolet Photoirradiation of Organic Monolayers for Area Selective Deposition
Rudy J Wojtecki, Noel Arellano, Holt Bui, Charles Rettner, Hoa Truong, and Alexander Friz, IBM Research
- (14:00-14:20) **A-7** Higher Sensitive Extreme Ultraviolet (EUV) Resist Material Based on the Oligomer Containing Fixed Hole **33 (1) 45**
Hiroto Kudo (1), ○Hiroyuki Maekawa (1), Takeo Watanabe (2), Hiroki Yamamoto (3), Kazumasa Okamoto (4), and Takahiro Kozawa (4), (1) Kansai University, (2) University of Hyogo, (3) National Institutes for Quantum and Radiological Science and Technology, (4) Osaka University
- (14:20-14:50) **A-8** Fundamental Study on Lithographic Characteristics of Metal-oxo Clusters for EUV lithography [Invited] (30 min.)
Hiroki Yamamoto (1), Takahiro Kozawa (2), and Yasunari Maekawa (1), (1) National Institutes for Quantum and Radiological Science and Radiological Science and Technology (QST), (2) Osaka University
- 14:50-15:00 Break
- *Computational /Analysis Approach For Lithography***
- 15:00-18:05 Chairpersons: Sander Wuister, ASML research and Takahiro Kozawa, Osaka University
- (15:00-15:45) **Keynote Lecture A-9** EUV Resist Stochastics: Model and Experiments
Sander Wuister, ASML research
- (15:45-16:15) **A-10** Mitigating Stochastic Effects in EUV Lithography: Fast Prediction of Stochastic Defects Through Simulation [Invited] (30 min.)
Hironobu Taoka, Silicon Engineering Group, Nihon Synopsys G.K.
- (16:15-16:45) **A-11** Theoretical Study of Relationship between Stochastic Defect Generation and Protected Unit Fluctuation in Chemically Amplified Extreme Ultraviolet Resists [Invited] (30 min.)
Takahiro Kozawa, Osaka University
- (16:45-17:15) **A-12** Stochastic Simulation of Pattern Formation for Negative-Type Chemically Amplified Resists in Extreme Ultraviolet Lithography [Invited] (30 min.) **33 (1) 53**
Masaaki Yasuda, Masanori Koyama, Kyohei Imai, Masamitsu Shirai, Hiroaki Kawata, Yoshihiko Hirai, Osaka Prefecture University
- (17:15-17:45) **A-13** Application of Simulated Annealing Technique to Self-Assembly of Block Copolymers [Invited] (30 min.)
Kenji Yoshimoto, Toray
- (17:45-18:05) **A-14** Computational Study of the Focus Monitoring with Sub-wavelength Grating in Optical Lithography **33 (1) 57**
Takashi Yuito, Masaru Sasago, Yoshihiko Hirai, Osaka Prefecture University
- 18:05-18:10 Break
- 18:10-20:00 **Panel Symposium in English: "EUV Lithography toward 10 nm and below" at Room B (Room 302)**

Flexible Packaging

10:45-11:50 Chairpersons: Kuniharu Takei, Osaka Prefecture University and Sanjay Malik, FUJIFILM Electronic Materials

(10:45-11:10) **A-15** Development of the Hydrogel-Based Biosensor for Sweat Analysis [Invited] (25 min.)

Kuniaki Nagamine, Hiroyuki Matsui, Shizuo Tokito, Yamagata University

(11:10-11:30) **A-16** Flexible Glucose Sensor Integrated with a Sweat Circulation Channel
Shota Hozumi (1), Takayuki Arie (1), Seiji Akita (1), Kuniharu Takei (1,2), (1) Osaka Prefecture University, (2) JST PRESTO

(11:30-11:50) **A-17** Flexible CCD-Based pH Sensor System

Yusuke Fujita (1), Mao Shiomi (1), Takayuki Arie (1), Seiji Akita (1), Kuniharu Takei (1,2), (1) Osaka Prefecture University, (2) JST PRESTO

11:50-12:35 Lunch

12:35-13:45 Chairpersons: Kuniharu Takei, Osaka Prefecture University and Sanjay Malik, FUJIFILM Electronic Materials

(12:35-13:00) **A-18** 3D Printed Flexible Smart Devices for Healthcare and Medical Applications [Invited] (25 min.)

Hiroki Ota, Yokohama National University

(13:00-13:25) **A-19** Stretchable Electronic Devices Using Non-Stretchable Components [Invited] (25 min.)

Eiji Iwase, Waseda University

(13:25-13:45) **A-20** Observation of Flow Distributions Over Curved Surfaces by a Macroscale Flexible Flow Sensor Array

Kaichen Xu (1), Takahiro Uchiyama (2), Hiroki Ura (2), Hiroyuki Kato (2), Yuyao Lu (1), Takayuki Arie (1), Seiji Akita (1), Kuniharu Takei (1,3), (1) Osaka Prefecture University, (2) Japan Aerospace Exploration Agency, (3) JST PRESTO

13:45-13:50 Break

Advanced Materials for Photonic / Electronic Device and Technology

13:50-15:00 Chairperson: Tsuneaki Sakurai, Kyoto University and Takashi Yamashita, Tokyo University of Technology

(13:50-14:10) **A-21** Photomechanical Behaviors of Azobenzene-based Amorphous Molecular Materials: Photoinduced Structural Changes of Amorphous Films of 4-[Bis(9,9-dimethylfluoren-2-yl)amino]azobenzene Analogues Fabricated on the Surface of Agar Gel **33 (1) 63**

Ayame Kitano, ○Hideyuki Nakano, Muroran Institute of Technology

(14:10-14:30) **A-22** Green-light-sensitive Spheres **33 (1) 67**

Ikue Abe (2), Kazunori Matsuura (2), Mitsuo Hara (3), Takahiro Seki (3), ○Mina Han (1), (1) Kongju National University, (2) Tottori University, (3) Nagoya University

(14:30-15:00) **A-23** Membrane Deformation by Photo-responsive Amphiphiles [Invited] (30 min.)

Takahiro Muraoka (1), Yunosuke Ryu (1), Norihisa Hoshino (2), Tomoyuki Akutagawa (2), Naofumi Shimokawa (3), Masahiro Takagi (3), (1) Tokyo University of Agriculture and Technology, (2) Tohoku University, (3) JAIST

May 19, Tuesday

Room B (Room 302)

English Symposia: Materials & Processes for Advanced Microlithography, Nanotechnology and Phototechnology

- 15:00-16:30 Chairpersons: Hideyuki Nakano, Muroran Institute of Technology and Takahiro Muraoka, Tokyo University of Agriculture and Technology
- (15:00-15:20) **A-24** Thermal Response Behavior of a Photo-Crosslinked Liquid Crystalline Polymer and a Side Chain Liquid Crystalline Polymer **33 (1) 71**
Ryoma Amanuma, Ayumi Kobayashi, Kohei Iritani, Takashi Yamashita, Tokyo University of Technology
- (15:20-15:40) **A-25** Optical Limiting based on Nonlinear Optical Effect of Dye-doped Liquid Crystals Triggered by Collimated Laser Beam **33 (1) 77**
Kohsuke Matsumoto (1,2), Koji Usui (1,2), Norihisa Akamatsu (1,2), Atsushi Shishido (1,2), (1) Laboratory for Chemistry and Life Science, Tokyo Institute of Technology, (2) School of Materials and Chemical Technology, Tokyo Institute of Technology
- (15:40-16:00) **A-26** Out-of-plane Strain Measurement of a Silicone Elastomer by means of a Cholesteric Liquid Crystal Sensor **33 (1) 81**
Masayuki Kishino (1,2), Norihisa Akamatsu (1,2), Ryo Taguchi (1,2), Kohei Kuwahara (1,2), Kyohei Hisano (3), Osamu Tsutsumi (3), Atsushi Shishido (1,2), (1) Laboratory for Chemistry and Life Science, Tokyo Institute of Technology, (2) School of Materials and Chemical Technology, Tokyo Institute of Technology, (3) Ritsumeikan University
- (16:00-16:30) **A-27** Synthetic Strategy of Two-Dimensional Polymers at the Air/Water Interface Using Modifiable Intermediate for Their Application [Invited] (30 min.)
Kohei Iritani, Ayami Ota, Takashi Yamashita, Tokyo University of Technology
- 16:30-16:40 Break
- 16:40-18:00 Chairpersons: Atsushi Shishido, Tokyo Institute of Technology and Kohei Iritani, Tokyo University of Technology
- (16:40-17:00) **A-28** Photo-induced Basicity Control of a DBU-Diarylethene Complex **33 (1) 85**
Keijirou Ikuta (1), Kohei Iritani (1), Ayumi Kobayashi (1), Atsushi Shiraishi (2), Takashi Yamashita (1), (1) Tokyo University of Technology, (2) San-Apro
- (17:00-17:20) **A-29** Photolysis Mechanism of Quaternary Amidinium Salts
Atsushi Shiraishi (1), Takashi Yamashita (2), (1) San-Apro, (2) Tokyo University of Technology
- (17:20-17:40) **A-30** Cationic Electrodeposition of Solvent-Soluble Polyimide with Pendant Dimethylamino Groups and Evaluation of Their Thermostability **33 (5) 479**
Ayumi Kobayashi (1), Kohei Iritani (1), Seiji Bando (2), ○ Takashi Yamashita (1), (1) Tokyo University of Technology, (2) Sumitomo Seika Chemicals
- (17:40-18:00) **A-31** Highly Efficient Solid-state Intra-track Polymerization of Ethynyl-substituted Spirobifluorenes Triggered by Swift Heavy Ion Irradiations **33 (1) 91**
Shugo Sakaguchi (1), Tsuneaki Sakurai (1), Akira Idesaki (2), Hiroshi Koshikawa (2), Masaki Sugimoto (2), Shu Seki (1), (1) Department of Molecular Engineering, Kyoto University, (2) Takasaki Advanced Radiation Research Institute, National Institutes for Quantum and Radiological Science and Technology
- 18:00-18:10 Break

Continue to the following page

May 19, Tuesday

Room B (Room 302)

English Symposia: Materials & Processes for Advanced Microlithography, Nanotechnology and Phototechnology

Panel Symposium in English: “EUV Lithography toward 10 nm and below”

18:10-20:00 Chairperson: Takeo Watanabe, University of Hyogo

Panel Symposium: “EUV Lithography toward 10 nm and below”

Panelist: TBA

May 19, Tuesday

Room C (Room 303)

English Symposia: Materials & Processes for Advanced Microlithography, Nanotechnology and Phototechnology

Organic and Hybrid Solar Cells – Materials, Device Physics, and Processes

- 13:00-15:10 Chairpersons: Itaru Osaka, Hiroshima University and Seiichiro Izawa, Institute for Molecular Science
- (13:00-13:30) **A-32** Achieving Non-Fullerene Organic Solar Cells with Over 17% Efficiency [Invited] (30 min.)
He Yan, Hong Kong University of Science and Technology
- (13:30-14:00) **A-33** Free Charge Energy and Charge Dissociation Barrier for Organic Solar Cells [Invited] (30 min.)
Hiroyuki Yoshida (1,2), Kosuke Terado (1), Ai Sugie (1), Hiroyuki Ichikawa (1), (1) Chiba University, (2) Molecular Chirality Research Center
- (14:30-14:30) **A-34** Analyses of PTzNTz Polymer Solar Cells Using ESR Spectroscopy **33 (1) 97**
[Invited] (30 min.)
Kazuhiro Marumoto (1,2), (1) Division of Materials Science, University of Tsukuba, (2) Tsukuba Research Center for Energy Materials Science (TREMS), University of Tsukuba
- (14:30-14:50) **A-35** Naphthalene-Based Electron-Deficient Building Units for π -Conjugated Polymers
Tsubasa Mikie, Itaru Osaka, Department of Applied Chemistry, Hiroshima University
- (14:50-15:10) **A-36** Photoconversion Mechanism at the *pn*-Homojunction Interface in Single Organic Semiconductor
Jihyun Lee (1,2), Armand Perrot (1,3), Masahiro Hiramoto (1,2), Seiichiro Izawa (1,2), (1) Institute for Molecular Science, (2) SOKENDAI (The Graduate University for Advanced Studies), (3) École nationale supérieure de chimie de Paris
- 15:10-15:25 Break
- 15:25-17:15 Chairpersons: Hideo Ohkita, Kyoto University and Toshinori Matsushima, University of Tsukuba
- (15:25-15:55) **A-37** Semiconductor Nanocrystal Solar Cells Developed by Time-Resolved Laser Spectroscopy [Invited] (30 min.)
Yasuhiro Tachibana, RMIT University
- (15:55-16:25) **A-38** Phase Stable and Less-Defect Perovskite Quantum Dots: Optical Property, Photoexcited Carrier Dynamics, and Application to Solar Cells [Invited] (30 min.)
Qing Shen (1), Feng Liu (1), Chao Ding (1), Yaohong Zhang (1), Taro Toyoda (1), Shuzi Hayase (2), (1) Faculty of Informatics and Engineering, The University of Electro-Communications, (2) Info-Powered Energy System Research Center (i-PERC), The University of Electro-Communications
- (16:25-16:55) **A-39** Reducing Burn-In Loss in Organic Photovoltaics by Enhancing the Morphological and Interfacial Stability [Invited] (30 min.)
Seung Hee Han, O Kyungkon Kim, Ewha Womans University
- (16:55-17:15) **A-40** Efficient Light Trapping Structures for Organic Photovoltaics **33 (1) 103**
Fabricated by Nanoimprint Lithography
Shigeru Kubota (1), Kenta Hiraga (1), Kensaku Kanomata (1), Bashir Ahmmad (1), Jun Mizuno (2), and Fumihiko Hirose (1), (1) Yamagata University, (2) Waseda University
- 17:15-18:10 Break
- 18:10-20:00 **Panel Symposium in English: “EUV Lithography toward 10 nm and below” at Room B (Room 302)**

May 19, Tuesday

Room D (Room 304)

English Symposia: Materials & Processes for Advanced Microlithography, Nanotechnology and Phototechnology

Nanobiotechnology

- 13:00-15:05 Chairpersons: Kyohei Okubo, Tokyo University of Science and Takanori Ichiki, The University of Tokyo
- (13:00-13:25) **A-41** The Design of Stimuli-responsive Materials for Diagnostic and Therapeutic Applications [Invited] (25 min.)
Yuki Hiruta, Keio University
- (13:25-13:50) **A-42** Design Strategy of Polymeric Micelles Invading Intractable Tumors with Low Permeability [Invited] (25 min.)
Yuki Mochida, Kawasaki Institute of Industrial Promotion
- (13:50-14:15) **A-43** Biomimetic Structural Color Materials based on Artificial Melanin Particles [Invited] (25 min.) **33 (1) 111**
Michinari Kohri, Chiba University
- (14:15-14:40) **A-44** Cationic Amphiphilic Polymer Development for Gene Editing-Mediated Local Therapy [Invited] (25 min.)
Hyun Jin Kim (1), Satomi Ogura (2), Jongmin, Yum (2), Mitsuru Naito (1), Kanjiro Miyata (2), (1) Center for Disease Biology and Integrative Medicine, Graduate School of Medicine, University of Tokyo, (2) Department of Materials Engineering, Graduate School of Engineering, University of Tokyo
- (14:40-15:05) **A-45** Development of Molecular Imaging Probe for Dual NIR/MR Imaging [Invited] (25 min.) **33 (1) 117**
Doan Thi Kim Dung (1,4), Masakazu Umezawa (2), Karina Nigoghossian (2), Gil Yeroslavsky (3), Kyohei Okubo (2,3), Masao Kamimura (2,3), Masayuki Yamaguchi (4), Hirofumi Fujii (4), and Kohei Soga (1,2,3), (1) Research Institute of Biomedical Science, Tokyo University of Science, (2) Department of Material Science and Technology, Tokyo University of Science, (3) Imaging Frontier Center (IFC), Research Institute for Science and Technology (RIST), Tokyo University of Science, (4) Exploratory Oncology Research & Clinical Trial Center, National Cancer Center Hospital East
- 15:05-15:20 Break

Continue to the following page

May 19, Tuesday

Room D (Room 304)

English Symposia: Materials & Processes for Advanced Microlithography, Nanotechnology and Phototechnology

- 15:20-17:35 Chairpersons: Yuki Mochida, Innovation Center of NanoMedicine, Kawasaki Institute of Industrial Promotion and Hyun Jin Kim, The University of Tokyo
- (15:20-15:45) **A-46** Tissue Adhesive Properties of Functionalized Chitosan: A Comparative Study of Phenol, Catechol and Gallol [Invited] (25 min.) **33** (1) 123
Yasushi Hino, ○Hirotaka Ejima, The University of Tokyo
- (15:45-16:10) **A-47** Regulation of Stem Cell Behavior by Photo-Crosslinking Peptide Nanofibrous Hydrogels [Invited] (25 min.)
Toru Yoshitomi, National Institute for Materials Science (NIMS)
- (16:10-16:35) **A-48** Three-Dimensional Imaging of Over-1000-Nanometer Near-Infrared Fluorescence by Sheet-Laser Excitation [Invited] (25 min.)
Masakazu Umezawa, Masao Kamimura, Kohei Soga, Tokyo University of Science
- (16:35-16:55) **A-49** Development of Rare-Earth Based Polymer Sheet for Near-Infrared Strain Sensing **33** (1) 129
Kyohei Okubo (1), Gil Yeroslavsky (1), Karina Nigoghossian (1), Doan Thi Kim Dung (1,2), Masakazu Umezawa (1), Masao Kamimura (1) and Kohei Soga (1,2), (1) Department of Materials Science and Technology, Tokyo University of Science, (2) Research Institute of Biological Sciences, Tokyo University of Science
- (16:55-17:15) **A-50** Chemical Etching Treatment of Poly(dimethylsiloxane) for Smoothing Microchannel Surface **33** (5) 485
Sylvan S. Koyagura (1), Hiroaki Takehara (1,2), Takanori Ichiki (1,2), (1) The University of Tokyo, (2) Innovation Center of NanoMedicine (iCONM)
- (17:15-17:35) **A-51** Fabrication of Microchannels Integrated with Polymer Nanofiber Membrane towards Organ-on-a-chip Technology
Afraz Khan (1), Yuki Hadano (1), Hiroaki Takehara (1,2), Takanori Ichiki (1,2), (1) The University of Tokyo, (2) Innovation Center of NanoMedicine (iCONM)
- 17:35-18:10 Break
- 18:10-20:00 **Panel Symposium in English: “EUV Lithography toward 10 nm and below” at Room B (Room 302)**

EUV Lithography

- 9:00-11:10 Chairpersons: Hiroto Kudo, Kansai University and Danilo De Simone, IMEC
 (9:00-9:30) **A-52** How to Improve 'Chemical Stochastic'? [Invited] (30 min.)
 Toru Fujimori, FUJIFILM
- (9:30-9:50) **A-53** Analysis of Chemical Contents Spatial Distribution in EUV Resist **33 (5) 491**
 Using Resonant Soft X-ray Scattering Method
 Jun Tanaka, Takuma Ishiguro, Tetsuo Harada, and Takeo Watanabe, Center
 for EUVL, Laboratory of Advanced Science and Technology for Industry,
 University of Hyogo
- (9:50-10:20) **A-54** Understanding EUV Resist Stochastics Effects through Surface
 Roughness Measurements [Invited] (30 min.)
 Greg Denbeaux, Amir Hegazy, Eric Liu, Hyeonseon Choi, Belle Antonovich,
 and Robert Brainard, College of Nanoscale Science and Engineering, SUNY
 Polytechnic Institute
- (10:20-10:40) **A-55** Predicting Extreme CD Events Using Exposure Latitude
 Luke Long (1), Andrew Neureuther (2), and Patrick Naulleau (3), (1)
 Department of Physics, University of California - Berkeley; Center of X-ray
 Optics, LBNL, (2) Department of Electrical Engineering and Computer
 Science, University of California - Berkeley; Center of X-ray Optics, LBNL,
 (3) Center of X-ray Optics, LBNL
- (10:40-11:10) **A-56** Developer and Rinse Solutions for EUV Lithography [Invited] (30
 min.)
 Julius J. Santillan (1), Masahiko Harumoto (2), Harold Stokes (3), Chisayo
 Mori (2), Yuji Tanaka (2), You Arisawa (2), Tomohiro Motono (2), Masaya
 Asai (1), and Toshiro Itani (1), (1) Osaka University, (2) SCREEN
 Semiconductor Solutions, (3) SCREEN SPE Germany
- 11:10-11:20 Break
- 11:20-13:20 Chairpersons: Taku Hirayama, HOYA and Anna Lio, Intel Corporation
 (11:20-11:50) **A-57** Understanding of Interactive Behaviors between Resist Film and **33 (2) 139**
 Under-Layer [Invited] (30 min.)
 Hidetami Yaegashi (1), Arisa Hara (2), and Satoru Shimura (2), (1) Tokyo
 Electron, (2) Tokyo Electron Kyushu
- (11:50-12:20) **A-58** Exploring the Limits of Single-Expose EUV Patterning [Invited] (30
 min.)
 Nelson M. Felix, Anuja De Silva, Luciana Meli, Jennifer Church, Martin
 Burkhardt, and Romain Lallement, IBM Research
- (12:20-12:40) **A-59** Analytical Model of the Occupation Function of Low Energy
 Electrons in EUV Resists from Photoemission Studies
 Roberto Fallica (1), Stefano Nannarone (2), Marco Malvezzi (2), Seyed Javid
 Rezvani (2), and Danilo De Simone (1), (1) IMEC, (2) CNR-IOM synchrotron
 beamline BEAR
- (12:40-13:00) **A-60** Soft X-ray Absorption Spectroscopy of Inorganic EUV Photoresists **33 (2) 145**
 Najmeh Sadegh, Filippo Campi, Jarich Haitjema, Maarten van der Geest, Peter
 Kraus, Sonia C. Ortega, and Albert M. Brouwer, Advanced Research Center
 for Nanolithography (ARCNL)
- (13:00-13:20) **A-61** Photon-Induced Fragmentations of Zn-based Oxoclusters with **33 (2) 153**
 Application in EUV Lithography
 Neha Thakur (1), Alexandre Giuliani (2), Laurent Nahon (2), and Sonia
 Castellanos (1), (1) Advanced Research Center for Nanolithography
 (ARCNL), (2) Synchrotron SOLEIL
- 13:20-13:50 Lunch

Continue to the following page

Photopolymers in 3-D Printing/Additive Manufacturing

- 13:50-15:00 Chairpersons: Robert Allen, IBM and Akira Watanabe, Tohoku University
(13:50-14:20) **A-62** Additive Manufacturing of Polymer and Ceramic Structures at the Micrometer Scale [Invited] (30 min.)
Shoji Maruo, Yokohama National University
- (14:20-14:40) **A-63** Antenna Sensors Prepared by Laser Direct Writing Based on Graphene Hybrid Materials **33 (2) 159**
Akira Watanabe (1), Rahman Ashiqur (1,2), Jinguang Cai (3), Mohammad Aminuzzamand (4), (1) Tohoku University, (2) American International University Bangladesh, (3) China Academy of Engineering Physics, (4) Universiti Tunku Abdu Rahman (UTAR)
- (14:40-15:00) **A-64** Three-Dimensional Cu-Based Microfabrication Using Nonlinear Optical Absorption Induced Reductive Sintering of Cu₂O Nanospheres
Mizue Mizoshiri, Kien Vu Trung Nguyen, Atsushi Tanokuchi, Nagaoka University of Technology

15:00-15:10 Break

Strategies of Advanced Packaging, Next Generation MEMS

- 15:10-16:35 Chairpersons: Takumi Ueno, Shinshu University and Sanjay Malik, FUJIFILM Electronic Materials
(15:10-15:35) **A-65** Material and Process Solutions for Advanced Packaging [Invited] (25 min.)
Tomonori Minegishi, Hitachi Chemical
- (15:35-15:55) **A-66** Advanced Insulation Materials for Next Generation's Package [Invited]
Masahiro Karakawa, Ajinomoto
- (15:55-16:15) **A-67** Microprocessing for Semiconductor Package by DUV Excimer Laser **33 (5) 499**
Yasufumi Kawasuji, Akira Suwa, Masakazu Kobayashi, Junichi Fujimoto, Kouji Kakizaki, and Hakaru Mizoguchi, Gigaphoton
- (16:15-16:35) **A-68** Environmental Factors Impacting Organic Dielectric Reliability
Sanjay Malik, Michaela Connell, Alyssa Kelly, Stephanie Dilocker, FUJIFILM Electronic Materials U.S.A.
- 16:35-16:45 Break
- 16:45-17:45 Chairpersons: Sanjay Malik, FUJIFILM Electronic Materials, Tomonori Minegishi, Hitachi Chemical
(16:45-17:05) **A-69** Low Df Polyimide with Photosensitivity for High Frequency Applications **33 (2) 165**
Hitoshi Araki, Yohei Kiuchi, Akira Shimada, Hisashi Ogasawara, Masaya Jukei and Masao Tomikawa, Toray
- (17:05-17:25) **A-70** Reliability Simulation with the Finite Element Analysis (FEA) of Redistribution Layer in Fan-out Wafer Level Packaging (FOWLP) **33 (2) 171**
Yuji Okada (1), Atsushi Fujii (1), Kenta Ono (2), Yoshiharu Kariya (3), (1) Asahi Kasei, (2) Graduate School of Shibaura Institute of Technology, (3) Shibaura Institute of Technology
- (17:25-17:45) **A-71** Integration of an Advanced Photosensitive Polyimide with a Novel Nozzle-Less Spray Coating Technology
Stuart Erickson (1), Sanjay Malik (2), Ognian Dimov (2), Michaela Connell (2), (1) Ultrasonic Systems, (2) FUJIFILM Electronic Materials U.S.A.

17:45-17:55 Break

Continue to the following page

May 20, Wednesday

Room A (Room 301)

English Symposia: Materials & Processes for Advanced Microlithography, Nanotechnology and Phototechnology

PST Award Ceremony

17:55-18:10 Chairperson: Haruyuki Okamura, Osaka Prefecture University
Report on the Selection of the Photopolymer Science and Technology Award 2020
Minoru Tsuda, President of the Society of Photopolymer Science and Technology

The Photopolymer Science and Technology Award 201100, The Outstanding Achievement Award 2020

Masao Tomikawa, Toray

The Photopolymer Science and Technology Award 202100, The Best Paper Award 2020
Yukinori Yamauchi (1), Naoki Doi (2), Shin-ichi Kondo (2), Yasushi Sasai (2), and Masayuki Kuzuya (3), (1) Matsuyama University, (2) Gifu Pharmaceutical University, (3) Chubu Gakuin University

The Photopolymer Science and Technology Award 202200, The Best Paper Award 2020
Kevin Wylie, Yuta Nabaе, and Teruaki Hayakawa, Tokyo Institute of Technology

18:20-20:00 **Conference Banquet at Room E (Room 103, 1F)**

Organic and Hybrid Solar Cells – Materials, Device Physics, and Processes

- 9:00-10:50 Chairpersons: Hideo Ohkita, Kyoto University and Yasuhiro Tachibana, RMIT University
- (9:00-9:30) **A-72** New Processes and Applications of Halide Perovskite Photovoltaics [Invited] (30 min.)
Hao-Wu Lin, National Tsing Hua University
- (9:30-10:00) **A-73** Spray-Coating Technique for Perovskite Solar Cells Application [Invited] (30 min.)
Li-Hui Chou (1,2), Wei-Chieh Chang (1), Ding-Hung Lan (1), Yi-Shang Chou (1), An-Zhe Guo (1), Xiao-Feng Wang (3), Itaru Osaka (2), Cheng-Liang Liu (1,4), (1) Department of Chemical and Materials Engineering, National Central University, (2) Department of Applied Chemistry, Graduate School of Engineering, Hiroshima University, (3) Key Laboratory of Physics and Technology for Advanced Batteries (Ministry of Education), College of Physics, Jilin University, (4) Research Center of New Generation Light Driven Photovoltaic Modules, National Central University
- (10:00-10:30) **A-74** Clarifying Degradation Mechanisms of Hybrid Perovskite Solar Cells for Improved Operational Durability [Invited] (30 min.)
Toshinori Matsushima (1), Ganbaatar Tumen-Ulzii (2), Chuanjiang Qin (2), Chihaya Adachi (2), (1) International Institute for Carbon-Neutral Energy Research (I2CNER), Kyushu University, (2) Center for Organic Photonics and Electronics Research (OPERA), Kyushu University
- (10:30-10:50) **A-75** Development of Hole-Transporting Polymers Containing Partially Oxygen-Bridged Triphenylamine Skeleton and Their Application for Perovskite Solar Cells **33 (5) 505**
Minh Anh Truong, Anesh Gopal, Ruito Hashimoto, Tomoya Nakamura, Richard Murdey, Atsushi Wakamiya, Kyoto University
- 10:50-11:05 Break
- 11:05-12:25 Chairpersons: Itaru Osaka, Hiroshima University and Kazuhiro Marumoto, University of Tsukuba
- (11:05-11:35) **A-76** Conjugated Polymers Based on Novel Aromatic Heterocycles for High-Performance Polymer Solar cells [Invited] (30 min.)
Fei Huang, South China University of Technology
- (11:35-12:05) **A-77** Material Development to Reduce Open Circuit Voltage Loss in Organic Solar Cells [Invited] (30 min.)
Seiichiro Izawa (1), Keisuke Fujimoto (2), Masaki Takahashi (2), Masahiro Hiramoto (1), (1) Institute for Molecular Science, (2) Shizuoka University
- (12:05-12:25) **A-78** Nongeminate Charge Recombination in All Polymer Solar Cells with Different Crystallinities
Hyung Do Kim, Shinta Iwasaki, Tomohiro Fukuhara, Hideo Ohkita, Kyoto University
- 12:25-13:15 Lunch

May 20, Wednesday

Room B (Room 302)

English Symposia: Materials & Processes for Advanced Microlithography, Nanotechnology and Phototechnology

Fundamentals and Applications of Biomimetics Materials and Processes

- 13:15-15:10 Chairpersons: Tomoki Nishino, Ritsumeikan University, Atsushi Sekiguchi, Litho Tech Japan and Hiroyuki Mayama, Asahikawa Medical University
- (13:15-14:00) **Keynote Lecture A-79** Living Organisms under an Electron Microscope: the NanoSuit Method aiming for Medical and Industrial Application **33 (5) 517**
Takahiko Hariyama, Hamamatsu University School of Medicine
- (14:00-14:25) **A-80** Biomimetics for Sustainable Use of Marine Bioresources in Circular Economy [Invited] (25min.)
Shigeru Deguchi, Japan Agency for Marine-Earth Science and Technology (JAMSTEC)
- (14:25-14:50) **A-81** Bouncing Droplets [Invited] (25min.)
Hiroyuki Mayama, Asahikawa Medical University
- (14:50-15:10) **A-82** Optimizing Liquid Transport Velocity of Bioinspired Open-type Micro-blade Arrays **33 (2) 177**
Rikima Kuwada, Taro Yaeo, Tsubasa Kashima, Koji Muto, Daisuke Ishii, Nagoya Institute of Technology
- 15:10-15:20 Break
- 15:20-16:20 Chairpersons: Tomoki Nishino, Ritsumeikan University, Atsushi Sekiguchi, Litho Tech Japan and Hiroyuki Mayama, Asahikawa Medical University
- (15:20-15:40) **A-83** Evaluation of Water Repellent Model of Water Strider's Leg by using Middle Leg-rowing Force **33 (2) 185**
Kaoru Uesugi (1), Hiroyuki Mayama (2), Keisuke Morishima (1), (1) Osaka University, (2) Asahikawa Medical University
- (15:40-16:00) **A-84** Double-network Gel Actuator Dispersed with Magnetic Particles **33 (2) 193**
Shutaro Shigetomi (1), Fujio Tsumori (2), (1) Graduate School of Kyushu University, (2) Kyushu University
- (16:00-16:20) **A-85** Bio-mimic Hierarchical Micro-patterning by Imprint Process to Layered Sheet Material **33 (2) 199**
Kazuki Tokumaru (1), Tsuyoshi Miyata (1), Fujio Tsumori (2), (1) Graduate School of Kyushu University, (2) Kyushu University
- 16:20-16:30 Break
- 16:30-17:30 Chairpersons: Tomoki Nishino, Ritsumeikan University, Atsushi Sekiguchi, Litho Tech Japan and Hiroyuki Mayama, Asahikawa Medical University
- (16:30-16:50) **A-86** Study on Nanoimprinting Plant Structures with Super Water Repellency **33 (2) 205**
Atsushi Sekiguchi (1,2), Tomoki Nishino (2), Hiroshi Tanigawa (2), Hiroko Minami (1), Yoko Matsumoto (1), Hiroyuki Mayama (3), (1) Litho Tech Japan, (2) Ritsumeikan University, (3) Asahikawa Medical University
- (16:50-17:10) **A-87** The Relationship between Surface Functional Groups and Barnacle Settlement
Takayuki Murosaki (1), Yasuyuki Nogata (2), Ai Momose (3), Yuji Hirai (3), (1) Asahikawa Medical University, (2) Central Research Institute of Electric Power Industry, (3) Chitose Institute of Science and Technology
- (17:10-17:30) **A-88** Antifouling Effect on Measurement Target of Track Irregularity by Metamaterial Effect **33 (2) 215**
Risa Matsumoto (1), Kenichi Kuribayashi (1), Mizuho Okamoto (1), Akira Tanida (1), Hiroyoshi Tsujiie (1), Hiroyuki Mayama (2), Tomoki Nishino (3), (1) JR West Japan Consultants Company, (2) Asahikawa Medical University, (3) Ritsumeikan University
- 17:30-17:55 Break
- 17:55-18:10 ***PST Award Ceremony* at Room A (Room 301)**
- 18:20-20:00 **Conference Banquet at Room E (Room 103, 1F)**

EUV Lithography

- 9:00-10:30 Chairpersons: Takeo Watanabe, University of Hyogo, and Florian Gstrein, Intel Corporation
- (9:00-9:30) **A-89** Introduction to IMEC's AttoLab for Ultrafast Kinetics of EUV Exposure Processes and Ultra-Small Pitch Lithography [Invited] (30 min.)
John Petersen (1), Paul van der Heide (1), Kevin M. Dorney (1), Seth L. Cousin (2), Clayton Bargsten (2), Brennan Peterson (2), and Henry Kapteyn (2,3), (1) imec, (2) KM Labs, (3) University of Colorado Boulder
- (9:30-10:00) **A-90** Photoresist Readiness for N5/N3 Double Patterning in EUV Lithography [Invited] (30 min.)
Danilo De Simone and Stefan Decoster, IMEC
- (10:00-10:30) **A-91** EUV Resists: Getting ready for High NA [Invited] (30 min.)
Anna Lio, Intel Corporation
- 10:30 -10:40 Break
- 10:40-12:10 Chairpersons: Taku Hirayama, HOYA, and Hiroaki Oizumi, Gigaphoton
- (10:40-11:10) **A-92** Patterning Challenges in Extending EUV to the High NA Regime [Invited] (30 min.)
Patrick Naulleau, Center of X-ray Optics, LBNL
- (11:10-11:30) **A-93** Thickness and Substrate Dependency of the Glass Transition Temperature for Ultra-thin Film Polymer-based High NA EUV Lithography,
Joren Severi (1,2), Danilo De Simone (2), and Stefan De Gendt (1,2), (1) Katholieke Universiteit Leuven, (2) IMEC
- (11:30-11:50) **A-94** The EB Lithography Simulation for the EUV Resist Evaluation **33 (2) 221**
Yosuke Ohta (1), Atsushi Sekiguchi (1), Anja Voigt (2), Nit Taksatorn (3), (1) Litho Tech Japan Corporation, (2) micro resist technology GmbH, (3) GenISys K.K.
- (11:50-12:10) **A-95** Patterning of SURMOFs with EUV Lithography: a New Bottom-Up Approach **33 (2) 229**
Olivier Lugier and Sonia Castellanos, Advanced Research Center for Nanolithography (ARCNL)
- (12:10-12:30) **A-126** Defectivity Study by Point-of-use EUV Resist Filtration
Toru Umeda (1), Lucia D'Urzo (2), Philippe Foubert (3), Rajan Beera (2), Rao Varanasi (1), (1) Nihon Pall, (2) Pall Corporation, (3) imec
- 12:30-13:30 Lunch
- *Directed Self Assembly (DSA)***
- 13:30-14:55 Chairpersons: Teruaki Hayakawa, Tokyo Institute of Technology and Seiji Nagahara, Tokyo Electron Ltd.
- (13:30-14:15) **Keynote Lecture A-96** Perpendicular Lamellae of Fluoro-acrylate Block Copolymers and Directed Self-Assembly using Electric Field **33 (5) 523**
Du Yeol Ryu, Seongjun Jo, Wooseop Lee, Seungbae Jun, Taesuk Jun, Yonsei University
- (13:55-14:15) **A-97** Enabling Moore's Law with Directed-Self Assembly (DSA) [Invited]
Florian Gstrein, Intel Corporation
- (14:35-14:55) **A-98** DSA of Sub-10-nm Line/Space Patterns by a Spacer-based Chemo-Epitaxial Flow [Invited]
G. Rademaker (1), A. Le Pennec (1), T. Giammaria (1), M-L. Pourteau (1), H. Pham (1), M. G. Gusmao Cacho (1), K. Benotmane (1), C. Bouet (1), M. Argoud (1), C. Navarro (2), C. Nicolet (2), X. Chevalier (3), K. Sakavuyi (4), P. Nealey (5), R. Tiron (1), (1) Univ. Grenoble Alpes, CEA-Leti, (2) Arkema France, (3) Arkema France, Groupement de Recherche Lacq (GRL), (4) Brewer Science, (5) The University of Chicago
- 14:55-15:05 Break
- Continue to the following page

May 21, Thursday

Room A (Room 301)

English Symposia: Materials & Processes for Advanced Microlithography, Nanotechnology and Phototechnology

- 15:05-16:25 Chairpersons: Florian Gstrein, Intel Corporation and Takehiro Seshimo, Tokyo Ohka Kogyo
- (15:05-15:25) **A-99** Sub 5nm Nanostructured Thin Films Made from the Self-assembly of Biosourced Block Copolymer Systems [Invited]
Redouane Borsali, University Grenoble Alpes, CNRS
- (15:25-15:45) **A-100** Engineering Solvent-Polymer Interactions for Ultrahigh-Resolution Printing of 2D/3D Nanostructures [Invited]
Yeon Sik Jung, Korea Advanced Institute of Science and Technology (KAIST)
- (15:45-16:05) **A-101** The Role of Liquid Crystalline Side Chains for Long-range Ordering in the Block Copolymer Thin Films [Invited] **33 (5) 529**
Lei Dong, Alvin Chandra, Kevin Wylie, Ryuichi Nakatani, Yuta Nabae, Teruaki Hayakawa, Tokyo Institute of Technology
- (16:05-16:25) **A-102** Metal Containing Block Copolymers with Sub-10 nm Micro Domains **33 (5) 537**
Guangya Wu, Zhenyu Yang, Xuemiao Li, Hai Deng, Fudan University
- 16:25-16:35 Break
- 16:35-17:55 Chairpersons: Redouane Borsali, University Grenoble Alpes, CNRS and Tukasa Azuma, KIOXIA
- (16:35-16:55) **A-103** Synthesis of Well-Defined Mesoporous Membranes via Polymerization-Induced Microphase Separation for Battery Applications [Invited]
Myungeun Seo, Korea Advanced Institute of Science and Technology (KAIST)
- (16:55-17:15) **A-104** Graphical Study of Liquid Crystalline Block Copolymers for Directed Self-Assembly **33 (5) 541**
Le Dai, Hai Deng, Fudan University
- (17:15-17:35) **A-105** Stacked Layer to Gyroid Structures in Partially Fluorinated PS-*b*-PtBMA Copolymer Films
Seongjun Jo (1), Yeongsik Kim (1), Seungyun Jo (1), Kyungkon Kim (2), Du Yeol Ryu (1), (1) Yonsei University, (2) Ewha Womans University
- (17:35-17:55) **A-106** The Self-assembly of Block Copolymer Thin Film in External Fields [Invited]
Xingkun Man (1), David Andelman (2), (1) Beihang University, (2) Tel Aviv University
- 17:55-18:00 Break
- *Closing Session***
- 18:00-18:05 Chairperson: Tukasa Azuma, KIOXIA

Closing Remarks

Takeo Watanabe, Symposium Chair of EUV Lithography, the Symposium of most contributing to ICPST-37 (2020)

Fundamentals and Applications of Biomimetics Materials and Processes

- 9:00-10:00 Chairpersons: Tomoki Nisino, Ritsumeikan University, Atsushi Sekiguchi, Litho Tech Japan and Hiroyuki Mayama, Asahikawa Medical University
- (9:00-9:20) **A-107** Biomimetic Materials for the Regeneration of Extracellular Matrix in Biological Soft Tissues **33 (2) 235**
 Ei Yamamoto (1), Yuki Kawamura (2), (1) Department of Biomedical Engineering, Faculty of Biology-Oriented Science and Technology, Kindai University, (2) Graduate School of Biology-Oriented Science and Technology, Kindai University
- (9:20-9:40) **A-108** Anti-fouling Evaluation System using Reflected Light
 Tomohiro Mamiya (1), Sotaro Nishioka (1), Ryota Nobuhara (1), Ko Ishibashi (1), Tsuyoshi Yagi (1), Risa Matsumoto (2), Kenichi Kuribayashi (2), Mizuho Okamoto (2), Akira Tanida (2), Hiroyoshi Tsujiie (2), Hiroyuki Mayama (3), Takayoshi Ueda (4), Hiroshi Tanigawa (5), Tomoki Nishino (1), (1) Ritsumeikan University, (2) JR West Japan Consultants Company, (3) Asahikawa Medical University, (4) AXIS NET INC., (5) The Research Organization of Science and Technology, Ritsumeikan University
- (9:40-10:00) **A-109** Dust Adhesion Suppression Effect by Meta-material Structure
 Sotaro Nishioka (1), Ryota Nobuhara (1), Tomohiro Mamiya (1), Ko Ishibashi (1), Tsuyoshi Yagi (1), Risa Matsumoto (2), Kenichi Kuribayashi (2), Mizuho Okamoto (2), Akira Tanida (2), Hiroyoshi Tsujiie (2), Hiroyuki Mayama (3), Takayoshi Ueda (4), Hiroshi Tanigawa (5), Tomoki Nishino (1), (1) Ritsumeikan University, (2) JR West Japan Consultants Company, (3) Asahikawa Medical University, (4) AXIS NET INC., (5) The Research Organization of Science and Technology, Ritsumeikan University
- 10:00-10:10 Break
- *Nanoimprint Lithography***
- 10:10-12:00 Chairpersons: Yoshihiko Hirai, Osaka Prefecture University and Jun Taniguchi, Tokyo University of Science
- (10:10-10:50) **Keynote Lecture A-110** Multi-Level Nanoimprint Lithography for Large-Area Thin Film Transistors Backplane Manufacturing (40 min.) **33 (2) 241**
 Auke Jisk Kronemeijer (1), Ilias Katsouras (1), Tamer Dogan (1,2), Joris de Riet (1), Thijs Bel (1), Gerwin Gelinck (1,2), (1) TNO / Holst Centre High Tech, (2) Eindhoven University of Technology
- (10:50-11:20) **A-111** R2R Nanoprint and Nanoimprint Technology for Highly-Functional Film [Invited] (30 min.)
 Makoto Okada, Asahi Kasei
- (11:20-11:40) **A-112** Development of Water Treatment Reactor using TiO₂ coated Micro Pillar Made by UV-NIL
 Kazuki Daigo (1), Ryota Akama (1), Noriyuki Unno (2), Shin-ichi Satake (1), ○Jun Taniguchi (1), (1) Tokyo University of Science, (2) Tokyo University of Science, Yamaguchi
- (11:40-12:00) **A-113** Fabrication of Multilayer Fine Structures by use of Double Layer Polymethyl Methacrylate Film
 Takenori Yamamoto, Shunsuke Yagi, Masaaki Yasuda, Yoshihiko Hirai, ○Hiroaki Kawata, Osaka Prefecture University
- 12:00-12:55 Lunch

May 21, Thursday

Room B (Room 302)

English Symposia: Materials & Processes for Advanced Microlithography, Nanotechnology and Phototechnology

- 12:55-14:25 Chairperson: Jun Mizuno, Waseda University and Makoto Okada, Asahi Kasei
- (12:55-13:25) **A-114** Numerical Analysis of Pattern Shape Deformation in UV Imprint Due to Curing Shrinkage [Invited] (30 min.) **33** (2) 245
Yuki Onishi (1), Ryunosuke Yamashita (1), Kenji Amaya (1), Yoshihiko Hirai (2), (1) Tokyo Institute of Technology, (2) Osaka Prefecture University
- (13:25-13:45) **A-115** Fabrication of Flexible Fine Through-hole Electrodes for Printed Devices using UV-NIL **33** (5) 545
Kazuki Honjo, ○ Atsuhiko Furuta, Jun Taniguchi, Tokyo University of Science
- (13:45-14:05) **A-116** Fabrication of Nickel Plasma Etching Mask by Nano-Imprint Lithography and Electroless Plating **33** (5) 551
Shingo Shimizu, Hideki Tanabe, Masaaki Yasuda, Yoshihiko Hirai, Hiroaki Kawata, Osaka Prefecture University
- (14:05-14:25) **A-117** Three-Dimensional Flow Measurements around Micro-Pillars made by UV-NIL in Water via Micro-Digital Holographic Particle Tracking Velocimetry **33** (5) 557
Yasuhiro Matsuda (1), Hiroshi Kigami(1), Noriyuki Unno (2), Shin-ichi Satake (1), ○Jun Taniguchi (1), (1) Tokyo University of Science, (2) Tokyo University of Science, Yamaguchi
- 14:25-14:35 Break
- *Chemistry for Advanced Photopolymer Science***
- 14:35-16:05 Chairpersons: Zhiqun Li, Jiangnan University and Haruyuki Okamura, Osaka Prefecture University
- (14:35-15:05) **A-118** Furan Derivative used as LED Light Photoinitiator: Mechanism and Application [Invited] (30 min.)
Jingfang Li, Xiaoqun Zhu, ○ Jun Nie, Beijing University of Chemical Technology
- (15:05-15:25) **A-119** Enhancement of Dark Polymerization by Oxygen Quenching during Network Formation in Ultraviolet-Light-Induced Radical Polymerization of Multifunctional Monomers and Reactive Polymer **33** (3) 251
Kentaro Taki (1), Ryota Hayashi (1), Takatoshi Taniguchi (1), Asuka Tsuneishi (2), (1) Kanazawa University, (2) Mitsubishi Chemical
- (15:25-15:45) **A-120** Photoadhesive Materials Containing 2-Mercaptopyridyl Moieties **33** (3) 261
Masahiro Furutani, Daiki Fujihira, Koji Arimitsu, Tokyo University of Science
- (15:45-16:05) **A-121** Synthesis and Photo-degradation of Polyphtalaldehydes with Oxime Ether Terminals **33** (3) 269
Hirokazu Hayashi (1), Hideki Tachi (1), Kanji Suyama (2), (1) Osaka Research Institute of Industrial Science and Technology, (2) Osaka Prefecture University
- 16:05-16:15 Break

Continue to the following page

May 21, Thursday

Room B (Room 302)

English Symposia: Materials & Processes for Advanced Microlithography, Nanotechnology and Phototechnology

- 16:15-17:55 Chairpersons: Jun Nie, Beijing University of Chemical Technology and Kentaro Taki, Kanazawa University
- (16:15-16:35) **A-122** Fabrication of Photocrosslinked Diarylfluorene Films with Episulfide Groups using Photobase Generators **33 (3) 279**
Haruyuki Okamura (1), Keiko Minokami (2), Shinsuke Miyauchi (2), (1) Osaka Prefecture University, (2) Osaka Gas Chemicals
- (16:35-16:55) **A-123** Chemiluminescence Induced Cationic Photopolymerization
Chen Wang, Xiaoyan Meng, Mengqi Li, Huaqiao Lu, Zhiquan Li, Jiangnan University
- (16:55-17:15) **A-124** Photopolymerization of Thick Composites based on Delayed Thiol-epoxy Chemistry **33 (3) 285**
Yuanjian Zheng, Li Chen, Xiaoyan Meng, Guo Wei, Zhiquan Li, Jiangnan University
- (17:15-17:35) **A-125** Three-dimensional Molecular Alignment Photo-patterning of Liquid-crystalline Polymer Films **33 (3) 291**
Yoshiaki Kobayashi, Ryo Taguchi, Norihisa Akamatsu, Atsushi Shishido, Tokyo Institute of Technology
- (17:35-17:55) **A-127** Molecular Structure Evaluation of Bulk Polytetrafluoroethylene Modified by X-ray Irradiation **33 (3) 295**
Masaya Takeuchi, Atsushi Kinoshita, Akinobu Yamaguchi, Yuichi Utsumi, University of Hyogo
- 17:55-18:00 Break
- 18:00-18:05 **Closing Session: at Room A (Room 301)**

May 20, Wednesday

Room C (Room 303)

Japanese Symposium: Photofunctional Materials for Electronic Devices

日本語シンポジウム: 光機能性デバイス材料

- 10:00-11:20 座長: 高分子学会フェロー 長谷川 悦雄, JST 木原 尚子
(10:00-10:20) **B3-01** 熱や光に応答する柔らかい調光材料の開発
埼玉工業大学 木下 基, 水沼 亮桐, 山本 悟, 大野 秀和, 杉山 茉奈, 細沼
大樹
- (10:20-10:40) **B3-02** マイクロレンズ効果を用いたリバースモード素子の散乱特性向上 **33 (4) 369**
(1) 秋田大学, (2) 秋田県産業技術センター 山口 留美子 (1), 佐川 康介 (1), 梁
瀬 智 (2)
- (10:40-11:00) **B3-03** 楔型液晶素子を用いたレーザーस्पックルノイズの低減
東京理科大学 柴瀬 惇志, 古江 広和
- (11:00-11:20) **B3-04** アルコキシ基を導入したオリゴチオフェン誘導体の合成と物性 **33 (4) 373**
広島大学 今榮 一郎, 秋山 優貴, 播磨 裕
- 11:20-13:00 昼食休憩
- 13:00-13:40 座長: JST 木原 尚子, 高分子学会フェロー 長谷川 悦雄
(13:00-13:40) **基調講演 B3-05** 親撥パターンニング法を用いた微細パターンの形成と電子デバイ **33 (4) 381**
スへの応用
JSR 浜口 仁, 和田 光弘, 安田 博幸, 河口 和雄, 上田 二郎, 栗山 敬佑
- 13:40-13:50 休憩
- 13:50-14:50 座長: JSR 浜口 仁, 高分子学会フェロー 長谷川 悦雄
(13:50-14:10) **B3-06** 広い温度範囲で使用可能な長寿命有機ELディスプレイの開発 **33 (4) 387**
シャープ 水崎 真伸, 柴崎 正和, 土屋 博司, 塚本 優人, 梅田 時由, 島田
伸二
- (14:10-14:30) **B3-07** ゲル浸透クロマトグラフィー洗浄およびアルキルアンモニウム塩界面層に **33 (4) 393**
よるペロブスカイト量子ドットLEDの高効率化
山形大学 江部 日南子, 千葉 貴之, 大久 哲, 城戸 淳二
- (14:30-14:50) **B3-08** ペロブスカイト成膜におけるエアフローと溶剤アニール法の影響 **33 (4) 399**
と太陽電池特性
愛知工業大学 森 竜雄, 岡田 紘幸, エゼ・ビンセント・オビオゾ, 清家 善之
- 14:50-15:50 座長: 愛知工業大学 森 竜雄, JST 木原 尚子
(14:50-15:10) **B3-09** メタロ超分子ポリマーを用いたエレクトロクロミック型フレキシブル表示 **33 (4) 405**
デバイス
物質・材料研究機構 樋口 昌芳, 藤井 幸男
- (15:10-15:30) **B3-10** 細孔環境に依存する高速応答型エレクトロクロミック多孔質電極の応答特性
産業技術総合研究所 渡邊 雄一, 金澤 賢司, 駒崎 友亮, 延島 大樹, 植村
聖
- (15:30-15:50) **B3-11** 印刷を用いた電極パターンニングによる薄膜/弾性体二層構造型ストレッチ **33 (4) 413**
ャブル発光デバイス
産業技術総合研究所 武居 淳, 日下 靖之, 駒崎 友亮, 吉田 学

May 20, Wednesday

Room D (Room 304)

Japanese Symposium: Plasma Photochemistry and Functionalization of Polymer Surface

日本語シンポジウム プラズマ光化学と高分子表面機能化

- 9:30-11:30 座長：岡山理大 中谷 達行, 千葉工大 井上 泰志
(9:30-10:00) **B2-01** プラズマリアクターを用いたプラズマ活性水の開発
大阪市大 呉 準席, 佐々木 祐輔, 今井 創志, 白藤 立
- (10:00-10:30) **B2-02** プラズマを利用して構築したpH応答性高分子ナノフィルムの物性評価 **33 (3) 333**
(1) 岐阜薬大, (2) 松山大薬, (3) 中部学院大 近藤 伸一 (1), 笹井 泰志 (1), 土井 直樹 (1), 山内 行玄 (2), 葛谷 昌之 (3)
- (10:30-11:00) **B2-03** 液体対向電極を用いた結晶性高分子材料のエレクトロスプレー **33 (3) 337**
(1) 東京大工研, (2) ナノ医療イノベーションセンター 齋藤 蒼也 (1), 竹原 宏明 (1), 一木 隆範 (1,2)
- (11:00-11:30) **B2-04** プラズマ誘起糖ラジカルを利用した新規大腸ターゲットング高分子プロ **33 (3) 343**
ドラッグ開発に関する研究
(1) 松山大薬, (2) 岐阜薬大, (3) 中部学院大 山内 行玄 (1), 土井 直樹 (2), 笹井 泰志 (2), 近藤 伸一 (2), 葛谷 昌之 (3)
- 11:30-12:45 昼食休憩
12:45-14:15 座長：東京大 一木 隆範, 大阪市大 呉 準席
(12:45-13:15) **B2-05** ソリューションプラズマ光を利用した金属Zn表面へのナノ構造体生成
(1) 千葉工大, (2) 関東学院大 加藤 浩 (1), 佐藤 孝範 (2), 井上 薫 (1), 北條一輝 (1), 杉浦 望 (1), 高橋 さおり (1), 〇井上 泰志 (1), 高井 治 (2)
- (13:15-13:45) **B2-06** 交流高電圧放電プラズマによる医療用チューブ応用に向けたDLCコーティング技術
(1) 岡山理大, (2) ストロープ, (3) 岡山大院 中谷 達行 (1), 今井 裕一 (1,2), 藤井 泰宏 (3), 合山 尚志 (3), 逢坂 大樹 (3), 大澤 晋 (3)
- (13:45-14:15) **B2-07** プラズマ表面処理によるDLCコーティングの表面物性および構造的な特性変化
(1) 岐阜薬大, (2) 岡山大, (3) 岡山理大, (4) 松山大薬, (5) 中部学院大 笹井 泰志 (1), 逢坂 大樹 (2), 中谷 達行 (3), 土井 直樹 (1), 山内 行玄 (4), 葛谷 昌之 (5), 近藤 伸一 (1)
- 14:15-14:30 休憩

May 20, Wednesday

Room D (Room 304)

Japanese Symposium: Resist Removal Technology

日本語シンポジウム: レジスト除去技術

- 14:30-15:30 座長: 金沢大学 石島 達夫, 香川高等専門学校 山本 雅史
(14:30-14:50) **B4-01** オゾンマイクロバブルを利用したフォトレジストの除去 (招待講演)
(1) 東北大学, (2) 大阪市立大学大学院, (3) 荏原製作所, (4) ダン・タクマ 高橋
正好 (1), 堀邊 英夫 (2), 田寺 克己 (3), 宮崎 紳介 (4)
- (14:50-15:10) **B4-02** 原子状水素アニールによる表面汚染物除去 (招待講演) **33 (4) 419**
(1) 兵庫県立大学工学研究科, (2) 兵庫県立大学高度産業科学技術研究所 部家 彰
(1), 原田 哲男 (2), 新部 正人 (2), 住友 弘二 (1), 渡邊 健夫 (2)
- (15:10-15:30) **B4-03** 高速イメージングを用いたレジスト剥離過程の観察 (招待講演)
(1) 大阪工業大学工学部, (2) 大阪大学レーザー科学研究所, (3) 大阪大学大学院理
学研究科, (4) 埼玉大学, (5) 大阪市立大学大学院工学研究科 神村 共住 (1), 西岡
直樹 (1), 梅田 悠史 (1), 小泉 敦司 (1), 松本 祐樹 (1), 吉村 政志 (2), 兼松
泰男 (3), 中村 亮介 (4), 堀邊 英夫 (5)
- 15:30-15:40 休憩
- 15:40-17:00 座長: 大阪市立大学大学院 堀邊 英夫, 大阪工業大学 神村 共住
(15:40-16:00) **B4-04** オゾン水の生成と紫外吸収分光法による分析 (招待講演)
高知工科大学 八田 章光, 滝野 結公
- (16:00-16:20) **B4-05** マイクロ波励起の水プラズマを用いたフォトレジスト膜除去における発光
分光スペクトルの経時変化 (招待講演)
金沢大学 石島 達夫, 北野 卓也, 鈴木 宏明, 相澤 洸, 田中 康規, 上
杉 喜彦
- (16:20-16:40) **B4-06** 水素ラジカルによるレジスト除去速度に対する窒素希釈の影響 **33 (4) 427**
(1) 香川高等専門学校, (2) 静岡大学, (3) 大阪市立大学大学院 山本 雅史 (1),
○西岡 寛人 (1), 長岡 史郎 (1), 梅本 宏信 (2,3), 堀邊 英夫 (3)
- (16:40-17:00) **B4-07** ヘリウム-酸素混合ガスを用いたOラジカルによるレジスト分解作用の評
価 **33 (4) 433**
(1) 香川高等専門学校, (2) 静岡大学, (3) 大阪市立大学大学院 山本 雅史 (1),
○秋田 航希 (1), 長岡 史郎 (1), 梅本 宏信 (2,3), 堀邊 英夫 (3)

May 21, Thursday

Room C (Room 303)

Japanese Symposium: Polyimides and High Temperature Polymers
-Functionalization and Practical Applications-

日本語シンポジウム: ポリイミド及び高温耐熱樹脂機能化と応用

- 10:00-10:50 座長: 久留米高専 津田 祐輔, 横浜国立大学 大山 俊幸
(10:00-10:25) **B1-01** 銅イオン触媒を用いたチモールの酸化カプリング重合 33 (3) 301
岩手大学 芝崎祐二, 初貝祥子, 塚本匡, 大石好行
- (10:25-10:50) **B1-02** ビス[4-(4-アミノフェノキシ)フェニル]エーテルと様々な数のフェニレン 33 (3) 307
基を有する芳香族酸二無水物からのポリイミドの合成とその性質
茨城大学 森川 敦司, 戸田 哲也
- 10:50-11:00 休憩
- 11:00-11:50 座長: 茨城大学 森川 敦司, 東京工業大学 早川 晃鏡
(11:00-11:25) **B1-03** ペルフルオロアルキレン基を有する低誘電率芳香族ポリイミドの合成と特
性
岩手大学 遠藤 由樹, 塚本 匡, 芝崎 祐二, 大石 好行
- (11:25-11:50) **B1-04** パーフルオロアルキル基を含有したポリイミドの光照射による濡れ性制御 33 (5) 563
久留米高専 津田 祐輔, 原 江希
- 11:50-13:00 昼食休憩
- 13:00-14:00 座長: 柿本雅明
- 13:00-14:00 **基調講演 B1-05** 感光性耐熱高分子の発展と今後の展望
東レ 富川 真佐夫
- 14:00-15:15 座長: 岩手大学 大石 好行, 東レ 富川 真佐夫
(14:00-14:25) **B1-06** 光拡散性を有する感光性シロキサン材料の開発 33 (5) 569
東レ 小林 秀行, 福崎 雄介, 諏訪 充史
- (14:25-14:50) **B1-07** アドバンストパッケージ用露光装置
オーク製作所 中澤 憲治, ○松崎 宏行
- (14:50-15:15) **B1-08** Low Temperature Curable Positive Working Photosensitive Dielectric
Materials for Advanced Package Application
Ryuji Hirose, Sakiko Suzuki, Takuji Ikeda, Tomonori Kenmochi, Takeshi Mori,
Sumitomo Bakelite
- 15:15-15:30 休憩

May 21, Thursday

Room C (Room 303)

Japanese Symposium: Polyimides and High Temperature Polymers
-Functionalization and Practical Applications-

日本語シンポジウム: ポリイミド及び高温耐熱樹脂機能化と応用

- 15:30-16:45 座長: 東京工業大学 安藤 慎治, 岩手大学 柴崎 祐二
(15:30-15:55) **B1-09** 固有微孔性ポリマー(PIM-1)と表面修飾パールネックレス状シリカナノ粒子を含有した高分子膜の気体透過特性: ナノスペースの拡張による気体透過特性への影響 **33 (3) 313**
東京都立大学 東 しおり, 村本 卓也, 三上 寛人, 田中 学, 山脇 正文, 川上 浩良
- (15:55-16:20) **B1-10** 伝導性ポリイミドナノファイバーからなる固体電解質膜の二次電池特性 **33 (3) 321**
東京都立大学 (1), 神奈川大学 (2) 横田 のはら (1), 島根 拓志 (1), 渡辺 司 (1), 松本 太 (2), 田中 学 (1), 川上 浩良 (1)
- (16:20-16:45) **B1-11** 有機鋳型法とオゾンを利用したメソポーラスポリイミド複合膜の作製 **33 (5) 573**
東京工業大学 駒村 貴裕, 吾妻 恒栄, 難波江 裕大, 早川 晃鏡
- 16:45-17:35 座長: 東京都立大学 川上 浩良, 東レ 富川 真佐夫
(16:45-17:10) **B1-12** 長鎖アルキルで末端修飾したポリイミド微粒子の炭素化と燃料電池触媒への展開成 **33 (3) 327**
東京工業大学 堀 和滋, 永田 信輔, 難波江 裕大, 早川 晃鏡
- (17:10-17:35) **B1-13** 柔軟な連結基を有するポリイミドにおける広角X線回折測定を用いた結晶構造の圧力誘起変化の解析 **33 (5) 583**
東京工業大学 江藤 江一郎, 藤原 瑛右, 滝沢 和宏, 石毛 亮平, 安藤 慎治
- 17:35-18:00 Break
- 18:00-18:05 **Closing Session: at Room A (Room 301)**

May 21, Thursday

Room D (Room 304)

Japanese Symposium: General Scopes of Photopolymer Science and Technology

日本語シンポジウム: 一般講演

- 9:30-10:50 座長: 東京理科大学 古海 誓一
(9:30-9:50) **B4-08** Photo Amphoteric Compound Generators for Environmentally-friendly Materials 33 (4) 439
Takuya Shigemune, Takuya Marumo, Nanaho Tsuchiya, Takafumi Nonaka, Shigeru Takahara, Chiba University
- (9:50-10:10) **B4-09** 糖鎖を利用したフォトレジスト用水溶性材料のナノパターニング性能評価 33 (4) 445
(1) 富山県立大学, (2) 群栄化学工業 天野 達 (1,2), 平田 大樹 (1), 長谷川 祐美 (1), 竹井 敏 (1)
- (10:10-10:30) **B4-10** メタマテリアル技術によるライブビューカメラの視認性向上に関する検討
(1) ジェイアール西日本コンサルタンツ, (2) 立命館大学 松本 理佐 (1), 栗林 賢一(1), 岡本 瑞穂 (1), 谷田 聡 (1), 辻家 弘貴 (1), 西野 朋季 (2)
- (10:30-10:50) **B4-11** 軌道変位計測用ターゲットの付着物の成分分析 33 (4) 451
(1) ジェイアール西日本コンサルタンツ, (2) 立命館大学 辻家 弘貴 (1), 松本理 佐 (1), 栗林 賢一 (1), 岡本 瑞穂 (1), 谷田 聡 (1), 西野 朋季 (2)
- 10:50-11:00 休憩
- 11:00-12:20 座長: 千葉大学 高原 茂
(11:00-11:20) **B4-12** 高機能接着性モノマーとしてのドーパミンアクリルアミドの特性 33 (4) 457
大阪有機化学工業 赤石 良一, 松野 真佳, 加畑 雅之
- (11:20-11:40) **B4-13** アルキルエーテルを導入したセルロース誘導体のコレステリック液晶 33 (4) 461
(1) 東京理科大学 理学部第一部 応用化学科, (2) 東京理科大学大学院 理学研究科 化学専攻, (3) 東京理科大学 理学部第一部 化学科 斎藤 聖奈 (1), 早田 健一郎 (2), 青木 瑠璃 (2), 川口 茜 (2), 下川 響 (3), 障子 雄介 (2), 府川 将司 (2), 古海 誓一 (1,2)
- (11:40-12:00) **B4-14** セルロース誘導体を用いた反射型カラーフィルムの創製 33 (4) 467
(1) 東京理科大学 理学部第一部 化学科, (2) 東京理科大学大学院 理学研究科 化学専攻, (3) 東京理科大学 理学部第一部 応用化学科 下川 響 (1), 早田 健一郎 (2), 府川 将司 (2), 青木 瑠璃 (2), 川口 茜 (2), 斎藤 聖奈 (2), 障子 雄介 (2), 古海 誓一 (2,3)
- (12:00-12:20) **B4-15** マイクロリアクターを利用した単分散シリカ微粒子の合成とコロイドフォトリック結晶への展開 33 (4) 473
(1) 東京理科大学 理学部第一部 化学科 (2) 東京理科大学大学院 理学研究科 化学専攻, (3) 東京理科大学 理学部第一部 応用化学科 関 雄太郎 (1), 柴田 遥介 (2), 徳弘 香弥 (2), 小池 尊 (2), 佐藤 龍 (2), 土屋 沙織 (2), 古海 誓一 (2,3)

18:00-18:05

Closing Remarks: at Room A (Room 301)

Banquet

Banquet will be open at 18:20 on May 20, 2020. Banquet fee is 6,000 JPY on site.

Language & Presentation

English is used for presentations in English Symposia and Panel Symposium, "EUV Lithography toward 10 nm and below". Japanese and English are used for presentations in Japanese Symposia.

Each presentation will not be longer than 20 minutes including discussion except for the notified lectures.

A liquid-crystal display (LCD) projector operating with Windows 7-10 compatible PC (PowerPoint) is available at every room. All the speakers are requested to bring their files in a USB memory to the audio visual assistant of their presentation rooms in advance. The files stored in different media can be transferred to a USB memory. Speakers may connect their own PC (including Macintosh) to projectors when they request.

Exhibitions

1. Litho Tech Japan Corporation
2. PHOTOTECHNICA CORPORATION
3. Nanotechnology Platform Japan
Nanofabrication Platform Consortium

Conference Office:

The 37th International Conference of Photopolymer Science and Technology (ICPST-37)

c/o Prof. Takashi Karatsu,

Department of Applied Chemistry and Biotechnology,
Chiba University

1-33 Yayoi-cho, Inage-ku, Chiba 263-8522, Japan

Phone +81-43-290-3366 Fax +81-43-290-3401

e-mail: office@spst-photopolymer.org

The Society of Photopolymer Science and Technology (SPST)

President: Minoru Tsuda

Director of Administration: Takashi Karatsu

Director of Publication: Haruyuki Okamura

Director of Scientific Program: Masayuki Endo

Director of International Affairs: Takeo Watanabe

ICPST-37 International Advisory Board

Danilo De Simone (Belgium), Sanjay Malik (USA),

Patrick Naulleau (USA), Yusuf Yagci (Turkey)

ICPST-37 Organizing Committee

Minoru Tsuda, Chairperson

Members: R. Allen, T. Azuma, M. Endo, E. Hasegawa, T. Hayakawa, Y. Hirai, T. Hirayama, H. Horibe, T. Ichiki, M. Kakimoto, Y. Kamoshida, T. Karatsu, Y. Kawai, N. Kihara, S. Kondo, M. Kuzuya, J. Mizuno, S. Nagahara, T. Nagai, T. Nishino, H. Ohkita, Y. Ohnishi, H. Oizumi, H. Okamura, I. Osaka, S. Seki, A. Sekiguchi, T. Seshimo, A. Shibuya, J. Taniguchi, K. Takei, M. Tomikawa, T. Ueno, T. Watanabe, T. Yamashita, W. Yueh

ICPST-37 Program Committee: Masayuki Endo, Chairperson

Local Committee: Takashi Karatsu, Chairperson

懇親会

5月20日(水) 18時20分より 当日参加費 6,000円

講演言語 国際シンポジウム、国際セッション(一般講演)、著者および講演題目が共に英語で記載されている講演は英語で行い、それ以外の講演は日本語で行います。

発表形式 PC 駆動プロジェクター(PowerPoint)が全ての講演会場に用意されています。発表者は発表当日のなるべく早い時間に各会場のプロジェクター担当者に USB メモリーに入れた講演ファイルを渡してください。

展示会

1. リソテックジャパン株式会社
2. フォトテクニカ株式会社
3. 文部科学省ナノテクノロジープラットフォーム
微細加工プラットフォーム

第37回国際フォトポリマーコンファレンス事務局

〒263-8522 千葉県稲毛区弥生町 1-33

千葉大学工学研究院共生応用化学コース 唐津 孝

Tel 043-290-3366 Fax 043-290-3401

e-mail: office@spst-photopolymer.org

フォトポリマー学会 (SPST)

会長： 津田 穰

事務局長： 唐津 孝

出版局長： 岡村晴之

企画局長： 遠藤政孝

国際局長： 渡邊健夫

ICPST-37 国際諮問委員会

Danilo De Simone (Belgium), Sanjay Malik (USA),

Patrick Naulleau (USA), Yusuf Yagci (Turkey)

ICPST-37 組織委員会 委員長：津田 穰

委員 東 司、一木隆範、上野 巧、遠藤政孝、老泉博昭、大北英生、大西廉伸、岡村晴之、尾坂 格、柿本雅明、鴨志田洋一、唐津 孝、河合義夫、木原尚子、葛谷昌之、近藤伸一、渋谷明規、関 修平、関口 淳、瀬下武弘、曾我公平、竹井邦晴、谷口 淳、富川真佐夫、永井智樹、永原誠司、西野朋季、長谷川悦雄、早川晃鏡、平井義彦、平山 拓、堀邊英夫、水野 潤、山下 俊、渡邊健夫、Robert Allen、Wang Yueh

ICPST-37 企画委員会 委員長：遠藤政孝

現地実行委員会 委員長：唐津 孝

<http://www.spst-photopolymer.org>

最終版プログラム

ICPST-37

第37回 国際フォトポリマーコンファレンス

アドバンスドリソグラフィー、ナノテクノロジー、
フォトテクノロジー
－材料とプロセスの最前線－

2020年5月18日(月)～21日(木)

幕張メッセ国際会議場

(JR 海浜幕張駅下車徒歩5分)

主催： フォトポリマー学会 (SPST)

協賛： フォトポリマー懇話会 日本化学会 高分子学会

後援： 応用物理学会 千葉大学

