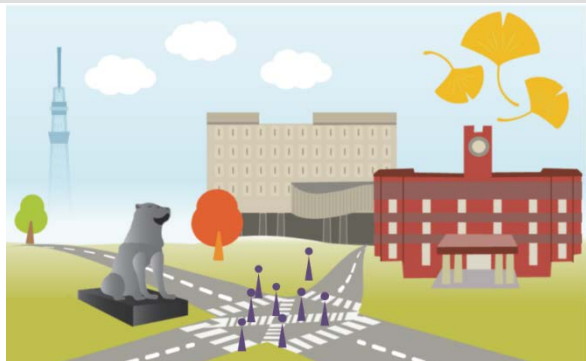


ADVANCE PROGRAM



MOC2017

22nd MICROOPTICS CONFERENCE

<http://www.moc2017.com/>

*Sponsored by the Japan Society of Applied Physics (JSAP)
Organized by Microoptics Group, JSAP*



Co-sponsored by

- Institute of Industrial Science, The University of Tokyo
- Research Center for Advanced Science and Technology, The University of Tokyo

Technically co-sponsored by

- IEEE Photonics Society

In cooperation with

- The Optical Society
- IEEE Photonics Society Japan Chapter
- IEICE Electronics Society
- Optical Society of Japan
- Optical Society of Korea
- Taiwan Photonics Society
- The Chemical Society of Japan
- The Society of Polymer Science, Japan
- The Laser Society of Japan
- Optoelectronics Industry and Technology Development Association
- Japan Optomechatronics Association
- JSPS / The 125th Committee
- JSPS / The 130th Committee

Nov. 19 (Sun.) - Nov. 22 (Wed.), 2017
Institute of Industrial Science,
The University of Tokyo, Komaba, Tokyo

MOC2017 Agenda At-A-Glance

November 19 (Sun.)		November 20 (Mon.)	
8:30		8:30	Registration Open (2F Bldg. An)
9:00		9:00	Opening Remarks
9:30		9:30	Plenary Session (Convention Hall, Bldg. An)
10:00		10:00	
10:30		10:30	
11:00		11:00	
11:30		11:30	
12:00	Registration Open (1F Bldg. 3-s)	12:00	Lunch
12:30		12:30	
13:00		13:00	
13:30		13:30	Session A: Optical Communication and Modulation (Convention Hall, Bldg. An)
14:00	14:00		
14:30	30th Anniversary Symposium (ENEOS Hall, Bldg. 3-s)	14:30	Break
15:00		15:00	
15:30		15:30	Session B: Manipulation and Processing of Light (Convention Hall, Bldg. An)
16:00		16:00	
16:30		16:30	
17:00		17:00	Break (Light meal served)
17:30		Get Together Party (Atrium, Bldg. 3)	17:30
18:00	18:00		
18:30	18:30		
19:00		19:00	
19:30		19:30	
20:00		20:00	
20:30		20:30	

MOC2017 Agenda At-A-Glance

November 21 (Tue.)		November 22 (Wed.)	
8:30	Registration Open (2F Bldg. An)	8:30	Registration Open (2F Bldg. An)
9:00	Session C: Lasers and Light Control (Convention Hall, Bldg. An)	9:00	Session F: Optical Materials and Applications (Convention Hall, Bldg. An)
9:30		9:30	
10:00		10:00	
10:30	Break	10:30	Break
11:00	Session D: Optical Fiber and Waveguide Devices (Convention Hall, Bldg. An)	11:00	Session G: Microoptics for Imaging (Convention Hall, Bldg. An)
11:30		11:30	
12:00		12:00	
12:30		12:30	
	Break		Lunch
13:00	Poster Session (Complimentary light meal and coffee inclusive) (2F-Foyer, Bldg. An)	13:00	Session H: Microoptics for Sensing (Convention Hall, Bldg. An)
13:30		13:30	
14:00		14:00	
14:30		14:30	
15:00	Break	15:00	Break
15:30	Session E: Photonic Crystals and Nanostructure (Convention Hall, Bldg. An)	15:30	Postdeadline Session (Convention Hall, Bldg. An)
16:00		16:00	
16:30		16:30	
17:00	Break	17:00	
17:30	Microconcert (Presentation Room, Bldg. S)	17:30	
18:00		18:00	
18:30	Conference Party (2F-Foyer, Bldg. An)	18:30	
19:00		19:00	
19:30		19:30	
20:00		20:00	
20:30		20:30	

Technical Program

The 22nd MICROOPTICS CONFERENCE (MOC2017) will be held at INSTITUTE of INDUSTRIAL SCIENCE, THE UNIVERSITY of TOKYO, Tokyo, Japan on November 19 - November 22, 2017. This conference is sponsored by the Japan Society of Applied Physics (JSAP) and organized by Microoptics Group, JSAP and in cooperation with several academic societies and associations. The MOC will mark its 30th anniversary in 2017.

The MOC2017 is intended to provide a central forum for an update and review of scientific and technical information covering a wide range of microoptics field from fundamental researches to systems and applications.

The latest information will be available on the following web site:

<http://www.moc2017.com/>

30th Anniversary Symposium

The MOC's 30-year anniversary symposium will be held in ENEOS Hall in Building 3-s on Sunday, 19 November. The following speakers will overview the fundamentals of each field and the history.

"30 years of Microoptics Conference"

H. Nakajima, *Waseda Univ.*

"VCSEL and microlens array: parallel microoptics world"

K. Iga, *Tokyo Inst. Tech.*

"50 years of fibers and integrated optics"

Y. Kokubun, *Yokohama National Univ.*

"Photonics polymers for fiber and display"

Y. Koike, *Keio Univ.*

Plenary Session

Plenary session will be held in Convention Hall in Building An on Monday, 20 November. The following papers are invited as the plenary talks.

"Progress in quantum dots for advanced photonics"

Y. Arakawa, *Univ. of Tokyo*

"The multifaceted world of photonic crystal fibres"

P. Russell, *Max Planck Institute for the Science of Light*

"Recent advances in nanoscale photonic MEMS"

M. C. Wu, *Univ. of California, Berkeley*

"VCSEL technology for imaging and sensor systems applications"

K. J. Ebeling, *Universität Ulm*

Special Session

A special session will be held on Monday, 20 November, which focuses on "**Vehicle Microoptics for Autonomous Driving**".

Chairs

M. Kagami, *Toyota Central R&D Labs.*
O. Sugihara, *Utsunomiya Univ.*

"Optical communications for next generation automotive networks"

O. Ciordia, *Knowledge Development for POF S.L.*

"Monolithic optical phased arrays in silicon"

H. Hashemi, *Univ. of Southern California*

"Laser rangefinders for planetary exploration"

T. Mizuno, *JAXA*

"Fiber optic interconnection devices for in-vehicle communication"

S. Kobayashi and C. Almeida, *TE Connectivity*

Oral Presentation

Oral session is to be held in Convention Hall in Building An. The presentation time (including discussion) will be 30 minutes for invited papers, 15 minutes for regular papers and post deadline papers. All the speakers are requested to present the paper with a data projector. Prior to the starting time of the session, the speakers are asked to contact the session chairs and to confirm the connection between their computer and the projector.

Poster Session

Poster session will be held at 2F-Foyer in Building An in the afternoon on Tuesday, 21 November. The poster session is open during 12:45-15:15, including posting, clearing up, lunch and coffee break. For the convenience of the participants, the presentation core time when the authors must stand will be divided into two periods. The first period (13:00-14:00) is for authors with the paper of odd-number (P1, P3, ...) and the second period (14:00-15:00) is for authors with the paper of even-number (P2, P4, ...). Authors should stay in the vicinity of the bulletin board for discussion. Each author is requested to display his/her poster on a 90 cm wide and 195 cm high bulletin board. Recommended poster size is A0 (841 × 1189 mm²).

Post Deadline Paper Submission

A limited number of post deadline papers will be accepted for presentation at post deadline sessions. Latest significant results obtained after the regular deadline are most welcome.

Post deadline papers should be submitted electronically. A detailed instruction and the paper template is available on the following Web site:

<http://www.moc2017.com/>

The deadline for submission is Noon, October 17 (Tue.), 2017 (JST).

JJAP Special Issue

A special issue on Microoptics of the JJAP, which is an international journal published by the Japan Society of Applied Physics, is scheduled for publication in Aug. 2018. Authors of papers for MOC2017 are encouraged to submit extended version of MOC papers to the special issue. The instructions for preparation and submission of manuscript is on MOC2017 website. The deadline for submission of manuscripts is 15 January, 2018. Submitted papers will be reviewed based on the JJAP standard.

Paper Awards

Some excellent contributed papers will be awarded the Best Paper Award. Moreover, some students who presented excellent papers will be awarded the Student Award.

Financial Support for Overseas Students

Thanks to the support from Takano Foundation, MOC2017 will be able to provide limited financial support for student presenters in MOC2017. The applicants must be full-time students living outside Japan. Student presenters who are interested in getting this support should submit the application form (available at <http://www.moc2017.com/>) after receiving the acceptance notice of the submitted paper from MOC2017.

Official Language

The official language of MOC2017 is English.

Photograph and Video

No photographing and video recording are permitted during the all technical sessions including the anniversary symposium, special session, and poster session.

Social Events & Exhibition

Get Together Party

"Get Together" will be held in Atrium in Building 3 in the evening of Sunday, 19 November. All the attendees of MOC2017 are cordially invited.

Award Ceremony

Award Ceremony will be held in Convention Hall in Building An at 16:30, Wednesday, 22 November.

Microconcert

"Microconcert" will be performed by Machida Philharmony Baroque Ensemble (MPB) in Presentation Room in Building S, 17:15-18:15 Tuesday 21, November. All the attendees of MOC2017 and their accompanying family are invited to the Microconcert.

Conference Party

In the evening of Tuesday, 21 November, Conference Party starts at 18:15 right after the Microconcert at 2F-Foyer in Building An. Participants who want to attend the party are requested to make registration. The party registration fee is ¥3,000 per person.

Technical Exhibition

Table-top technical exhibition is planned during MOC2017. Take this opportunity to see the latest products and technologies in relation to microoptics. Exhibition will be held at 2F-Foyer in Building An.

Exhibitors (alphabetical order)

- Advanced Photonics, Inc.
- Archnext Co.,Ltd.
- Cybernet Systems Co.,Ltd.
- High-Tech Corporation
- IRC, Inc.
- JEOL Ltd.
- Optquest Co.,Ltd.
- San-es Trading Co.,Ltd.
- Scivax Corporation
- Sevensix, Inc.
- Tokyo Instruments, Inc.

Technical Sessions

Sunday, 19 November

ENEOS Hall, Bldg. 3-s

14:00-17:20 30th Anniversary Symposium

Moderators:

H. Nakajima, *Waseda Univ.*

Y. Kokubun, *Yokohama National Univ.*

Greeting Remarks:

14:00 Kazuo Hotate, *Toyota Tech. Inst.*

President of The Japan Society of Applied Physics

AS-1 30 years of Microoptics Conference

14:10 H. Nakajima, *Waseda Univ.*

AS-2 VCSEL and microlens array: parallel microoptics world

14:50 K. Iga, *Tokyo Inst. Tech.*

Break (15:30-15:50)

AS-3 50 years of fibers and integrated optics

15:50 Y. Kokubun, *Yokohama National Univ.*

AS-4 Photonics polymers for fiber and display

16:30 Y. Koike, *Keio Univ.*

17:10 Closing Remarks by the Moderators

Atrium, Bldg. 3

17:30-19:00

Get Together Party

Free of Charge

MoC: H. Shoji, Sumitomo Electric Ind., Ltd.

Drinks and Light Meals

♪ Light Music ♪

Performed by

Hirochika Nakajima (Waseda Univ.): Vocal

Okihiro Sugihara (Utsunomiya Univ.): Vocal

Genichi Hatakoshi (Waseda Univ.): E-Piano

Kenichi Iga (Tokyo Inst. Tech.): Bass

Technical Sessions

Monday, 20 November

Convention Hall, Bldg. An

9:00-9:15 Opening Remarks

Conference Co-chairs:

S. Iwamoto, *Univ. Tokyo*

S. Yamashita, *Univ. Tokyo*

Welcome Address

Teruo Fujii, *Director General, IIS, Univ. Tokyo*

9:15-11:45 Plenary Session

Chairs: S. Iwamoto, *Univ. Tokyo*

S. Yamashita, *Univ. Tokyo*

PL-1 Progress in quantum dots for advanced photonics

9:15 Y. Arakawa, *Univ. of Tokyo*

PL-2 The multifaceted world of photonic crystal fibres

9:50 P. Russell, *Max Planck Institute for the Science of Light*

Break (10:25-10:35)

PL-3 Recent advances in nanoscale photonic MEMS

10:35 M. C. Wu, *Univ. of California, Berkeley*

PL-4 VCSEL technology for imaging and sensor systems applications

11:10

K. J. Ebeling and R. Michalzik, *Universität Ulm*

Lunch (12:00-13:30)

13:30-15:15 Session A: Optical Communication and Modulation

Chairs: A. Choudhary, *Univ. Sydney*

H. Kanamori, *Sumitomo Electric Ind., Ltd.*

A-1 Underwater wireless optical communications: from system-level demonstrations to channel modelling (Invited)

13:30

H. M. Oubei, C. Shen, K.-H. Park, A. Kammoun, T. K. Ng, M.-S. Alouini, and B. S. Ooi, *King Abdullah University of Science and Technology*

A-2 High extinction ratio LN modulator with low half-wave voltage and small chirp by using thin substrate

14:00

Y. Yamaguchi^{1,2}, A. Kanno¹, N. Yamamoto¹, T. Kawanishi^{1,2}, and H. Nakajima², ¹*National Institute of Information and Communications Technology*, ²*Waseda University*

A-3 60 GHz band optical single-sideband modulator using polarization-reversed structures with asymmetric Mach-Zehnder optical waveguide

14:15

Y. Matsukawa, T. Inoue, H. Murata, and A. Sanada, *Osaka University*

A-4 32-Gbps modulation of single silicon microring resonator-loaded Mach-Zehnder modulator

14:30

Y. Yabushita, H. Takazawa, Y. Kokubun, and T. Arakawa, *Yokohama National University*

A-5 Optical-to-wireless media conversion by utilizing cross gain modulation at semiconductor optical amplifier

14:45

Y. Yamanaka, Y. Kim, T. Kuboki, and K. Kato, *Kyushu University*

Technical Sessions

- A-6** **WDM coupler for signal and second harmonic pump based on silica-based PLC for hybrid integration of linear and nonlinear optical devices**
15:00 T. Kashiwazaki, T. Kazama, T. Umeki, J. Sakamoto, and R. Kasahara, *NTT Corporation*

Break (15:15-15:30)

15:30-17:15 **Session B: Manipulation and Processing of Light**

- Chairs: B. S. Ooi, *King Abdullah Univ. Sci. and Tech.*
S. Ura, *Kyoto Inst. Tech.*

- B-1** **On-chip Brillouin processing for coherent optical communications (Invited)**
15:30 A. Choudhary¹, E. Giacomidis¹, M. Pelusi¹, E. Magi¹, D. Marpaung¹, T. Inoue², K. Vu³, D.-Y. Choi³, P. Ma³, S. Madden³, B. Corcoran⁴, S. Namiki², and B. J. Eggleton¹, ¹*University of Sydney*, ²*AIST*, ³*Australian National University*, ⁴*Monash University*
- B-2** **Pre-distortion technique for compensating QAM signal distortions generated by dual-parallel Mach-Zehnder modulators with low-extinction ratio and small-chirp parameter**
16:00 Y. Kodama¹, Y. Yamaguchi^{1,2}, A. Kanno², T. Kawanishi^{1,2}, and H. Nakajima¹, ¹*Waseda University*, ²*National Institute of Information and Communications Technology*
- B-3** **Novel measurement method for optical pulse width at high-repetition frequency**
16:15 K. Mitsueda, Y. Yamanaka, and K. Kato, *Kyushu University*
- B-4** **Proposal of compact three-mode exchanger based on symmetric and asymmetric directional couplers with integrated mode rotator**
16:30 T. Fujisawa¹, E. Taguchi¹, T. Sakamoto², T. Matsui², K. Tsujikawa², K. Nakajima², and K. Saitoh¹, ¹*Hokkaido University*, ²*NTT Access Service Network Laboratories*
- B-5** **Proposal of Si waveguide optical isolator based on nonreciprocal TE-TM mode conversion using magneto-optical phase shift for TM mode**
16:45 R. Yamaguchi, Y. Shoji, and T. Mizumoto, *Tokyo Institute of Technology*
- B-6** **Efficient silicon nitride grating coupler with a dielectric multilayer reflector**
17:00 J. Hong, and S. Yokoyama, *Kyushu University*

Break (Light meal served) (17:15-17:45)

17:45-19:45 **Special Session: Vehicle Microoptics for Autonomous Driving**

- Chairs: M. Kagami, *Toyota Central R&D Labs.*
O. Sugihara, *Utsunomiya Univ.*

- SS-1** **Optical communications for next generation automotive networks**
17:45 Ó. Ciordia, R. Pérez, and C. Pardo, *Knowledge Development for POF S.L.*
- SS-2** **Monolithic optical phased arrays in silicon**
18:15 H. Hashemi, *Univ. of Southern California*

Technical Sessions

SS-3 Laser rangefinder for planetary exploration

18:45 T. Mizuno, *JAXA*

SS-4 Fiber optic interconnection devices for in-vehicle communication

19:15 S. Kobayashi¹ and C. Almeida², ¹*TE Connectivity Japan*, ²*TE Connectivity Germany*

Technical Sessions

Tuesday, 21 November

Convention Hall, Bldg. An

9:00-10:30 Session C: Lasers and Light Control

Chairs: J. Mork, *Technical Univ. Denmark*
K. Kato, *Kyushu Univ.*

- C-1** Design of 100Gbps double transverse coupled cavity VCSELs
9:00 H. R. Ibrahim¹, M. Ahmed², and F. Koyama¹, ¹*Tokyo Institute of Technology*, ²*Minia University*
- C-2** Multiple photon resonance by using active-multimode interferometer laser diode
9:15 B. Hong, T. Kitano, T. Mori, H. Jiang, and K. Hamamoto, *Kyushu University*
- C-3** WDM lasers and arrays for applications in optical networking and interconnect: overview and perspectives (Invited)
9:30 S.-L. Lee, *National Taiwan University of Science and Technology*
- C-4** Selective mode conversion using dual-phase modulation
10:00 T. Maeda¹, A. Okamoto¹, K. Ogawa¹, A. Tomita¹, Y. Wakayama², and T. Tsuritani², ¹*Hokkaido University*, ²*KDDI Research, Inc.*
- C-5** Silicon waveguide Michelson interferometer for multi-wavelength modulator
10:15 K. Sekine, Y. Shoji, and T. Mizumoto, *Tokyo Institute of Technology*

Break (10:30-10:45)

10:45-12:45 Session D: Optical Fiber and Waveguide Devices

Chairs: S.-L. Lee, *National Taiwan Univ. Sci. and Tech.*
T. Watanabe, *Kagoshima Univ.*

- D-1** Silicon photonics for optical computing, interconnects and sensing (Invited)
10:45 R. T. Chen, *The University of Texas, Austin*
- D-2** Novel fiber attachment techniques for miniaturization of planar lightwave circuit module
11:15 S. Katayose, K. Watanabe, A. Aratake, J. Sakamoto, R. Kasahara, and M. Itoh, *NTT Corporation*
- D-3** Low-noise graded-index plastic optical fiber for consumer photonics in 8K era
11:30 A. Inoue and Y. Koike, *Keio University*
- D-4** Silicon photonics for optical communication and sensing (Invited)
11:45 C. R. Doerr, *Acacia Communications*
- D-5** Observation of eigenmode propagation in few-mode fibers by selective LP mode excitation
12:15 T. Yamaguchi¹, S. Miura², and Y. Kokubun³, ¹*School of Engineering Sciences, Yokohama National University*, ²*Graduate School of Engineering, Yokohama National University*, ³*Faculty of Engineering, Yokohama National University*

Technical Sessions

- D-6** **Pluggable photonic circuit platform using a novel passive alignment method**
12:30 H. Ishikawa, K. Shikama, K. Suzuki, S. Katayose, and A. Aratake, *NTT Corporation*

Break (12:45-13:00)

2F-Foyer, Bldg. An

13:00-15:00 **Session P: Poster Session**
(Complimentary light meal and coffee inclusive)

Chairs: O. Sugihara, *Utsunomiya Univ.*
H. Takahashi, *Sophia Univ.*

(13:00-14:00) Odd numbers: 1st half

(14:00-15:00) Even numbers: 2nd half

- P-1** **Design of a high-speed graphene optical modulator on a silicon slot waveguide**
G. Kovacevic¹, C. Phare², S. Y. Set¹, M. Lipson², and S. Yamashita¹, ¹*RCAST, The University of Tokyo*, ²*School of Engineering and Applied Science, Columbia University in the City of New York*
- P-2** **Small-signal response of slow-light VCSEL amplifier**
A. M. A Hassan^{1,2}, M. Ahmed³, M. Nakahama¹, and F. Koyama¹, ¹*FIRST, Tokyo Institute of Technology*, ²*Faculty of Science, Minia University*, ³*Faculty of Science, Al-Azhar University, Assuit*
- P-3** **Consideration of wall-plug efficiency for LEDs**
G. Hatakoshi, *Waseda University*
- P-4** **Theoretical and experimental thermal resistance of VCSELs considering thermal conductivity reduction effect of thin layer**
M. Mimura and T. Miyamoto, *Tokyo Institute of Technology*
- P-5** **Electromagnetically-induced focusing controlled by a microwave field**
O. N. Verma and S. Roy, *NIT Warangal*
- P-6** **Design and characterization of new azimuth-type lens for reading glasses with extended depth of focus**
R. Onose and S. Komatsu, *Waseda University*
- P-7** **Comparison of wavefront coding optical system using two conjugate phase masks among cubic, sinusoidal, and tangent phase masks**
M. Nakamura and S. Komatsu, *Waseda University*
- P-8** **Artifacts in fluorescence lifetime imaging of gold nanorod dimer**
S.-P. Chen^{1,2}, P.-J. Cheng², C.-T. Hsieh², and S.-W. Chang^{1,2}, ¹*National Chiao Tung University*, ²*Research Center for Applied Sciences, Academia Sinica*
- P-9** **Image evaluation based on the mean structural similarity for wavefront coding**
T. Fukuda and S. Komatsu, *Waseda University*
- P-10** **Evaluation of inverse tangent phase mask in wavefront coding**
M. Takahashi and S. Komatsu, *Waseda University*

Technical Sessions

- P-11 Evaluation of the diffractive element depth sensor under the thermal conditions**
K.-D. Chang, C.-W. Liu, L.-Y. Chen, and C.-I. Tai, *Mechanical and Mechatronics Systems Research Laboratories, Industrial Technology Research Institute*
- P-12 CAD modelling of optical fiber reflectance probe for biomedical diffuse reflectance spectroscopy applications**
Y. Amer and H. Omran, *German University in Cairo*
- P-13 Simultaneous utilization of spontaneous emission and laser emission in VCSEL for efficiency improvement of optical wireless power transmission**
Y. Suda and T. Miyamoto, *Tokyo Institute of Technology*
- P-14 Highly aberrated phase elements for presbyopia and astigmatism correction**
C. Almaguer, J. Arines, and E. Acosta, *University of Santiago de Compostela*
- P-15 Ultrafast direct measurement of HBT effect by two-photon absorption based on Feynman's path-integral theory**
B. Bai, Y. Zhou, H. Chen, H. Zheng, J. Liu, and Z. Xu, *Xi'an Jiaotong University*
- P-16 Beam propagation analysis of optical activity and circular dichroism in helically twisted photonic crystal fiber**
S. Nakano, T. Fujisawa, T. Sato, and K. Saitoh, *Hokkaido University*
- P-17 Nanostructured gradient index microlens for mid infrared applications**
R. Buczynski^{1,2,3}, P. Stafiej^{1,2}, A. Anuszkiewicz¹, A. Filipkowski¹, D. Pysz¹, A. J. Waddie³, and M. R. Taghizadeh³, ¹*Institute of Electronic Materials Technology*, ²*Faculty of Physics, University of Warsaw*, ³*Department of Physics, School of Engineering and Physical Sciences, Heriot-Watt University*
- P-18 Resonant frequency analysis of dielectric equilateral triangular microcavities**
I. O. Sukharevsky¹, M. Lebental², and S. Bittner², ¹*Technical University of Munich*, ²*Ecole normale superieure Paris-Saclay*
- P-19 Gallium diffused lithium niobate optical waveguide**
S. Ren¹, X. F. Yang¹, W. H. Wong², D. Y. Yu¹, E. Y. B. Pun², and D. L. Zhang¹, ¹*Tianjin University*, ²*City University of Hong Kong*
- P-20 Light-induced self-written waveguide formation by near-infrared wavelength continuous wave laser light**
K. Kawamura, F. S. Tan, and O. Sugihara, *Utsunomiya University*
- P-21 MEMS plasmonic switch with stripe plasmonic waveguide**
T. Ando¹, T. Kaji¹, K. Yamaguchi², T. Okamoto¹, and M. Haraguchi¹, ¹*Tokushima University*, ²*Kagawa University*

Technical Sessions

- P-22 Fabrication of fine metal structure by using interference pattern of copropagating optical vortices and lift-off process**
M. Sakamoto¹, T. Hizatsuki¹, K. Noda¹, T. Sasaki¹, N. Kawatsuki², K. Goto³, and H. Ono¹, ¹*Nagaoka University of Technology*, ²*University of Hyogo*, ³*Nissan Chemical Industries, Ltd.*
- P-23 Enhanced thermal stability of electro-optic polymer modulator**
H. Miura¹ and S. Yokoyama², ¹*Interdisciplinary Graduate School of Engineering Sciences, Kyushu University*, ²*Institute for Materials Chemistry and Engineering, Kyushu University*
- P-24 Withdrawn**
- P-25 Magneto-plasmonics on perpendicular magnetic nanostructures consisting of CoPt layers and noble metal grains**
H. Yamane¹, Y. Isaji², K. Takeda², and M. Kobayashi², ¹*Akita Industrial Technology Center*, ²*Chiba Institute of Technology*
- P-26 Proximity amplitude and phase control for beam reduction using computer-generated hologram**
C. H. Vu¹, S. Hasegawa¹, Y. Ogura², J. Tanida², and Y. Hayasaki¹, ¹*Department of Optical Engineering, Utsunomiya University*, ²*Graduate School of Information Science and Technology, Osaka University*
- P-27 Au nanostructures electrodeposited on graphene oxide-modified ITO glass as SERS substrates for dopamine detection in human serum**
V. D. Phung¹, J. W. Sik¹, J.-H. Kim², and S.-W. Lee¹, ¹*Gachon University*, ²*Gil Medical Center*
- P-28 Thermoplasmonics of micro glassbead coated with gold nanoparticles**
N. Sekimoto, S. Yanagiya, and A. Furube, *Tokushima University*
- P-29 Transient absorption of titanium dioxide sputtered film deposited on two-dimensionally assembled gold nanoparticles**
T. Takahata, S. Yanagiya, and A. Furube, *Tokushima University*
- P-30 Light-emitting diode conditioned with YAG:Ce³⁺ phosphors and CdSe/ZnS quantum dots for high color-rendering-index white-light generation**
H. Xiao¹, X. Xiao², K. Wang², and K. S. Chiang¹, ¹*City University of Hong Kong*, ²*Southern University of Science and Technology*
- P-31 Luminescence investigation of near white light emitting zinc stannate**
M.-T. Tsai, C.-H. Lin, and C.-C. Chan, *National Formosa University*
- P-32 Resistance evaluation of holographic polymer-dispersed liquid crystal memory for gamma-ray irradiation**
A. Ogiwara¹, M. Watanabe², and Y. Ito², ¹*Kobe City College of Technology*, ²*Shizuoka University*

Technical Sessions

- P-33 Effective permeability measurement of μ -negative metamaterials using an inductance method**
Z. Hong¹, C. Zhao¹, X. Luo², Z. Huang¹, H. Zhu¹, and S. Zhu¹, ¹*School of Electronic Information and Electrical Engineering, Shanghai Jiao Tong University*, ²*Department of Physics, Shanghai Jiao Tong University*
- P-34 Optical and emission properties of dye molecules captured in the mesoscale channels of micron-sized metal-organic framework crystals**
S. Huh¹, I.-H. Choi¹, and Y. Kim², ¹*Hankuk University of Foreign Studies*, ²*Ewha Womans University*
- P-35 Effect of UV irradiation on transmittance spectra in polymer stabilized cholesteric liquid crystals**
A. Ogiwara¹ and H. Kakiuchida², ¹*Kobe City College of Technology*, ²*National Institute of Advanced Industrial Science and Technology*
- P-36 Vertical split-ring resonator metamaterial for isotropic absorption and sensor**
M. K. Chen¹, P. C. Wu², C. Y. Liao¹, J.-W. Chen¹, R. J. Lin¹, Y. H. Chen¹, and D. P. Tsai^{1,2}, ¹*Department of Physics, National Taiwan University*, ²*Research Center for Applied Sciences, Academia Sinica*
- P-37 Real time sensing of ¹²CO₂ and ¹³CO₂ using 2 μ m DFB-LD**
K. Amamoto, K. Tei, S. Yamaguchi, S. Sakai, M. Asobe, and T. Ohba, *Tokai University*
- P-38 AC magnetic field imaging by using digital micro-mirror device**
S. Taue, Y. Toyota, K. Fujimori, and H. Fukano, *Okayama University*
- P-39 Experimental demonstration of a digital holographic microscope based on a planar lightwave circuit**
H. Satake¹, K. Ikeda¹, K. Inomoto¹, K. Okamoto², and E. Watanabe¹, ¹*The University of Electro-Communications*, ²*Okamoto Laboratory*
- P-40 Proposal of interference signal processing for dynamic displacement measurement with high time-resolution**
O. Furukawa and Y. Tanaka, *Tokyo University of Agriculture and Technology*
- P-41 Observation of stimulated Brillouin scattering growth along optical fiber using two-photon absorption process in a silicon avalanche photodiode**
M. Nemoto, H. Miyazawa, and Y. Tanaka, *Tokyo University of Agriculture and Technology*
- P-42 Computational ghost imaging ---An alternative for underwater optical imaging**
M. Le, H. Zheng, and Z. Xu, *Xi'an Jiaotong University*
- P-43 Long-term stability improvement of Brillouin measurement in plastic optical fibers by Fresnel suppression using amorphous fluoropolymer**
N. Matsutani, H. Lee, Y. Mizuno, and K. Nakamura, *Tokyo Institute of Technology*
- P-44 Perfluorinated graded-index plastic optical fiber Bragg gratings: observation and theoretical analysis of unique dependence on pressure**
R. Ishikawa¹, H. Lee¹, A. Lacraz², A. Theodosiou², K. Kalli², Y. Mizuno¹, and K. Nakamura¹, ¹*Tokyo Institute of Technology*, ²*Cyprus University of Technology*

Technical Sessions

- P-45 Tens-of-nanometer-scale dynamic displacement measurement using active change of operation point for phase modulator**
K. Ueda, K. Tsuchiya, and Y. Tanaka, *Tokyo University of Agriculture and Technology*
- P-46 Proposal of signal processing based on machine learning in Brillouin optical correlation domain analysis/reflectometry**
Y. Yao, S. Y. Set, and S. Yamashita, *The University of Tokyo*
- P-47 Dual-wavelength, low-coherence digital holography using quantum dot based light source**
S. Jeon¹, J.-Y. Lee¹, J.-S. Lim², Y.-J. Kim¹, and N.-C. Park¹,
¹*Department of Mechanical Engineering, Yonsei University,*
²*Center for Information Storage Device, Yonsei University*
- P-48 The application of micro laser Doppler velocimeter to hemodialysis**
K. Yoshinaga, F. Nakashima, H. Nogami, and R. Sawada,
Kyushu University
- P-49 Proposal of Si-based integrated probe for laser Doppler cross-sectional velocity distribution measurement**
K. Maru¹, K. Yamashita¹, H. Watanabe¹, R. Matsuda¹, and K. Nakatsuhara², ¹*Kagawa University,* ²*Kanagawa Institute of Technology*
- P-50 Basic study on real-time vibration displacement measurement using probe light modulated by phase-modulated RF signal**
K. Yamamoto, Y. Yamada, and Y. Tanaka, *Tokyo University of Agriculture and Technology*
- P-51 Output characteristics for high-order resonance modes in resonance-type guided-wave optical acoustic emission sensors**
K. Shimizu¹, M. Ohkawa², and T. Sato², ¹*Graduate School of Science and Technology, Niigata University,* ²*Faculty of Engineering, Niigata University*
- P-52 Thermally annealed gold film on optical fiber for multimode interferometric refractive index measurement**
Y. Hosokawa, S. Taue, and H. Fukano, *Okayama University*
- P-53 Non-destructive inspection of semiconductor optical waveguide using optical coherence tomography with visible broadband light source**
K. Ishida¹, N. Ozaki¹, N. Ikeda², and Y. Sugimoto²,
¹*Wakayama University,* ²*NIMS*
- P-54 Design method of a liquid crystal based computer-generated hologram for freeform surface measurement**
Q. Hao, S. Wang, and Y. Hu, *Beijing Institute of Technology*
- P-55 Weight sensor by 3D printed mechanically induced long-period fiber grating for power control inside single-mode fiber**
R. Khun-in^{1,2}, K. Nanjo¹, Y. Jiraraksopakun², A. Bhatranand², and H. Yokoi^{1,3}, ¹*Graduate School of Engineering and Science, Shibaura Institute of Technology,* ²*King Mongkut's Univ. of Tech. Thonburi,* ³*SIT Research Center for Green Inno. Shibaura Institute of Technology*
- P-56 Diaphragm thickness-dependent sensitivity in a glass-based guided-wave optical microphone**
Y. Karasawa¹, M. Ohkawa², and T. Sato², ¹*Graduate School of Science and Technology, Niigata University,* ²*Faculty of Engineering, Niigata University*

Technical Sessions

- P-57 Preparation of Cu₂O@apoferritin for detection of dopamine**
H. K. Lee and S. J. Park, *Gachon University*
- P-58 Optical performance of computer generated hologram under a small reconstruction beam**
T.-T. Huang, Q.-C. Zeng, C.-J. Chuang, and C.-M. Wang, *National Dong Hwa University*
- P-59 Breakdown voltage based transformer oil analysis using optical fiber as sensor**
D. K. Mahanta¹, and S. Laskar², ¹*Assam Engineering College*, ²*Assam Don Bosco University*
- P-60 Magnetic field sensing by bi-layer Ni-based subwavelength periodic structure operating visible wavelength region**
Y. Takashima, M. Haraguchi, and Y. Naoi, *Tokushima University*
- P-61 Dynamic observation of laser-tissue interaction with optical coherence tomography**
W.-J. Chen¹, W.-C. Chen¹, and M.-T. Tsai^{1,2}, ¹*Department of Electrical Engineering, Chang Gung University*, ²*Department of Dermatology, Chang Gung Memorial Hospital*
- P-62 Fundamental demonstration of mode-group demultiplexing technique based on volume holographic demultiplexer**
S. Shimizu¹, A. Okamoto¹, F. Mizukawa¹, K. Ogawa¹, A. Tomita¹, T. Takahata^{1,2}, S. Shinada³, and N. Wada³, ¹*Hokkaido University*, ²*OPTOQUEST Co., Ltd.*, ³*National Institute of Information and Communications Technology*
- P-63 Offset-launch measurement for few-mode long-period fiber gratings fabricated using tilted amplitude mask**
T. Mizunami, R. Shioya, and M. Minami, *Kyushu Institute of Technology*
- P-64 Waveguide-type optical circuit for recognition of 8PSK-coded labels**
N.-E. Odbayar, Y. Oiwa, H. Kishikawa, and N. Goto, *Tokushima University*
- P-65 Asymmetric LP₀₁-LP₁₁-LP₀₁ mode conversion along in-line few-mode fibers for all-fiber bandpass filters**
M. Kanda, T. Kibune, and H. Sakata, *Shizuoka University*
- P-66 A thickness-varying sub-wavelength grating focusing lens for TE polarization Light**
M. Zhang, Y. Huang, W. Fang, H. Fan, X. Duan, K. Liu, and X. Ren, *Beijing University of Posts and Telecommunications*
- P-67 Phase effect on silicon-wire based broadband directional coupler using Mach-Zehnder structure for CWDM applications**
S.-H. Hsu, W.-D. Lin, and Y.-C. Chung, *National Taiwan University of Science and Technology*
- P-68 Linewidth-adjustable silicon photonics waveguide Bragg filters**
T.-H. Yen, C.-J. Wu, C.-J. Yu, and Y.-J. Hung, *National Sun Yat-sen University*
- P-69 Fabrication of micro-tip for coupling to wire waveguides**
M. Tomiki and H. Sakata, *Shizuoka University*

Technical Sessions

- P-70 Fabrication and characterization of a binary diffractive lens for controlling the focal length and depth of focus**
A. Motogaito, Y. Iguchi, S. Kato, H. Miyake, and K. Hiramatsu, *Mie University*
- P-71 Numerical estimation of dispersion effect in deeply-etched fully integrated MEMS Mach-Zhender interferometer**
H. Omran,¹ B. Mortada², and D. Khaliq³, ¹*German University in Cairo*, ²*Si-Ware Systems*, ³*Ain Shams University*
- P-72 Analysis of phase-sensitive amplification in phase-shifted periodically-poled waveguide for discrimination and amplification of optical vector modulation signal**
S. Sakakibara, H. Murata, and A. Sanada, *Osaka University*
- P-73 Analyses of all-optical gate switches employing quasi-phase matched devices: effects on pattern difference of domain inversion period error**
Y. Fukuchi, T. Kimura, T. Yoshida, M. Fujisawa, and E. Uzu, *Tokyo University of Science*
- P-74 Pattern effects of random domain length error in PPLN-based all-optical retiming switches**
Y. Fukuchi, T. Kimura, and T. Matsuura, *Tokyo University of Science*
- P-75 Withdrawn**
- P-76 Numerical analyses of all-optical gate switches employing periodically poled lithium niobate devices: pattern effect of domain length error**
Y. Fukuchi and T. Matsuura, *Tokyo University of Science*
- P-77 Low attenuation mode converter with mode power distribution controllability by twist processing in step-index optical fibers**
K. Horiguchi^{1,2}, T. Iikubo¹, Y. Beppu¹, Y. Hyakutake¹, and O. Sugihara², ¹*Adamant Co., Ltd.*, ²*Utsunomiya University*
- P-78 Fast wavelength stabilization of tunable laser after starting laser oscillation**
H. Fukuda, K. Yamaguchi, T. Kuboki, and K. Kato, *Kyushu University*
- P-79 Evaluation of wavelength dependence of integrated MZM using balanced-bridge and asymmetric X waveguide structures for high extinction ratio modulation**
Y. Hanawa¹, Y. Yamaguchi^{1,2}, A. Kanno², T. Kawanishi^{1,2}, and H. Nakajima¹, ¹*Waseda University*, ²*National Institute of Information and Communications Technology*
- P-80 Proposal of quantum well polarization modulator based on double microring resonator for Stokes vector modulation**
T. Hirayama, K. Suzuki, Y. Kokubun, and T. Arakawa, *Yokohama National University*
- P-81 Efficiency improvement by serial-connection of VCSEL array for optical wireless power transmission**
Y. Katsuta and T. Miyamoto, *Tokyo Institute of Technology*
- P-82 Linearizer for wavelength sweep at tunable DBR-LD and linearity evaluation of sweep**
M. Gohara, R. Kimura, K. Yamaguchi, T. Kuboki, and K. Kato, *Kyushu University*

Technical Sessions

- P-83 MOVPE growth of lattice matched InAs/GaAsSb superlattice on InAs substrate for mid-infrared sensing devices**
K. Takahashi, Y. Fujiwara, Y. Yamagata, K. Yoshimoto, Y. Inoue, R. Wakaki, K. Maeda, and M. Arai, *University of Miyazaki*
- P-84 Hybrid ultra thin silicon and electro-optic polymer waveguide modulator**
Y. Inoue¹, H. Miura¹, and S. Yokoyama^{1,2}, ¹*Interdisciplinary Graduate School of Engineering Sciences, Kyushu University*, ²*Institute for Materials Chemistry and Engineering, Kyushu University*
- P-85 Emission spectrum evaluation of 0.8 - 1.1 μm range chirped multiple quantum wells for optical sensing**
M. Kamikado, Y. Imamura, and M. Arai, *University of Miyazaki*
- P-86 Reliability analysis of GaN-based UVLEDs under forward bias operations in salty vapor environment**
S.-C. Huang¹, H. Li¹, Y.-S. Lee², C.-H. Hung², S.-C. Wang¹, H. Chen², and T.-C. Lu¹, ¹*National Chiao Tung University*, ²*National Chi Nan University*
- P-87 Three-dimensional compressive strain and its effect on optical properties of GaN-based light emitting diode grown on patterned sapphire substrate by confocal spectromicroscopy**
H. Li¹, H.-Y. Cheng², W.-L. Chen², Y.-H. Huang², C.-K. Li², C.-Y. Chang¹, Y.-R. Wu², T.-C. Lu¹, and Y.-M. Chang², ¹*National Chiao Tung University*, ²*National Taiwan University*
- P-88 Gold and silver core-shell nanoparticles for light absorption enhancement of organic solar cells**
H. S. Kim, Q. N. Tran, and S. J. Park, *Gachon University*
- P-89 Silicon waveguide TE₀/TE₁ mode conversion Bragg grating for constituting a resonator device**
H. Okayama^{1,2}, Y. Onawa^{1,2}, D. Shimura^{1,2}, H. Yaegashi^{1,2}, and H. Sasaki^{1,2}, ¹*Ok Electric Industry Co., Ltd.*, ²*PETRA*
- P-90 Heat-resistant low-loss connectors for gigabit plastic optical fiber communication**
M. Uchida¹, H. Tanaka¹, S. Kobayashi^{1,2}, T. Kikuta³, F. S. Tan¹, and O. Sugihara¹, ¹*Utsunomiya University*, ²*Tyco Electronics Japan G.K.*, ³*Adamant Co., Ltd*
- P-91 Analysis on Si modified MMI-waveguide-type optical switch operated with carrier injection**
T. Shirai¹, A. Ishikawa¹, Y. Matsushima², H. Ishikawa¹, and K. Utaka¹, ¹*Faculty of Science and Engineering, Waseda University*, ²*Green Computing Systems Research Organization, Waseda University*
- P-92 Output position variation in grating coupler integrated in waveguide resonator**
R. Tsujimoto¹, K. Mori¹, K. Kintaka², J. Inoue¹, and S. Ura¹, ¹*Kyoto Institute of Technology*, ²*National Institute of Advanced Industrial Science and Technology*
- P-93 Robust silicon 3-dB coupler using Inverse engineering based optimization**
H.-C. Chung and S.-Y. Tseng, *National Cheng Kung University*

Technical Sessions

- P-94 Optimization of TiO₂ composite coating on pc-WLED package to enhance optical efficiency**
I. S. Han¹, H. J. Kim¹, M. H. Shin¹, C. S. Kim², and Y. J. Kim¹, ¹Yonsei University, ²LUMIMICRO.Co.,Ltd
- P-95 Feasibility study of adaptive gain control of quantum-dot SOA for unicast/multicast wavelength selective routing systems in T-band**
T. Fujimoto¹, T. Uesugi¹, R. Kubo¹, H. Tsuda¹, M. Sudo², T. Hajikano², Y. Tomomatsu³, and K. Yoshizawa⁴, ¹Keio University, ²Optoquest Co., Ltd., ³Koshin Kogaku Co., Ltd., ⁴Pioneer Micro Technology Corporation
- P-96 Pump phase-locking to phase-conjugated twin waves with heterodyne OPLL assisted by sum-frequency and second harmonic generation for ND-PSAs**
Y. Okamura¹, K. Kondo¹, T. Okabe¹, M. Koga², and A. Takada¹, ¹Tokushima University, ²Oita University
- P-97 Quadrature imbalance compensation for M-ary modulated signals interleaved with reference light**
Y. Okamura¹, H. Uno¹, M. Hanawa², and A. Takada¹, ¹Tokushima University, ²University of Yamanashi
- P-98 Proposal of cost-efficient and low-complexity platform for software defined visible light communication**
M. Che, T. Kuboki, and K. Kato, *Kyushu University*
- P-99 Tolerance to lateral displacement and angular deflection on mode sorting performance for beams carrying orbital angular momentum**
N. Sakashita, H. Kishikawa, and N. Goto, *Tokushima University*
- P-100 Multicast wavelength allocation for energy-efficient access networks considering wavelength switching time of T-band devices**
T. Shobudani, T. Fujimoto, and R. Kubo, *Keio University*
- P-101 Efficiency evaluation of hybrid concentrated photovoltaic under direct and diffuse illumination**
Q.-C. Zeng¹, W.-C. Tsao¹, T.-T. Huang¹, H.-F. Hong², and C.-M. Wang¹, ¹Opto-electronic Engineering, National Dong Hwa University, ²Institute of Nuclear Energy Research, Atomic Energy Council, Executive Yuan
- P-102 Medium-range propagation experiment using optical duplicate system**
T. Nakayama¹, Y. Takayama¹, C. Fujikawa², and K. Kodate³, ¹Faculty of Information and Telecommunication Engineering, Tokai University, ²Faculty of Engineering, Tokai University, ³Japan Women's University
- P-103 Metamaterial computational ghost imaging**
Y. He, S. Zhu, G. Dong, A. Zhang, and Z. Xu, *Xi'an Jiaotong University*
- P-104 Hybrid refractive-diffractive spectrum-splitting module as a full-spectrum concentrator**
J.-R. Sze¹ and A.-C. Wei², ¹Instrument Technology Research Center, National Applied Research Laboratories, ²Graduate Institute of Energy Engineering, National Central University
- P-105 Enlarging acceptance angle of a planar solar concentrator with a V-groove array**
A.-C. Wei¹, S.-Y. Hsiao², and J.-R. Sze³, ¹Graduate Institute of Energy Engineering, National Central University, ²Department of Mechanical Engineering, National Central University, ³Instrument Technology Research Center, National Applied Research Laboratories

Technical Sessions

- P-106 Pressure dependence of Brillouin frequency shift in plastic optical fibers**
H. Lee¹, Y. Mizuno¹, N. Hayashi², and K. Nakamura¹, ¹*Tokyo Institute of Technology*, ²*Univ. of Tokyo*

(Following postdeadline papers are accepted for poster presentation)

- PD-5 Compensation of optical aberration for improvement of image quality in virtual-phase-conjugation based optical tomography**
Y. Goto, A. Okamoto, K. Ogawa, and A. Tomita, *Hokkaido University*
- PD-6 Enhanced optical absorption in nanowires over a desire range of wavelengths**
M. Aghaeipour¹ and H. Pettersson², ¹*Lund University*, ²*Halmstad University*
- PD-7 Boronic acid-functionalized magnetic nanocomposites for an efficient extraction of dopamine molecules and their detection using fluorescent polydopamine**
J. K. Kook, D. Koh, A. V. Tran, and S.-W. Lee, *Gachon University*
- PD-8 Distance measurement using free space optics**
D. K. Mahanta¹ and S. Laskar², ¹*Assam Engineering College*, ²*Assam Don Bosco University*

Break (15:00-15:15)

Convention Hall, Bldg. An

15:15-17:00 Session E: Photonic Crystals and Nanostructure

Chairs: R. Chen, *Univ. Texas at Austin*
K. Kishino, *Sophia Univ.*

- E-1 Photonic crystal Fano lasers and Fano switches (Invited)**
15:15 J. Mork, Y. Yu, D. Bekele, K. S. Mathiesen, T. S. Rasmussen, E. Semenova, L. Ottaviano, A. Sakanas, and K. Yvind, *Technical University of Denmark*
- E-2 A photonic crystal nanocavity with a quantum dot active region embedded by MBE regrowth**
15:45 Q. H. Vo¹, Y. Ota², K. Watanabe², T. Kageyama², S. Iwamoto^{1,2}, and Y. Arakawa^{1,2}, ¹*Institute of Industrial Science, Univ. of Tokyo*, ²*NanoQuine, Univ. of Tokyo*
- E-3 Lasing characteristics of intermixed highly-stacked quantum dot structure by ion implantation for wavelength-manipulated light sources**
16:00 S. Matsui¹, Y. Akashi¹, S. Isawa¹, A. Matsumoto², K. Akahane², Y. Matsushima¹, H. Ishikawa¹, and K. Utaka¹, ¹*Waseda University*, ²*National Institute of Information and Communications Technology*
- E-4 Experimental demonstration of polarization beam splitter based on auto-cloning photonic crystal**
16:15 K. Yajima¹, T. Kawashima², T. Ijiri², T. Chiba², S. Kawakami², and H. Takahashi¹, ¹*Sophia University*, ²*Photonic Lattice, Inc.*
- E-5 Bragg grating coupled high Q factor ring resonator using LSCVD deposited Si₃N₄ film**
16:30 X. Cheng and S. Yokoyama, *Kyushu University*

Technical Sessions

E-6 **New method for development of fused silica fibres with freeform nanostructured gradient index core**
16:45 R. Buczynski^{1,2}, R. Kasztelan^{1,2}, A. Anuszkiewicz¹, A. Filipkowski¹, G. Stepniewski¹, D. Pysz¹, B. Siwicki¹, R. Stepien¹, and M. Klimczak¹, ¹*Department of Glass, Institute of Electronic Materials Technology*, ²*Faculty of Physics, University of Warsaw*

Break (17:00-17:15)

Presentation Room, Bldg. S

17:15-18:15 Microconcert

♪♪ The 18th Microconcert ♪♪

Machida Philharmony Baroque Ensemble (MPB)

Program

- # J. S. Bach: "Brandenburg Concerto" No. 3
- # A. Vivaldi : "Autumn" from Violin Concertos "The Four Seasons" Violin Solo: Takako Yoshii
- # G. F. Händel: "Ombra mai fu" Vocal: Hirochika Nakajima
- # E. Elgar: "Serenade"
- # B. Britten: "Simple Symphony"



Members

Chair : Prof. Kenichi Iga
Solo Concert Mistress and Coach: Takako Yoshii
Secretariat : Kaeko Fujii
Stage Manager : Akio Yoshii
Violin : Takako Yoshii, Kaeko Fujii, Tomoko Iga, Sanae Konno, Shoko Suzuki, Mizuho Okada, Mizue Hoshi, Mariko Furuta, Yoshikazu Karasawa, Michiko Hoshijima, Erika Masuzawa, Akiko Maehara
Viola : Yoko Miyazaki, Katsumi Mori, Yumi Matsubayashi, Reiko Araki
Cello : Mitsuko Nagahama, Kazutaka Okasaka, Masamichi Ishikawa
Contrabass : Kenichi Iga
Cembalo : Naomi Hanzawa.

2F-Foyer, Bldg. An

18:15-19:45 Conference Party

Technical Sessions

Wednesday, 22 November

Convention Hall, Bldg. An

9:00-10:30 Session F: Optical Materials and Applications

Chairs: D. Iannuzzi, *Vrije Univ. Amsterdam*
K. Hamamoto, *Kyushu Univ.*

- F-1** Surface functionalization by femtosecond lasers and its ultrafast formation dynamics (Invited)
9:00 C. Guo, *University of Rochester*
- F-2** Consideration of equilibrium condition in Shockley-Queisser limit for solar cell efficiency
9:30 G. Hatakoshi¹ and K. Iga², ¹Waseda University, ²Tokyo Institute of Technology
- F-3** Narrow-band plasmonic thermal emitter using plasmonic nanochannel structure
9:45 Z. Wang, J. K. Clark, Y.-L. Ho, and J.-J. Delaunay, *School of Engineering, The University of Tokyo*
- F-4** Independent drive of integrated multicolor (RGBY) micro-LED array using regularly arrayed InGaN based nanocolumns
10:00 N. Sakakibara¹, K. Narita¹, T. Oto¹, and K. Kishino^{1,2}, ¹Department of Applied Sciences and Engineering, *Sophia University*, ²Sophia Nanotechnology Research Center, *Sophia University*
- F-5** GaN-based vertical-cavity surface-emitting lasers operating at high temperature
10:15 T.-C. Chang, S.-Y. Kuo, J.-T. Lian, K.-B. Hong, T.-C. Lu, and S.-C. Wang, *National Chiao Tung University*

Break (10:30-10:45)

10:45-12:30 Session G: Microoptics for Imaging

Chairs: Z. He, *Shanghai Jiao Tong Univ.*
K. Kuroda, *Utsunomiya Univ.*

- G-1** MEMS based micromirror arrays (Invited)
10:45 H. Hillmer, A. Tatzel, B. Al-Qargholi, M. M. Khan, and S. Akhundzada, *University of Kassel*
- G-2** Three-dimensional all-fluidic imaging systems
11:15 D. Kopp, T. Brender, A. Dorn, L. Lehmann, and H. Zappe, *University of Freiburg*
- G-3** Biomimetic optical systems - strategies for miniaturization of optics
11:30 R. Voelkel, *SUSS MicroOptics SA*
- G-4** Electro-optic spatial light modulator/deflector using multi-stage polarization-reversed structure
11:45 Y. Hayashi¹, T. Inoue¹, H. Murata¹, A. Sanada¹, M. Okazaki², M. Ishino³, and K. Yamamoto³, ¹Graduate School of Engineering Science, *Osaka University*, ²SCREEN Holdings Co., Ltd., ³Photon Pioneers Centre, *Osaka University*
- G-5** Imaging of topologically protected elastic mode in silica 1D phononic crystal via photoelastic effect
12:00 I. Kim¹, S. Iwamoto^{1,2}, and Y. Arakawa^{1,2}, ¹IIS, *University of Tokyo*, ²NanoQuine, *University of Tokyo*
- G-6** Terahertz wave beam steering by optical phase control
12:15 Y. Zhou, G. Sakano, K. Tsugami, H. Kanaya, and K. Kato, *Kyushu University*

Technical Sessions

Lunch (12:30-13:30)

13:30-15:15 Session H: Microoptics for Sensing

Chairs: H. Hillmer, *Univ. Kassel*
K. Maru, *Kagawa Univ.*

H-1 Opto-mechanical ferrule-top devices in life science research (Invited)

13:30 D. Iannuzzi, *Vrije Universiteit Amsterdam*

H-2 Ultrasensitive fiber-optic refractive index sensor based on multimode interference with fiber-loop technique

14:00 M. Naora, S. Taue, and H. Fukano, *Okayama University*

H-3 Sensing the earth with micro-optics (Invited)

14:15 Z. He¹, Q. Liu¹, J. Chen¹, and T. Tokunaga², ¹*Shanghai Jiao Tong University*, ²*The University of Tokyo*

H-4 Detection of world's shortest hot spots in silica and plastic optical fibers by slope-assisted Brillouin optical correlation-domain reflectometry

14:45 H. Lee, Y. Mizuno, and K. Nakamura, *Tokyo Institute of Technology*

H-5 Mach-Zehnder interferometer with Fabry-Perot cavities in silicon-on-insulator for biosensing

15:00 M. Mendez-Astudillo¹, H. Okayama^{1,2}, and H. Nakajima¹, ¹*Waseda University*, ²*Oki Electric Industry Co., Ltd.*

Break (15:15-15:30)

15:30-16:30 Postdeadline Session

Chairs: O. Sugihara, *Utsunomiya Univ.*
H. Takahashi, *Sophia Univ.*

PD-1 Metasurface-based ultra-thin circular polarization analyzer integrated with semiconductor photodetectors

15:30 J. Park and K. Yu, *KAIST*

PD-2 Compact structured-light projector for 3D surface profiling

15:45 P. Zhao, P.-H. Cu-Nguyen, and H. Zappe, *University of Freiburg*

PD-3 Optimizing the design of trefoil phase plates for wavefront coding

16:00 J.M. Olvera-Angeles¹, A. Padilla-Vivanco¹, J. Sasian², J. Schwiegerling², J. Arines³, and E. Acosta³, ¹*Tulancingo University*, ²*The University of Arizona*, ³*University of Santiago de Compostela*

PD-4 Experimental observation of depolarized GAWBS in partially uncoated optical fibre

16:15 N. Hayashi, S. Y. Set, and S. Yamashita, *The University of Tokyo*

(PD-5,6,7,8 are accepted for poster presentation and listed in the poster page)

16:30-16:45 Award Ceremony

16:45-17:00 Closing Remarks

Program Co-chairs:

O. Sugihara, *Utsunomiya Univ.*
H. Takahashi, *Sophia Univ.*

Registration

Registration Fees

	Before/On Oct. 17, 2017	After Oct. 18, 2017
Conference (General)	¥42,000	¥47,000
(Student, Retiree)	¥12,000	¥15,000
Conference Party	¥3,000	¥3,000

The conference fee includes admission to MOC2017 and a Technical Digest.

MOC2017 Organizing Committee entrusts **Kinki Nippon Tourist Co., Ltd.** with a part of the management.

Those who wish to attend MOC2017 should register online at

<http://www.moc2017.com/>

If you have any questions, please contact:

MOC2017 Registration Desk

Kinki Nippon Tourist Co., Ltd.

Sumitomo-shoji Kanda-Izumi-cho Bldg.13F 1-13

Kanda-Izumi-cho, Chiyoda-ku, Tokyo 101-0024, Japan

Phone: +81-3-6891-9354, Fax: +81-3-6891-9409

E-mail: moc2017@or.knt.co.jp

All payment should be made in Japanese yen by one of the following methods:

1. Bank Transfer

(For overseas attendees)

**Bank Name: Sumitomo Mitsui Banking Corporation
Suzuran Branch (Branch Code: 760)**

Account Name: Kinki Nippon Tourist Co., Ltd.

Account No.: Ordinary Deposit No. 6103297

Swift Code: SMBCJPJT

(For domestic attendees)

三井住友銀行 すずらん支店 (店番号 760)

口座番号：普通 6103297

口座名：近畿日本ツーリスト株式会社

2. Credit Card

Master Card, VISA, American Express, Diners Club and JCB are available. Personal checks are NOT accepted.

Pre-registration, by **October 17, 2017**, is encouraged and will be entitled to reduced fees. Upon receipt of registration information and payment, MOC2017 Registration Desk will send an e-mail of confirmation which should be printed and presented at the Conference Registration Desk.

Registration Cancellation Policy

No refunds of the registration fee will be made for any reasons whatever. In case of registrant unable to attend the conference, Technical Digest (PDF format) will be sent after the conference

Hotel Accommodations

MOC2017 Accommodation Desk

Kinki Nippon Tourist Co., Ltd. will be the official agent for hotel accommodations and other travel arrangements.

Kinki Nippon Tourist Co., Ltd.

Open: Monday - Friday 9:30 am - 5:30 pm (Japan time)

Closed: Saturdays, Sundays and National holidays

Phone: +81-3-6891-9354, Fax: +81-3-6891-9409

E-mail: moc2017@or.knt.co.jp

Reservation should be made online no later than **October 20, 2017** at <http://www.moc2017.com/>. Method of payment is via credit card. (Master Card, VISA, American Express, Diners Club and JCB are available.) Balance of room charge will be charged after **October 27, 2017**, together with handling charge (¥500 per room).

Hotel Name	Code	Room Type	Room Charge	Hotel Location
Kichijoji Tokyu REI Hotel	1S	Single	¥11,980	1 min. walk from Kichijoji Station
		Twin (Single use)	¥16,200 (¥15,320)	
JR Kyushu Hotel Blossom Shinjuku	2S	Single	¥15,350	3 min. walk from Shinjuku Station
		Twin (Single use)	¥25,900 (¥20,550)	
Shinjuku New City Hotel	3S	Single	¥11,880	4 min. walk from Tocho-mae Station
				12 min. walk from Shinjuku Station (complimentary shuttle bus is available)
Washington Hotel Shinjuku	4S	Single	¥13,060	8 min. walk from Shinjuku Station
Hotel Suave Shibuya	5S	Single	¥11,440	1 min. walk from Ikejiri Ohashi Station
				25 min. walk to the venue
Shibuya Excel Hotel Tokyu	6S	Single	¥28,820	Direct access from Shibuya Station
Shibuya Tokyu REI Hotel	7S	Single	¥16,688	2 min. walk from Shibuya Station
		Twin (Single use)	¥21,944 (¥20,144)	
Hotel Unizo Tokyo Shibuya	8S	Single	¥14,788	7 min. walk from Shibuya Station

The above rates are per room, including breakfast, service charge and consumption tax. Handling charge is not included. Please refer to <http://www.moc2017.com/> for hotel location information.

Hotel Cancellation Refund Policy

Any kind of cancellation or reservation change must be submitted in writing to MOC2017 Accommodation Desk, **Kinki Nippon Tourist Co., Ltd.** If you cancel the reservation, the accommodation fee will be refunded after deducting the following cancellation fee. Please note that the handling charge will not be refunded.

* Up to 21 days prior to the check-in date:

No cancellation charge

* 20 - 8 days prior to the check-in date:

20% of one night accommodation fee

* 7 - 2 days prior to the check-in date:

50% of one night accommodation fee

* 1 day prior to the check-in date:

100% of one night accommodation fee

* On the day of occupancy or no notice given:

100% of one night accommodation fee

MOC2017

November 19 - November 22, 2017

Institute of Industrial Science,

The University of Tokyo, Komaba, Tokyo

Important Deadlines

Hotel Accommodations: October 20, 2017(JST)

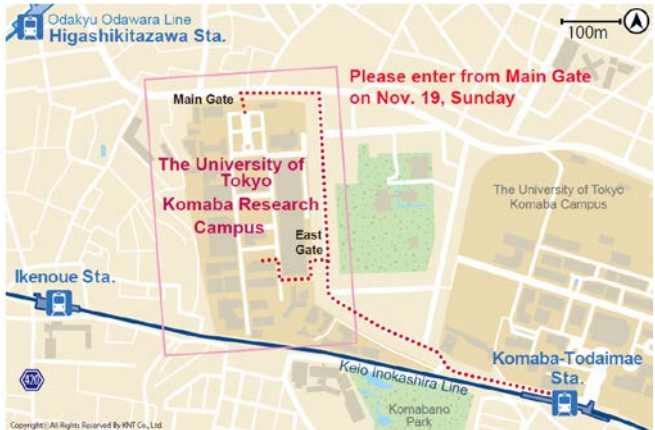
Early Registration: October 17, 2017(JST)

Post Deadline Papers: Noon, October 17, 2017(JST)

Conference Venue

The MOC2017 will take place at Komaba Research Campus, The University of Tokyo. The anniversary symposium will be held at ENEOS Hall in Building 3-s. All other technical sessions will be held at Convention Hall in Building An. Komaba Research Campus can be reached within 20 minutes from Shibuya Station by train and walk.

Note: The east gate will be closed on Sunday. Please enter to the campus from the main gate. See the map below.



Registration Desk

Please pick up your name tag and conference material at the registration desk, The desk is located in Building 3-s on Nov. 19 (Sun) and in Building An from Nov. 20 (Mon) – 22(Wed).

November 19 (Sun): Bldg. 3-s 1F
November 20 (Mon): Bldg. An 2F
November 21 (Tue): Bldg. An 2F
November 22 (Wed): Bldg. An 2F

Access Map

From Downtown Tokyo

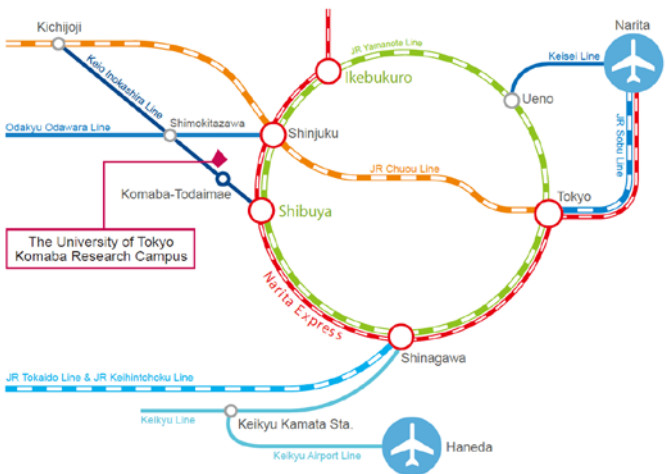
1. Take Yamanote Line (Japan Railways) to Shibuya Station.
2. Transfer to Keio Inokashira Line there and get off at Komaba-Todaimae Station. The ride from Shibuya Station to Komaba-Todaimae Station takes about 5 minutes.
3. About 10 min. walk to Komaba Research Campus.

From Haneda Airport

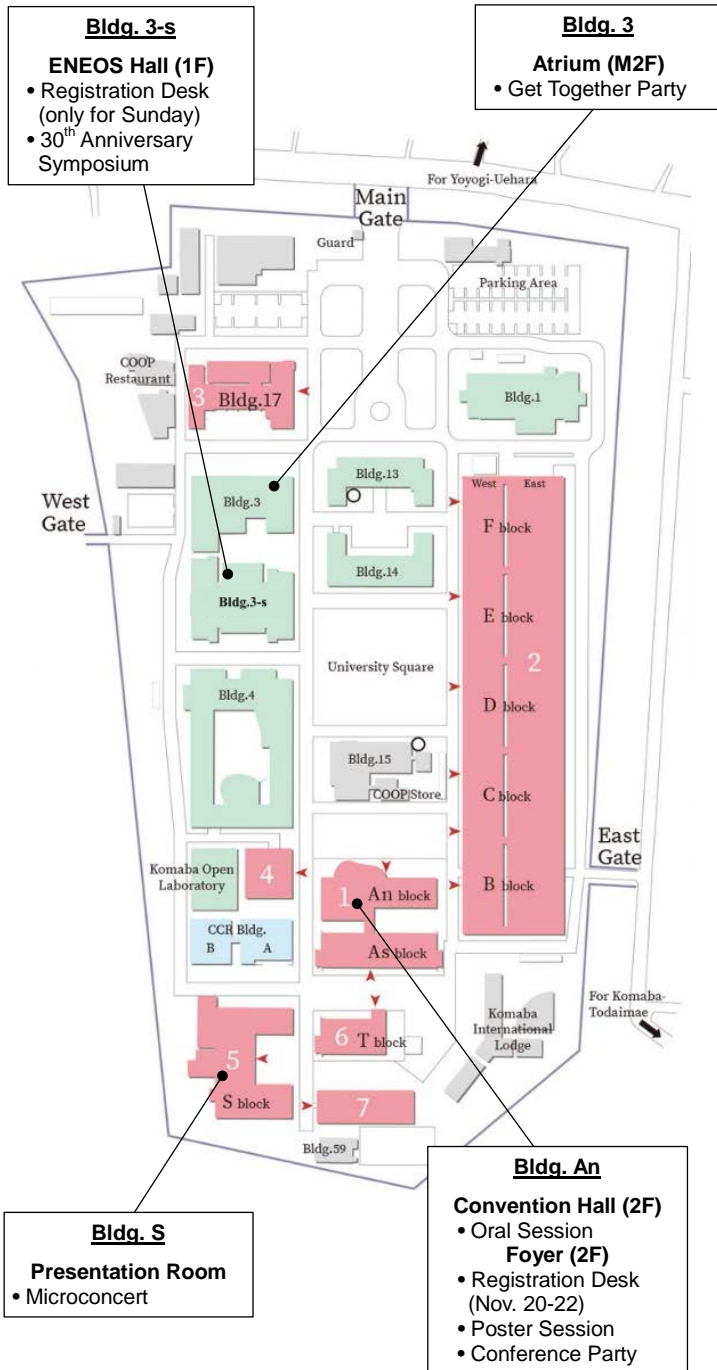
1. Take Keikyu Line to Shinagawa.
2. There, take JR Yamamoto Line to reach Shibuya Station.
3. Get off at Shibuya Station and transfer to Keio Inokashira Line to Komaba-Todaimae Station.
4. About 10 min. walk to Komaba Research Campus.

From Narita Airport

1. Take a Narita skyliner to Ueno Station.
2. There, change to Yamanote Line bound for Shibuya and Shinjuku.
3. Get off at Shibuya Station and transfer to Keio Inokashira Line to Komaba-Todaimae Station.
4. About 10 min. walk to Komaba Research Campus.



Conference Rooms



General Information

Visa

Visitors from countries whose citizens must have visas should apply to a Japanese consular office or diplomatic mission in their respective country. For details, please contact your travel agent or the local consular office in your country.

Currency Exchange

Only Japanese yen (JPY, ¥) is acceptable at regular stores and restaurants. Certain foreign currencies may be accepted at a limited number of hotels, restaurants and souvenir shops. You can exchange your currency with Japanese yen at foreign exchange banks and other authorized money exchangers on presentation of your passport.

Traveler's Checks and Credit Cards

Traveler's checks are accepted only by leading banks and major hotels in principal cities, and the use of traveler's checks in Japan is not as popular as in some other countries. VISA, Master Card, Diners Club, and American Express are widely accepted at hotels, department stores, shops, restaurants and nightclubs.

Tipping

In Japan, tips are not necessary anywhere, even at hotels and restaurants.

Electrical Appliances

Japan operates on 100 volts for electrical appliances. The frequency is 50 Hz in eastern Japan including Tokyo, and 60 Hz in western Japan.

Further Information

The latest information on the conference will be also presented on the Web site.

<http://www.moc2017.com/>

Contact

MOC2017 Conference Co-chair

Satoshi Iwamoto (Univ. Tokyo)

Phone: +81-3-5452-6291

E-mail: iwamoto@iis.u-tokyo.ac.jp

Secretariat

Yukio Ogura

2325-26 Shimokawai-cho, Asahi-ku, Yokohama

241-0806, Japan

Phone: +81-80-5412-0844

E-mail: ogura@comemoc.com

MOC2017 Committee Members

ORGANIZING COMMITTEE

Conference Co-chairs

S. Iwamoto (Univ. Tokyo)

S. Yamashita (Univ. Tokyo)

Members

M. Bunsen (Fukuoka Univ.)

T. Endo (Mitsubishi Electric Corp.)

M. Haruna (Osaka Univ.)

K. Hotate (Toyota Tech. Inst.)

K. Ishida (Chitose Inst. Tech.)

H. Kanamori (Sumitomo Electric Ind., Ltd.)

K. Kato (Kyushu Univ.)

K. Kishino (Sophia Univ.)

K. Kodate (Univ. Electro-Communications)

Y. Koike (Keio Univ.)

S. Komatsu (Waseda Univ.)

N. Kuwaki (Fujikura Ltd.)

K. Kuroda (Utsunomiya Univ.)

Y. Lee (Hitachi Ltd.)

T. Maeda (Waseda Univ.)

K. Maru (Kagawa Univ.)

N. Mori (YDC)

M. Naya (FUJIFILM Corp.)

S. Nunoue (Toshiba Corp.)

K. Ogiwara (Konica Minolta, Inc.)

Y. Okino (Kansai Univ.)

H. Takahashi (Oki Electric Industry Co., Ltd.)

H. Toba (Nikon Corp.)

Y. Uenishi (NTT Electronics Corp.)

K. Ueyanagi (TSS Co., Ltd.)

S. Ura (Kyoto Inst. Tech.)

M. Watanabe (AIST)

T. Watanabe (Kagoshima Univ.)

S. Yasuda (Fuji Xerox Co., Ltd.)

T. Yatagai (Utsunomiya Univ.)

INTERNATIONAL ADVISORY COMMITTEE

R. Baets (Univ. Gent)

J. E. Bowers (UCSB)

C. J. Chang-Hasnain (UC Berkeley)

S. Fleming (Univ. Sydney, retired)

M. T. Flores-Arias (Univ. Santiago de Compostela)

B. Y. Kim (KAIST)

M. Kujawinska (Warsaw Univ. Tech.)

Y.-H. Lee (KAIST)
Y. Liu (National Tsing Hua Univ.)
Y.-P. Park (Yonsei Univ.)
D. Richardson (Univ. Southampton)
G. C. Righini (IFAC-CNR and Enrico Fermi Center)
H. K. Shin (Opticis Co., LTD)
C. G. Someda (Galilean Academy of Sciences, Humanities and Arts)
W. J. Stewart (FREng, FInstP, FIET, FOSA)
Y. Suematsu (Tokyo Inst. Tech.)
H. Thienpont (Vrije Univ. Brussel)
C. S. Tsai (UC Irvine)
D. P. Tsai (Research Center for Applied Sciences, Academia Sinica)
S. C. Wang (National Chiao Tung Univ.)

PROGRAM COMMITTEE

Co-chairs

O. Sugihara (Utsunomiya Univ.)
H. Takahashi (Sophia Univ.)

Domestic Members

H. Fuji (Osaka Prefecture Univ.)
A. Funaki (Fujikura Ltd.)
K. Goto (Tokai Univ., retired)
K. Hamamoto (Kyusyu Univ.)
G. Hatakoshi (Waseda Univ.)
K. Iga (Tokyo Inst. Tech.)
T. Ishigure (Keio Univ.)
M. Itoh (NTT Corp.)
E. Katayama (Furukawa Electric Co., Ltd.)
R. Katayama (Fukuoka Inst. Tech.)
S. Kawai (Opto eCollege Corp.)
S. Kimura (Toshiba Corp.)
S. Kogo (Konica Minolta, Inc.)
Y. Kokubun (Yokohama National Univ.)
M. Kuwata (Mitsubishi Electric Corp.)
T. Miyamoto (Tokyo Inst. Tech.)
T. Mizumoto (Tokyo Inst. Tech.)
H. Nakajima (Waseda Univ.)
K. Ogawa (Japan Women's Univ.)
A. Sakai (Ricoh Co., Ltd.)
H. Shoji (Sumitomo Electric Ind., Ltd.)
Y. Tsuchiya (Nagoya Inst. Tech.)
Y. Uozu (Mitsubishi Rayon Co., Ltd.)
K. Yamamoto (Osaka Univ.)
K. Yamazaki (Olympus Corp.)
K. Yokomori (JST)

*Domestic Members are also Organizing Committee Members.

Overseas Members

- E. Acosta (Univ. Santiago de Compostela)
- A. Bräuer (Fraunhofer IOF)
- K.-S. Chiang (City Univ. Hong Kong)
- Y.-J. Kim (Yonsei Univ.)
- L. Y. Lin (Univ. of Washington)
- T.-C. Lu (National Chiao Tung Univ.)
- Y. Luo (Tsinghua Univ.)
- M. De Micheli (CNRS)
- J. Mohr (Karlsruher Institut für Technologie)
- H. Ottevaere (Vrije Univ. Brussel)
- N.-C. Park (Yonsei Univ.)
- S. Saito (Univ. Southampton)
- H. Tan (The Australian National Univ.)
- J. J. G. M. van der Tol (Eindhoven Univ. Tech.)
- K. Yu (KAIST)
- U. D. Zeitner (Fraunhofer IOF)

Financially Supported by

- The Takano Eiichi Optical Science Funds
- Tateisi Science and Technology Foundation
- International Exchange Program of National Institute of Information and Communications Technology (NICT)
- Tsurugi-Photonics Foundation
- Konica Minolta Science and Technology Foundation
- Support Center for Advanced Telecommunications Technology Research, Foundation
- Nippon Sheet Glass Foundation for Materials Science and Engineering

MOC2017 is also held as IIS UTokyo SYMPOSIUM No. 95.

