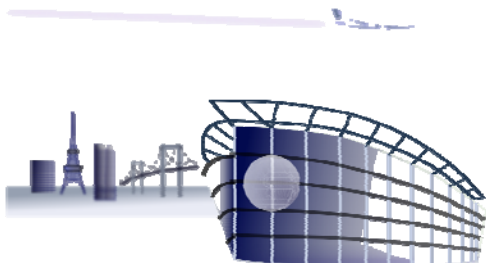


ADVANCE PROGRAM

MOC '09



15th MICROOPTICS CONFERENCE

<http://www.comemoc.com/moc09/>

Sponsored by
The Japan Society of Applied Physics
Organized by
Microoptics Group, Optical Society of Japan, JSAP



Technical co-sponsorship by

- IEEE / Photonics Society (Formerly LEOS)
- Optical Society of America
- IEICE / Electronics Society
- The Chemical Society of Japan
- The Society of Polymer Science, Japan
- The Laser Society of Japan
- Optoelectronic Industry and Technology Development Association
- Japan Optoelectro-Mechanics Association
- JSPS / The 125th Committee on Mutual Conversion between Light and Electricity
- JSPS / The 130th Committee on Optoelectronics

Supported by

- Japan Society for the Promotion of Science

Oct. 25 (Sun.)-Oct. 28 (Wed.), 2009
Miraikan
Odaiba, Tokyo, Japan

MOC '09 Agenda At-A-Glance

October 25 (Sun.)		October 26 (Mon.)		
9:00		9:00	<i>Registration Open</i>	
9:30		9:30	Opening Remarks	
10:00		10:00	A. Plenary	
10:30		10:30		
11:00		11:00		
11:30		11:30	<i>Break</i>	
12:00		12:00	B. Display & Lighting	
12:30		12:30		
13:00		<i>Registration Open</i>	13:00	<i>Lunch</i>
13:30			13:30	
14:00	Microoptics Review I	14:00	C. Sensing	
14:30		14:30		
	<i>Break</i>			
15:00	Microoptics Review II	15:00		
15:30		15:30		
	<i>Break</i>			
16:00	Microoptics Review III	16:00	D. Photonic Crystal & Grating	
16:30		16:30		
	<i>Break</i>			
17:00	Microoptics Review IV	17:00		
17:30		17:30		
18:00	Get Together	18:00	<i>Refreshment</i>	
18:30		18:30	E. Special Session	
19:00		19:00		
19:30		19:30		
20:00		20:00		
20:30		20:30		

MOC '09 Agenda At-A-Glance

October 27 (Tue.)		October 28 (Wed.)	
9:00	<i>Registration Open</i>	9:00	<i>Registration Open</i>
9:30	F. Waveguide Device	9:30	K. Active & Functional Device
10:00			
10:30			
11:00			
11:30	<i>Break</i>	11:30	L. Interconnection
12:00	G. Switching		
12:30			
13:00	<i>Lunch</i>	13:00	
13:30		13:30	
14:00	H. Material for Display	14:00	M. Fiber Technology
14:30			
15:00	J. Poster Odd (15:10-16:10) Even (16:10-17:10)	15:00	
15:30			
16:00		<i>Break</i>	
16:30		16:30	PD. Post Deadline Papers
17:00	Award Ceremony	17:00	Closing Remarks
17:30	Micro Concert	17:30	
18:00			
18:30	Conference Party	18:30	
19:00			
19:30			
20:00		20:00	
20:30		20:30	

Technical Program

The 15th MICROOPTICS CONFERENCE (MOC '09) will be held at Miraikan (National Museum of Emerging Science and Innovation), Odaiba, Tokyo, Japan on October 25 - October 28, 2009. This conference is sponsored by the Japan Society of Applied Physics (JSAP) and organized by Microoptics Group, the Optical Society of Japan (OSJ), JSAP and in cooperation with several academic societies and associations.

The MOC '09 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.comemoc.com/moc09/>

Microoptics Review (Tutorial)

Important topical fields of microoptics are lectured as microoptics review to be held in the Conference Room CR1 on Sunday, 25 October. Students are free to attend this tutorial without the registration.

"Semiconductor optical devices" G. Hatakoshi, *Toshiba Corp.*

"Waveguides" Y. Kokubun, *Yokohama National Univ.*

"Optical fibers" Y. Koike, *Keio Univ.*

"Diffractive optical elements (DOE's)" K. Goto, *Tokai Univ.*

Plenary Session

Plenary session will be held in the MIRAI CAN Hall on Monday, 26 October. The following papers are invited as the plenary talks.

"From microoptics to information photonics"

K. Kodate, *Japan Women's Univ.*

"Toward a breakthrough in photonic integration"

M. Smit, *Eindhoven Univ. Tech.*

"High-contrast grating: Bringing new light to optoelectronics"

C. Chang-Hasnain, *Univ. California, Berkeley*

Special Session

A special session will be held on Monday 26 October, which focuses on the paradigm shift from small-size devices to large-size displays. In order to realize high-resolution and large-size flat panel displays, broadband technology which requires data rate as high as 10Gbps is needed even at home. The concept is not the continuous way of existing keyboard oriented IT, but bringing us back to the "face-to-face communication".

Organizer of Special Session

Y. Koike, *Keio Univ.*

Opening address

M. Mohri, *Executive Director of Miraikan*

"Current status and prospect of liquid crystal display"

H. Takezoe, *Tokyo Inst. Tech.*

"Next generation display & transmission technology"

M. Sato and H. Takizuka, *Sony Corp.*

"Highlights in Broadband Photonics"

G. D. Khoe, *Eindhoven Univ. Tech.*

"Organic NLO/silicon photonic integration for broadband technology"

L. R. Dalton, *Univ. Washington*

Oral Presentation

Oral session is to be held in the MIRAI CAN Hall. The presentation time (including discussion) will be 25 minutes for invited papers, 15 minutes for regular papers, and 10 minutes for 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.

Poster Session

Poster session will be held in the Conference Rooms CR1, CR2 and CR3 in the afternoon of Tuesday, 27 October. For the convenience of the participants, this session will be divided into two parts. The first half is for authors with the paper of odd-number (J1, J3, ...) and the second half is for authors with the paper of even-number (J2, J4, ...). Authors should stay by turns in the vicinity of the bulletin board for discussion. Each author is requested to display materials on a 180 cm wide and 210 cm high bulletin board.

Post Deadline Papers

A limited number of post deadline papers will be accepted for the post deadline oral session or the poster session. Latest significant results obtained after the regular deadline are most welcome. Post deadline papers should be submitted electronically. A detailed instruction as well as the paper template will be available from the following Web site:

<http://www.comemoc.com/moc09/>

The deadline for submission is **September 30, 2009**.

Official Language

The official language of MOC '09 is English.

Photograph

No photograph is permitted during the oral and poster sessions.

Social Events & Exhibition

Get Together

“Get Together” will be held in the Conference Room CR3 in the evening of Sunday, 25 October. All the attendees of MOC '09 are cordially invited.

MOC Award Ceremony

MOC Award ceremony will be held in the MIRAI CAN Hall at 17:10, Tuesday, 27 October.

Micro Concert

“Micro Concert” will be performed by Machida Philharmony Baroque Ensemble (MPB) in the MIRAI CAN Hall in the evening of Tuesday, 27 October. All the attendees of MOC '09 and their accompanying family are invited to the concert.

Conference Party

In the evening of Tuesday, 27 October, Conference Party will be held after Micro Concert at Restaurant LA TERRE (7F). The party will start at 18:25. All the attendees of MOC '09 and their accompanying persons are cordially invited.

Technical Exhibition

Table-top technical exhibition is planned during MOC '09. Take this opportunity to see the latest products and technologies in relation to Microoptics. Exhibition will be held in the Conference Room CR3. For information about exhibiting at this conference, please contact:

B. Yao

Hitachi Cable, Ltd.

880 Isagozawa-cho, Hitachi, Ibaraki 319-1418, Japan

Tel: +81-294-42-5084, Fax: +81-294-42-2677

E-mail: yao.bing@hitachi-cable.co.jp

Other Information

The 50 years anniversary symposium of the 130th Committee on Optoelectronics, JSPS (Japan Society for the Promotion of Science) announces “International Symposium of Advanced Photo Electronics” will be held on October 29, 2009 (next day after finishing MOC '09) at Campus Innovation Center, Tokyo (in the front of Tamachi JR Station), Japan sponsored by JSPS in cooperation with OITDA, the 125th Committee, JSPS and MOC '09.

Technical Sessions

Sunday, 25 October

Conference Room CR1

14:00-17:45 Microoptics Review (Tutorial)

TU1 Semiconductor optical devices

14:00 G. Hatakoshi, *Toshiba Corp.*

Break (14:45-15:00)

TU2 Waveguides

15:00 Y. Kokubun, *Yokohama National Univ.*

Break (15:45-16:00)

TU3 Optical fibers

16:00 Y. Koike, *Keio Univ.*

Break (16:45-17:00)

TU4 Diffractive optical elements (DOE's)

17:00 K. Goto, *Tokai Univ.*

Conference Room CR3

17:45-19:15 Get Together

* * *

Monday, 26 October

MIRAI CAN Hall

9:30-9:45 Opening Remarks

Conference Co-chairs of MOC '09:

Y. Koike, *Keio Univ.*

N. Mori, *Konica Minolta Opto, Inc.*

9:45-11:15 Session A: Plenary

Chairs: Y. Koike, *Keio Univ.*

N. Mori, *Konica Minolta Opto, Inc.*

A1 From microoptics to information photonics (Plenary)

9:45 K. Kodate, *Japan Women's Univ.*

A2 Toward a breakthrough in photonic integration (Plenary)

10:15 M. Smit, *Eindhoven Univ. Tech.*

A3 High-contrast grating: Bringing new light to

10:45 **optoelectronics (Plenary)**

C. Chang-Hasnain, *Univ. California, Berkeley*

Break (11:15-11:30)

11:30-12:45 Session B: Display and Lighting

Chairs: S. C. Wang, *National Chiao Tung Univ.*

H. Takezoe, *Tokyo Inst. Tech.*

B1 Proposal of a novel liquid crystal display using a high definition scattering film

11:30 T. Saruta^{1,2}, A. Tagaya^{1,2}, and Y. Koike^{1,2}, ¹Keio Univ.,

²ERATO-SORST, JST

B2 Highly efficient microoptics for homogeneous LED spots and spot arrays

11:45 A. Bräuer, P. Schreiber, P. Dannberg, and F. Wippermann,

Fraunhofer IOF

Technical Sessions

Monday, 26 October

- B3 Novel high retardation polymer film and its applications**
12:00 D. Kobayashi^{1,2}, A. Tagaya^{1,2}, and Y. Koike^{1,2}, ¹Keio Univ.,
²ERATO-SORST, JST
- B4 The lasing characteristic of GaN-based photonic crystal surface-emitting lasers**
12:15 S. W. Chen, T. C. Lu, T. T. Kao, Y. J. Hou, T. C. Liu, P. S. Weng, Z.-Y. Li, H.-C. Kuo, and S.-C. Wang, *National Chiao Tung Univ.*
- B5 Azimuthally concentrated irradiance of GaN-based light-emitting diodes with Si₃N₄ microstructure arrays**
12:30 M.-L. Wu, Y.-C. Lee, P.-S. Lee, H.-L. Hsiao, C.-C. Chang, and J.-Y. Chang, *National Central Univ.*

Lunch (12:45-14:00)

14:00-15:50 Session C: Sensing

Chairs: J. Mohr, *Forshungszentrum Karlsruhe*
Y. Okino, *Kansai Univ.*

- C1 State of the art measurements for micro-optical components** (Invited)
14:00 M. Kujawska¹ and H. Ottevaere², ¹Warsaw Univ. Tech.,
²Vrije Univ. Brussel
- C2 Near-field characterization of the optical properties in higher order plasmonic resonances**
14:25 C.-H. Huang, H.-Y. Lin, C.-H. Chang, Y.-C. Lan, and H.-C. Chui, *National Cheng Kung Univ.*
- C3 Dependence of the Brillouin frequency shift on temperature in a bismuth-oxide highly-nonlinear fiber**
14:40 Y. Mizuno, Z. He, and K. Hotate, *Univ. Tokyo*
- C4 Improved optical deposition of carbon nanotubes around tapered fibers**
14:55 M. Tsuji¹, K. Kashiwagi², and S. Yamashita¹, ¹Univ. Tokyo,
²Tokyo Univ. Agriculture Tech.
- C5 Recent developments in microoptical artificial compound eyes**
15:10 A. Brückner, K. Stollberg, J. Duparré, P. Dannberg, and A. Bräuer, *Fraunhofer IOF*
- C6 Rigorous vectorial high NA imaging theory** (Invited)
15:25 P. Török, *Imperial College, London*

Break (15:50-16:05)

16:05-17:45 Session D: Photonic Crystal and Grating

Chairs: P. Török, *Imperial College, London*
T. Yatagai, *Utsunomiya Univ.*

- D1 Application of slow-light photonic crystal structures for ultra-high speed all-optical analog-to-digital conversion** (Invited)
16:05 S. Yu, S. Koo, X. Piao, and N. Park, *Seoul National Univ.*
- D2 Effect of structural parameters of photonic crystal surface enhanced Raman spectroscopy substrate on the enhancement factor**
16:30 S. Kim¹, W. Zhang², and B. T. Cunningham², ¹Chung-Ang Univ., ²Univ. Illinois Urbana-Champaign

Technical Sessions

Monday, 26 October

- D3** Optimum fabrication of volume phase holographic grism
16:45 for observing most distant galaxies
K. Nakajima and K. Kodate, *Japan Women's Univ.*
- D4** Apodized multiple quasi-phase-matched LiNbO₃ device
17:00 for wavelength conversion with low crosstalk
I. Tomita, T. Umeki, O. Tadanaga, H. Song, and M. Asobe,
NTT Corp.
- D5** A metal-film sub-wavelength grating polarizer for
17:15 terahertz and infrared regions
S. Oyama¹, K. Shiraishi¹, C. S. Tsai², H. Yoda¹, and Y.
Kogami¹, ¹*Utsunomiya Univ.*, ²*Univ. California, Irvine*
- D6** Non-destructive uniformity characterization in
17:30 waveguide-type wavelength converters
A. Terasaki^{1,2}, K. Kikuchi^{1,2}, Y. Ogiso², S. Kurimura^{1,2}, R.
Kou^{1,2}, and H. Nakajima², ¹*NIMS*, ²*Waseda Univ.*

Refreshment (17:45-18:15)

18:15-20:15 Session E: Special Session

"High-Quality Display and Broadband Technology"

Chair: Y. Koike, *Keio Univ.*

18:15 Opening Address

M. Mohri, *Executive Director of Miraikan*

E1 Current status and prospect of liquid crystal display

18:20 (Invited)

H. Takezoe, *Tokyo Inst. Tech.*

E2 Next generation display & transmission technology

18:45 (Invited)

M. Sato and H. Takizuka, *Sony Corp.*

E3 Highlights in broadband photonics (Invited)

19:10 G. D. Khoe, *Eindhoven Univ. Tech.*

E4 Organic NLO/silicon photonic integration for broadband 19:35 technology (Invited)

L. R. Dalton, *Univ. Washington*

20:00 Closing

|
20:15

MOC '09

October 25 - October 28, 2009

at Odaiba, Tokyo, Japan

Important Deadlines

Early Registration: September 30, 2009

Hotel Accommodations: September 30, 2009

Post Deadline Papers: September 30, 2009

Technical Sessions

Tuesday, 27 October

MIRAI CAN Hall

9:30-11:20 Session F: Waveguide Device

Chairs: L. Zhang, *Alcatel-Lucent*
T. Suhara, *Osaka Univ.*

F1 Polymer waveguides for use in sensor applications 9:30 (Invited)

J. Mohr¹, U. Hollenbach¹, and T. Mappes²,
¹*Forschungszentrum Karlsruhe*, ²*Univ. Karlsruhe*

F2 Compact silicon-on-insulator rib waveguide bends combined with benzocyclobutene microprisms 9:55

C.-C. Chang, H.-C. Lan, M.-H. Chung, B.-K. Shen, H.-L. Hsiao, and M.-L. Wu, *National Central Univ.*

F3 Low loss high-mesa Si/SiO₂ wire waveguides fabricated using neutral loop discharge plasma etching for infrared absorption spectroscopy 10:10

I. Alam¹, Y. Matsunaga¹, S. Hirofuji¹, T. Mitomi¹, T. Murayama², Y. Kokaze², H. Wado³, Y. Takeuchi³, and K. Hamamoto¹, ¹*Kyushu Univ.*, ²*ULVAC, Inc.*, ³*Denso Corp.*

F4 Nonlinear surface waves in modulated waveguide arrays 10:25

I. L. Garanovich¹, X. Qi², Z. Xu¹, A. A. Sukhorukov¹, W. Krolikowski¹, A. Mitchell³, D. N. Neshev¹, and Y. Kivshar¹,
¹*Australian National Univ.*, ²*Nankai Univ.*, ³*RMIT Univ.*

F5 Temperature-independent monitoring technique with visible light for optical access systems using chirped QPM device 10:40

T. Kubo, T. Umeki, T. Taniguchi, O. Tadanaga, N. Sakurai, H. Kimura, K. Kumozaki, and M. Asobe, *NTT Corp.*

F6 Design and fabrication of liquid crystal based electro-optical waveguide devices (Invited) 10:55

H. P. Chan, M. A. Uddin, and P. S. Chung, *City Univ. Hong Kong*

Break (11:20-11:35)

11:35-12:50 Session G: Switching

Chairs: D. Moss, *Univ. Sydney*
S. Ura, *Kyoto Inst. Tech.*

G1 512×512 port 3D MEMS optical switch module with toroidal concave mirror 11:35

Y. Kawajiri¹, N. Nemoto¹, T. Yamamoto², J. Yamaguchi¹, M. Makihara¹, Y. Ishii¹, K. Sasakura³, and F. Shimokawa¹, ¹*NTT Corp.*, ²*NTT Electronics Corp.*, ³*NTT-AT Corp.*

G2 Low-crosstalk wavelength-selective switch using MEMS mirror array integrated with a z-shaped alignment mark 11:50

K. Hadama, Y. Ishii, N. Matsuura, M. Usui, E. Hashimoto, T. Matsuura, and F. Shimokawa, *NTT Corp.*

G3 Demonstration of OCDM coding and variable bandwidth filtering by wavelength selective switch using quadruple series coupled microring resonators 12:05

K. Tanaka and Y. Kokubun, *Yokohama National Univ.*

Technical Sessions

Tuesday, 27 October

G4 12:20 **Port-dependent loss variation reduction of AWG wavelength multiplexer by using wavefront matching method**

Y. Sakamaki, S. Kamei, T. Hashimoto, T. Kitoh, T. Shibata, and H. Takahashi, *NTT Corp.*

G5 12:35 **Demonstration of wide hysteresis window bi-stable laser diode using different lateral mode paths in active multimode interferometer**

H. Jiang¹, H. A. Bastawrous¹, Y. Tahara¹, S. Matsuo², and K. Hamamoto¹, ¹*Kyushu Univ.*, ²*NTT Corp.*

Lunch (12:50-14:00)

14:00-15:10 Session H: Material for Display

Chairs: A. Bräuer, *Fraunhofer IOF*

N. Arai, *Konica Minolta Opto, Inc.*

H1 14:00 **Optical admittance monitoring for general and sophisticated optical coatings (Invited)**

K. Wu, Y.-J. Chen, and C.-C. Lee, *National Central Univ., Taiwan*

H2 14:25 **Proposal of retardation film with reverse dispersion containing an inorganic birefringent crystal**

K. Shikama^{1,2}, A. Tagaya^{1,2}, and Y. Koike^{1,2}, ¹*Keio Univ.*, ²*ERATO-SORST, JST*

H3 14:40 **Tunable refractive index organic-inorganic hybrid optical materials for multilayer film applications**

O. Sugihara¹, Y. Kurata¹, K. Komatsu², and T. Kaino¹, ¹*Tohoku Univ.*, ²*Sendai National College Tech.*

H4 14:55 **Fabrication and characterization of 1-D diffusing elements**

R. Bitterli¹, M. Kim¹, T. Scharf¹, H.-P. Herzig¹, W. Noell¹, C. Ataman¹, N. de Rooij¹, A. Bich², S. Roth², R. Völkel², and K. Weible², ¹*Ecole Polytechnique Federale de Lausanne*, ²*SUSS MicroOptics SA*

==== **Conference Room CR1, CR2, and CR3** =====

15:10-17:10 Session J: Poster Session

(15:10-16:10) Odd numbers: 1st half

(16:10-17:10) Even numbers: 2nd half

J1 **Transmittance analysis of holographically fabricated photonic crystals by the effective medium theory**

M. Notsu and Y. Ono, *Ritsumeikan Univ.*

J2 **Correlation between mode coupling and fluctuation within graded-index polymer optical fiber**

M. Suga^{1,2}, K. Nehashi¹, S. Takahashi², and Y. Koike^{1,2}, ¹*Keio Univ.*, ²*ERATO-SORST, JST*

Technical Sessions

Tuesday, 27 October

- J3 Analysis of liquid crystal properties for photonic crystal fiber devices**
J. Weirich¹, J. Lægsgaard¹, L. Wei¹, S. Gauza², H. Xianyu², T. Wu², S.-T. Wu², T. T. Alkeskjold³, and A. Bjarklev¹, ¹*Tech. Univ. Denmark*, ²*Univ. Central Florida*, ³*Crystal Fibre A/S*
- J4 A broadband mirror using a two-dimensional subwavelength grating**
Y. Wakabayashi, S. Kimura, J. Yamauchi, and H. Nakano, *Hosei Univ.*
- J5 Noise characteristics of photonic label recognition by time-space conversion and delay compensation**
H. Tsunematsu, N. Goto, and S. Yanagiya, *Univ. Tokushima*
- J6 Simulation study of photonics crystals using a high accuracy FDTD algorithm based on non standard finite differences**
K. Chakrabarti and J. B. Cole, *Univ. Tsukuba*
- J7 Long-period waveguide grating arrays for discrete unitary optical transformations**
S.-Y. Tseng, *National Cheng Kung Univ.*
- J8 Diffractive spatiotemporal lens with wavelength dispersion compensation**
K. Kimura, S. Hasegawa, and Y. Hayasaki, *Utsunomiya Univ.*
- J9 Comparison of field enhancement based on surface plasmon resonance and geometrical dependence in a dual cross-shaped nanoaperture**
S.-M. Kang, T. Kim, K.-S. Park, N.-C. Park, and Y.-P. Park, *Yonsei Univ.*
- J10 Multiple Brewster angles caused by embedded magnetic particles**
C. Liao^{1,2}, A. Liu^{1,2}, C.-J. Liao^{1,2}, J.-L. Chen^{1,2}, B.-H. Yang^{1,2}, and Z.-P. Zhao^{1,2}, ¹*National Formosa Univ.*, ²*Advanced Research & Business Lab.*
- J11 Spatial frequency property of holographic femtosecond laser processing**
Y. Takahashi, S. Hasegawa, and Y. Hayasaki, *Utsunomiya Univ.*
- J12 Design of subwavelength structure micro diffraction lenses with genetic algorithm**
T. Shirakawa¹, K. L. Ishikawa², S. Suzuki³, Y. Yamada³, and H. Takahashi¹, ¹*Univ. Tokyo*, ²*RIKEN*, ³*Ricoh Co., Ltd.*
- J13 Feasibility study of digital auto focusing of a small F/# compact camera using wavefront coding**
T.-S. Kim, S.-H. Lee, N.-C. Park, Y.-P. Park, and K.-S. Park, *Yonsei Univ.*
- J14 Integrated lenses for microfluidic systems**
H. C. Hunt and J. S. Wilkinson, *Univ. Southampton*
- J15 Comparison of characteristics between cubic phase mask and free-form phase mask for wavefront coding**
H. Kudo and S. Komatsu, *Waseda Univ.*
- J16 Surface plasmon resonance using a solid immersion lens**
C.-K. Min, Y.-P. Park, N.-C. Park, and K.-S. Park, *Yonsei Univ.*

Technical Sessions

Tuesday, 27 October

- J17 Electromagnetic wave scattering from silver nanoparticle on the substrate**
K.-D. Chang, Y.-M. Wang, and R.-H. Uang, *ITRI*
- J18 Compound optical element for polarized white light emitting diode**
C.-W. Hsu, C.-L. Lu, and J.-C. Su, *National Taiwan Univ. Sci. Tech.*
- J19 LED backlight module of ultra-thin high brightness system design and analysis**
J.-C. Yu, Y.-C. Fang, J.-S. Huang, W.-C. Lai, B.-W. Wu, B.-R. Hsueh, and S.-F. Wang, *National Kaohsiung First Univ. Sci. Tech.*
- J20 Modeling of high-power multi-die LED**
A.-C. Wei, *Foxsemicon Integration Tech. Inc.*
- J21 Elementary field decomposition and S-matrix algorithm for partially coherent illumination in linear micro- and nanostructured gratings**
H. J. Hyvärinen and J. Turunen, *Univ. Joensuu*
- J22 Transparency through opaque metamaterial layers**
K.-Y. Kim, *Sejong Univ.*
- J23 A novel opto-mechanical modeling approach in plastic optical fiber coupling systems**
E. Moens¹, H. Ottevaere¹, M. Vervaeke¹, Y. Meuret¹, C. V. Buggenhout², P. D. Pauw², and H. Thienpont¹, ¹*Vrije Univ. Brussel*, ²*Melexis Ieper NV*
- J24 Analysis of antireflection structure for visible spectrum**
J.-R. Sze¹, A.-C. Wei², J.-S. Kao¹, and F.-Z. Chen¹, ¹*Instrument Tech. Research Center*, ²*Foxsemicom Integrated Tech. Inc.*
- J25 Aluminium nano particle for light absorption enhancement of thin film solar cell through surface plasmon resonance**
C.-C. Chao¹, C.-M. Wang², and J.-Y. Chang¹, ¹*National Central Univ.*, ²*National Dong Hwa Univ.*
- J26 High-power single-mode vertical-cavity surface-emitting lasers with holey-structure**
I.-W. Kim¹, I.-K. Hwang¹, J.-W. Lee², H.-E. Shin³, and H.-D. Kim³, ¹*Chonnam National Univ.*, ²*Sejong Univ.*, ³*Opticis Inc.*
- J27 Synthesis, optical characterization and Rayleigh scattering properties of transparent TiO₂ nanohybrid polymer**
H. I. Elim, B. Cai, O. Sugihara, T. Kaino, and T. Adschiri, *Tohoku Univ.*
- J28 Comparison of proton-exchange acids for the fabrication of ridge structures on gamma-ray irradiated lithium niobate**
C.-H. Chang¹, Y.-Y. Wei², and W.-S. Wang¹, ¹*National Taiwan Univ.*, ²*National Tsing-Hua Univ.*
- J29 New technique for preparation of epoxy Novolak resin polymer waveguides**
V. Prajzler¹, O. Lyutakov², J. Tuma², I. Huttel², and V. Jerabek¹, ¹*Czech Tech. Univ.*, ²*Inst. Chem. Tech.*

Technical Sessions

Tuesday, 27 October

- J30 Polymer optical waveguides for hybrid photonics applications**
V. Prajzler¹, I. Huttel², O. Lyutakov², T. Vesely¹, J. Spirkova², and V. Jerabek¹, ¹*Czech Tech. Univ.*, ²*Inst. Chem. Tech.*
- J31 Improved luminescent behavior of YVO₄:Eu³⁺ ceramic phosphors by Li content**
H. K. Yang¹, B. K. Moon¹, B. C. Choi¹, J. H. Jeong¹, and J. H. Kim², ¹*Pukyong National Univ.*, ²*Donggeui Univ.*
- J32 Improved photoluminescence of Y_{1-x}La_xVO₄:Eu³⁺ phosphors by La substitution**
K. S. Shim¹, J. W. Chung¹, S. W. Park¹, J. H. Jeong¹, K. W. Jang², and H. S. Lee², ¹*Pukyong National Univ.*, ²*Changwon National Univ.*
- J33 Orientation controlled anisotropic volume gratings using liquid-crystal composites**
A. Ogiwara¹, K. Ohbayashi¹, H. Kakiuchida², K. Yoshimura², M. Tazawa², H. Ono³, and A. Emoto³, ¹*Kobe City College Tech.*, ²*AIST*, ³*Nagaoka Univ. Tech.*
- J34 Fabrication of blazed grating by using phase-shifting mask**
H. Awazu¹, K. Kintaka², K. Nishio¹, Y. Awatsuji¹, S. Ura¹, and J. Nishii², ¹*Kyoto Inst. Tech.*, ²*AIST*
- J35 Formation of volume holographic memory using liquid-crystal composites for optically reconfigurable gate array**
A. Ogiwara¹, Y. Ochi¹, M. Miyake¹, M. Watanabe², T. Mabuchi², and F. Kobayashi³, ¹*Kobe City College Tech.*, ²*Shizuoka Univ.*, ³*Kyushu Inst. Tech.*
- J36** withdrawn
- J37 Time-resolved interferometric observation of femtosecond laser-induced phenomena in transparent materials**
M. Isaka, A. Takita, and Y. Hayasaki, *Utsunomiya Univ.*
- J38 Linear structures fabricated by a line-shaped femtosecond laser pulse**
K. Shiono, S. Hasegawa, and Y. Hayasaki, *Utsunomiya Univ.*
- J39 The mechanism of generating photoelastic birefringence of methacrylates for optical devices**
H. Shafiee¹, A. Tagaya^{1,2}, and Y. Koike^{1,2}, ¹*Keio Univ.*, ²*ERATO-SORT, JST*
- J40 White light generation in Tm³⁺/Ho³⁺/Yb³⁺ doped aluminum germanate glasses**
D. L. Yang^{1,2}, H. Gong², H. Lin^{1,2}, and E. Y. B. Pun¹, ¹*City Univ. Hong Kong*, ²*Dalian Polytechnic Univ.*
- J41 Development of ultra precision UV-nanoimprinting process for large-area optical functional rigid transparent substrate**
J. Lim, M. Choi, H. Kim, S. Choi, and S. Kang, *Yonsei Univ.*

Technical Sessions

Tuesday, 27 October

- J42 The fabrication of micro-prism structure with scanning immersion lithography technology**
Q.-L. Deng¹, Y.-C. Lin¹, C.-Y. Chen¹, B.-Y. Shew², and N.-H. Chen³, ¹National Yunlin Univ. Sci. Tech., ²National Synchrotron Radiation Research Center, ³Chienkuo Tech. Univ.
- J43 Periodic structures applied on thin-GaN LEDs by surface structure for output power enhancement**
S.-H. Tu¹, S.-H. Chen¹, J.-W. Pan², C.-M. Wang³, and J.-Y. Chang¹, ¹National Central Univ., ²National Chiao Tung Univ. Tainan, ³National Dong Hwa Univ.
- J44 The performance of ultraviolet absorber on ultraviolet and visible wavelength for the flexible cyclo-olefin copolymer substrates**
S. J. Hwang¹, H. H. Yu², M. S. He², H. H. Lin², S. F. Li², and S. C. Hung², ¹National Unive Univ., ²National Formosa Univ.
- J45 Nanoparticles induced bistable splay-bend liquid crystal display**
J. C. Huang¹, H. H. Yu¹, S.-C. Jeng², and S. J. Hwang³, ¹National Formosa Univ., ²National Kaohsiung Univ. Appl. Sci., ³National Unive Univ.
- J46 Design and fabrication of compact size optical pick-up system for biosensor**
B. Kim¹, E. Cho¹, H. Ko², G. Y. Sung², and S. Kang¹, ¹Yonsei Univ., ²ETRI
- J47 Colored laser photography for high speed imaging**
C.-S. Liu¹, C.-H. Chen¹, C.-C. Chung¹, P.-H. Lin¹, K.-H. Lin¹, and Y.-N. Sun², ¹ITRI, ²National Cheng Kung Univ.
- J48 Interferometric nanoscale comparator**
M. Čížek, R. Šmíd, J. Hrabina, J. Lazar, and O. Číp, *Acad. Sci. Czech. Republic*
- J49 Ultra-narrow band selection of femtosecond laser comb to precision measurement of length stability**
R. Šmíd, O. Číp, J. Lazar, M. Čížek, and J. Hrabina, *Acad. Sci. Czech. Republic*
- J50 Quasi-distributed optical pulse correlation sensing system based on partial reflectors**
X. Xu and K. Nonaka, *Kochi Univ. Tech.*
- J51 High-resolution optical frequency domain reflectometry using wavelength reference interferometer**
B.-C. Jeon, E.-S. Kim, and I.-K. Hwang, *Chonnam National Univ.*
- J52 Near-field optical imaging of polarization-dependent plasmonic resonance in metal nanoparticle pairs**
H.-Y. Lin, C.-H. Huang, C.-H. Chang, Y.-C. Lan, and H.-C. Chui, *National Cheng Kung Univ.*
- J53 Dual-polarization phase measurements in a Mach-Zehnder interferometer**
R.-C. Twu, M.-T. Hsu, H.-Y. Hong, and Y.-F. Chu, *Southern Taiwan Univ.*
- J54 A method to evaluate optical image stabilizer in image sensor module**
S.-C. Shin¹, B.-W. Kim¹, J.-C. Jin¹, K.-M. Choi², and S. Kang¹, ¹Yonsei Univ., ²Samsung Electro-mechanics Ltd.

Technical Sessions

Tuesday, 27 October

- J55 Green light Interferometry for metrological SPM positioning**
J. Lazar¹, P. Klapetek², O. Číp¹, M. Čížek¹, J. Hrabina¹, and M. Šerý¹, ¹Academy Sci. Czech Republic, ²Czech Metrology Inst.
- J56 Non-contact area measurement using circular Damman grating (CDG)**
F. J. Wen, Z. Chen, and P. S. Chung, *City Univ. Hong Kong*
- J57 Three dimensional infrared spectrometer study the molecule pretilt angle of the liquid crystal cells**
S. J. Hwang¹, H. H. Yu², and T. Y. Cheng², ¹National Unive Univ., ²National Formosa Univ.
- J58 Optical quality characterization of semiconductor microlenses using a Mach-Zehnder interferometer in the near-infrared region**
H. Ottevaere, V. Gomez, and H. Thienpont, *Vrije Univ. Brussel*
- J59 Extended depth of field in a projected fringe profilometry using a phase mask**
W.-C. Su¹, W.-H. Su², and C.-S. She², ¹National Changhua Univ., ²National Sun Yat-Sen Univ.
- J60 Fabrication of ridge waveguide in LiNbO₃ thin film crystal by proton-exchange accelerated etching**
T. Takaoka, M. Fujimura, and T. Suhara, *Osaka Univ.*
- J61 Multiple-cavity Fabry-Perot resonator waveguides with ferroelectric liquid crystal cladding for optical tunable filter**
A. Kato, K. Nakatsuhara, and T. Nakagami, *Kanagawa Inst. Tech.*
- J62 A compact optical switch using HfO₂ waveguide with ferroelectric liquid crystal cladding**
K. Nakatsuhara, T. Sawa, A. Isikawa, Y. Goto, and T. Nakagami, *Kanagawa Inst. Tech.*
- J63 Asymmetric widths branching Si wire waveguide coupler**
H. Okayama, H. Yaegashi, and Y. Ogawa, *Oki Electric Ind. Co., Ltd.*
- J64 Tapered optical fibers with refractive index change in the propagation direction**
D. Motoyoshi¹, T. Suda², Y. Fujii², Y. Kajikawa², and S. Kobayashi¹, ¹Chitose Inst. Sci. Tech., ²Photonic Sci. Tech., Inc.
- J65 Simple and reliable evaluation method of multi-mode polymer optical waveguides**
O. Sugihara, F.-S. Tan, and T. Kaino, *Tohoku Univ.*
- J66 Lens optimization in optical interconnect using optical-simulation**
R. Horie, *IBM Tokyo Research Lab.*
- J67 Long-period fiber grating sensors fabricated by mercury-lamp exposure: comparison with excimer-laser exposure**
T. Mizunami, K. Yamamoto, Y. Sho, and Y. Ishida, *Kyushu Inst. Tech.*

Technical Sessions

Tuesday, 27 October

- J68 Tailorable optical diffractive gratings using photopolymerization and/or phase separation in polymer and monomer mixtures**
A. Emoto¹, S. B. Baharim¹, T. Shioda¹, A. Ogiwara², and H. Ono¹, ¹Nagaoka Univ. Tech., ²Kobe City College Tech.
- J69 Broadband transmission concentrator for multi-junction solar cell**
C.-M. Wang¹, H.-I. Huang², C.-C. Chao², and J.-Y. Chang², ¹National Dong Hwa Univ., ²National Central Univ.
- J70 Fiber transmission characteristics of parabolic pulses generated by optical pulse synthesizer**
H. Ishizu, K. Kashiwagi, Y. Tanaka, and T. Kurokawa, *Tokyo Univ. Agriculture Tech.*
- J71 Parametric amplification in LiNbO₃ waveguide for photonic network**
K. Kikuchi^{1,2}, S. Kurimura^{1,2}, R. Kou^{1,2}, A. Terasaki^{1,2}, H. Nakajima², K. Kondou³, and J. Ichikawa³, ¹NIMS, ²Waseda Univ., ³Sumitomo Osaka Cement Co., Ltd.
- J72 Electro-optic modulator with polarization reversal for IQ-splitting of microwave signal**
T. Yokota, H. Murata, and Y. Okamura, *Osaka Univ.*
- J73 Optical feedback signal's wavelength dependence on quality of low time jitter optical short pulse generation**
N. Kitaoka, K. Nonaka, and X. Xu, *Kochi Univ. Tech.*
- J74 Analysis of a LiNbO₃ 1-D photonic crystal structure waveguide and its application to optical switch**
Y. Nakanishi, H. Murata, and Y. Okamura, *Osaka Univ.*
- J75 Dynamically reconfigurable fiber coupling by polarization-independent double phase-conjugation**
Y. Wakayama¹, A. Okamoto¹, A. A. Grabar², and K. Sato³, ¹Hokkaido Univ., ²Uzhgorod National Univ., ³Hokkai-Gakuen Univ.
- J76 Fiber-fault surveillance scheme for branched optical networks**
S.-L. Lee¹, K.-C. Jong², and H.-W. Tsao², ¹National Taiwan Univ. Sci. Tech., ²National Taiwan Univ.
- J77 Evanescent wave coupled optical light beam deflector with symmetrical structure**
H. Okayama, *Oki Electric Ind. Co., Ltd.*
- J78 Examination of high-speed spatial light modulation using anti-ferroelectric liquid crystal**
K. Ogawa¹, M. Kobayashi¹, and Y. Suzuki², ¹Japan Women's Univ., ²LCA
- J79 Optically driven sensor network based on microprocessor controlled nodes with MEMS modulator**
M. Kinoshita¹, A. Takahashi¹, K. Kashiwagi¹, Y. Tanaka¹, T. Kurokawa¹, M. Azemoto², and Y. Machijima², ¹Tokyo Univ. Agriculture Tech., ²Lazoc Inc.
- J80 Functional organic light-emitting device for optical wireless transmissions**
M. Kasai¹, K. Ogawa¹, X. Lin², and H. Itoh², ¹Japan Women's Univ., ²AIST

Technical Sessions

Tuesday, 27 October

- J81 Stable and wavelength-tunable short pulse generation from a rational harmonic mode-locked short-cavity fiber ring laser using a bismuth-based erbium-doped fiber and a bismuth-based highly nonlinear fiber**
Y. Fukuchi and J. Maeda, *Tokyo Univ. Sci.*
- J82 Preliminary evaluation on single wavelength active multi-mode-interferometer laser diodes for high power application**
Y. Hinokuma and K. Hamamoto, *Kyushu Univ.*
- J83 Wavelength and pulsewidth-tunable harmonically mode-locked fiber laser using a bismuth-based erbium-doped fiber and a bandwidth-variable tunable filter**
Y. Fukuchi and J. Maeda, *Tokyo Univ. Sci.*
- J84 Negative feedback semiconductor optical amplifier using fiber Bragg gratings**
Y. Maeda¹ and M. Takagi², ¹*Kinki Univ.*, ²*Tatsuta Electric Wire Cable Co., Ltd.*
- J85 Theoretical design of current injection type high-index contrast subwavelength grating mirror for VCSELs**
Y. Mikoshiha and T. Miyamoto, *Tokyo Inst. Tech.*
- J86 Microprocessing and optical damage by a 1.56- μ m femtosecond fiber-laser amplifier system**
T. Mizunami, H. Yoshihara, and A. Ehara, *Kyushu Inst. Tech.*
- J87 Characteristics of a glass-based guided-wave optical microphone**
H. Nikkuni¹, M. Ohkawa², and T. Sato², ¹*Tokyo National College Tech.*, ²*Niigata Univ.*
- J88 Diaphragm size-dependent resonance frequency in a glass-based guided-wave optical microphone**
M. Nakajima, H. Nikkuni, M. Ohkawa, and T. Sato, *Niigata Univ.*
- J89 Emission properties of polymer light-emitting diodes utilizing amorphous and β phase poly(9,9-dioctylfluorene)**
R. Takata, D. Kasama, H. Kajii, and Y. Ohmori, *Osaka Univ.*
- J90 Simple spot-size converter with narrow waveguide for silicon wire circuits**
Y. Shoji, K. Kintaka, S. Suda, H. Kawashima, T. Hasama, and H. Ishikawa, *AIST*
- J91 Design and evaluation of micro laser module for light delivery in heat assisted magnetic recording**
Y. Kim, Y. Choi, and M. Lee, *Yonsei Univ.*
- J92 Different electrode patterns design for thin-GaN LED current spreading**
S.-H. Tu, F.-S. Hwu, F.-L. Lin, S.-Y. Kuo, G.-J. Sheu, J.-C. Chen, and J.-Y. Chang, *National Central Univ.*
- J93 Light-delivery system using laser-integrated head for thermally-assisted magnetic recording**
J. Shimizu, T. Matsumoto, I. Naniwa, S. Arai, H. Furuichi, S. Sasaki, S. Nakamura, K. Nakamura, Y. Iwanabe, and H. Miyamoto, *Hitachi Ltd.*

Technical Sessions

Tuesday, 27 October

- J94 Study of error-free optical line switching method for high-speed Ethernet optical access system**
K. Katayama, T. Tsujimura, K. Yoshida, K. Tanaka, Y. Azuma, and M. Shimizu, *NTT Corp.*
- J95 The color record and readout system using multiple wavelengths to random-reference multiplexing scheme**
A. Inoue¹, Y. Takayama², and K. Kodate¹, ¹*Japan Women's Univ.*, ²*NICT*
- J96 Extension of depth of field for iris recognition system by wavefront coded imaging using free-form phase mask**
T. Shakushio and S. Komatsu, *Waseda Univ.*
- J97 Prototype system of digital holographic microscopy observable in multi-view and multi-resolution**
G. Zhaozhe, T. Shimobaba, N. Masuda, and T. Ito, *Chiba Univ.*
- J98 Color imaging using optimized free-form phase mask for wavefront coding**
Y. Yoneda, R. Obana, and S. Komatsu, *Waseda Univ.*
- J99 Strong fluorescence signal enhancement with a subwavelength resonant waveguide grating**
O. Hyvärinen, P. Karvinen, T. Nuutinen, J. Rahomäki, and P. Vahimaa, *Univ. Joensuu*
- J100 Prototype of a compact optical correlator for video copyright protection**
A. Naito, E. Watanabe, and K. Kodate, *Japan Women's Univ.*
- J101 A large-scale hologram simulation using a computer-aided design tool for electroholography**
T. Shimobaba, N. Masuda, and T. Ito, *Chiba Univ.*
- J102 Second optics free concentrator by using reflection and refraction hybrid prism**
C.-M. Wang¹, H.-I. Huang², J.-W. Pan³, H.-Z. Kuo⁴, H.-F. Hong⁴, H.-Y. Shin⁴, and J.-Y. Chang², ¹*National Dong Hwa Univ.*, ²*National Central Univ.*, ³*National Chiao Tung Univ.*, ⁴*Inst. Nuclear Energy Research*

MIRAI CAN Hall

17:10-17:25 MOC Award Ceremony

17:25-18:25 Micro Concert

Restaurant LA TERRE (7F)

18:25-20:00 Conference Party

Technical Sessions

Wednesday, 28 October

MIRAI CAN Hall

9:30-11:10 Session K: Active and Functional Device

Chairs: N. Park, *Seoul National Univ.*
S. Tsuji, *Hitachi Ltd.*

K1 Low power CW four-wave mixing in high index doped silica glass micro-ring resonators (Invited)

9:30 D. J. Moss¹, M. Ferrera², L. Razzari³, D. Duchesne², R. Morandotti², M. Liscidini⁴, J. E. Sipe⁴, S. Chu⁵, and B. E. Little⁵, ¹*Univ. Sydney*, ²*INRS-EMT*, ³*Univ. Pavia*, ⁴*Univ. Toronto*, ⁵*Infinera Corp.*

K2 The integration of pattern sapphire substrate and imprint technique on GaN-based LEDs for output power enhancement and emission pattern modulation

9:55 S.-H. Tu, J.-Y. Lin, S.-Y. Wu, C.-J. Tun, C.-H. Kuo, and J.-Y. Chang, *National Central Univ.*

K3 115 mW high power superluminescent light emitting diodes using active multi-mode interferometer

10:10 Z. Zang¹, P. Navaretti², Y. Hinokuma¹, T. Minato¹, M. Duell², C. Velez², and K. Hamamoto¹, ¹*Kyushu Univ.*, ²*EXALOS AG*

K4 Proposal of gain-matched VCSELs with a thermally actuated cantilever structure for ultra-wide temperature operation

10:25 H. Sano and F. Koyama, *Tokyo Inst. Tech.*

K5 Signal to noise ratio improvement in optical fiber loop memory with optical switch and EDFA

10:40 K. Fujii¹, K. Kashiwagi¹, T. Shioda², Y. Tanaka¹, and T. Kurokawa¹, ¹*Tokyo Univ. Agriculture Tech.*, ²*Nagaoka Univ. Tech.*

K6 Micro-optic in-line rotation sensor utilizing polarization behavior of VCSEL

10:55 S. Shoda, M. Nishimura, K. Nishio, C. Ito, Y. Awatsuji, and S. Ura, *Kyoto Inst. Tech.*

Break (11:10-11:25)

11:25-12:50 Session L: Interconnection

Chairs: M. Smit, *Eindhoven Univ. Tech.*
H. Sasaki, *Oki Electric Ind. Co., Ltd.*

L1 InP-based photonic integrated devices (Invited)

11:25 L. Zhang and C. R. Doerr, *Alcatel-Lucent*

L2 A simultaneous up-tapering spot-size converter for silicon-wire waveguides

11:50 T. Ishimura¹, H. Yoda¹, K. Shiraishi¹, S. C. Tsai², and C. S. Tsai^{3,4}, ¹*Utsunomiya Univ.*, ²*California State Univ.*, ³*Univ. California, Irvine*, ⁴*National Taiwan Univ.*

L3 Aperture miniaturization of grating coupler by integration of cavity-resonator

12:05 Y. Kita¹, K. Kintaka², K. Shimizu¹, Y. Awatsuji¹, and S. Ura¹, ¹*Kyoto Inst. Tech.*, ²*AIST*

L4 Silicon-optical-bench-based optical interconnect modules

12:20 H.-L. Hsiao, H.-C. Lan, C.-Y. Lee, S.-P. Chen, C.-C. Chang, Y.-C. Lee, and M.-L. Wu, *National Central Univ.*

Technical Sessions

Wednesday, 28 October

L5 Fabrication tolerant single-trench type waveguide mode converter
12:35

S.-H. Kim, R. Takeji, and T. Mizumoto, *Tokyo Inst. Tech.*

Lunch (12:50-14:00)

14:00-15:55 Session M: Fiber Technology

Chairs: H. P. Chan, *City Univ. Hong Kong*
H. Kanamori, *Sumitomo Electric Ind., Ltd.*

M1 Polymer microstructured optical fibers - overview of the novel geometries and functional plastics for a variety of applications including photonic textiles and high bit rate data communications, low-loss mid-IR and Thz guiding, as well as plasmonic sensing and nanophotonics (Invited)
14:00

M. Skorobogatiy, *Ecole Polytechnique de Montréal*

M2 Multi-core holey fibers for ultra large capacity wide-band transmission
14:25

K. Imamura, K. Mukasa, Y. Mimura, and T. Yagi, *Furukawa Electric Co., Ltd.*

M3 Plastic optical fibers for gigabit communications at 670-680 nm wavelength
14:40

T. Kado^{1,2}, K. Koike^{1,2}, Z. Satoh^{1,2}, and Y. Koike^{1,2}, ¹*Keio Univ.*, ²*ERATO-SORST, JST*

M4 Bandwidth enhancement of graded index plastic optical fiber
14:55

T. Noda^{1,2}, S. Takahashi², and Y. Koike^{1,2}, ¹*Keio Univ.*, ²*ERATO-SORST, JST*

M5 Fabrication and evaluation of polymer waveguide Bragg filter by one-step nanoimprint using three-dimensional mold-mask
15:10

T. Hashimoto, N. Xie, T. Tatsuzaki, H. Mori, J. Mizuno, and K. Utaka, *Waseda Univ.*

M6 On-chip tunable long-period gratings in liquid crystal infiltrated photonic crystal fibers
15:25

L. Wei¹, J. Weirich¹, T. T. Alkeskjold², and A. Bjarklev¹, ¹*Tech. Univ. Denmark*, ²*Crystal Fibre A/S*

M7 Suppression of fiber fuse propagation in photonic crystal fiber (PCF) and hole assisted fiber
15:40

N. Hanzawa, K. Kurokawa, K. Tsujikawa, T. Matsui, and S. Tomita, *NTT Corp.*

Break (15:55-16:10)

16:10-16:40 Session PD: Post Deadline Papers

Chairs: M. Kujawinska, *Warsaw Univ. Tech.*
K. Ueyanagi, *JST*

16:40-16:55 Closing Remarks

Program Co-chairs:
T. Miyamoto, *Tokyo Inst. Tech.*
H. Shoji, *Sumitomo Electric Ind., Ltd.*

REGISTRATION

Registration Fees

	Before/On Sept. 30, 2009	After Sept. 30, 2009
Conference (General)	¥45,000	¥50,000
(Student, Retiree)	¥10,000	¥12,000
Extra Copy of Digest	¥6,000	¥6,000

The registration fee includes admission to MOC '09 and a copy of Technical Digest.

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Pre-registration, by **September 30, 2009**, is encouraged and will be entitled to reduced fees. Upon receipt of registration information and payment, MOC '09 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 the event of registrant unable to attend the conference, a copy of Technical Digest will be sent after the conference.

HOTEL ACCOMMODATIONS

Event & Convention House, Inc. will be the official agent for hotel accommodations and other travel arrangements.

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Hotel Name	Code	Room Type	Room Charge	Hotel Location
Tokyo Bay Ariake Washington Hotel	1S	Single	¥12,600	3 min. walk from Ariake Station, Yurikamome Line or Kokusai Tenjijo Station, Rinkai Line
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* 9 days or more prior to the date of arrival:

No cancellation charge

* 8 to 3 days prior:

20% of one night accommodation fee

* Fewer than 3 days prior, or no notice given:

100% of one night accommodation fee

General Information

LOCATION OF CONFERENCE SITE

The MOC'09 will take place at **Miraikan (National Museum of Emerging Science and Innovation)**, Odaiba, Tokyo, Japan.
Miraikan 2-41, Aomi, Koto-ku, Tokyo, 135-0064 Japan
http://www.miraikan.jst.go.jp/index_e.html

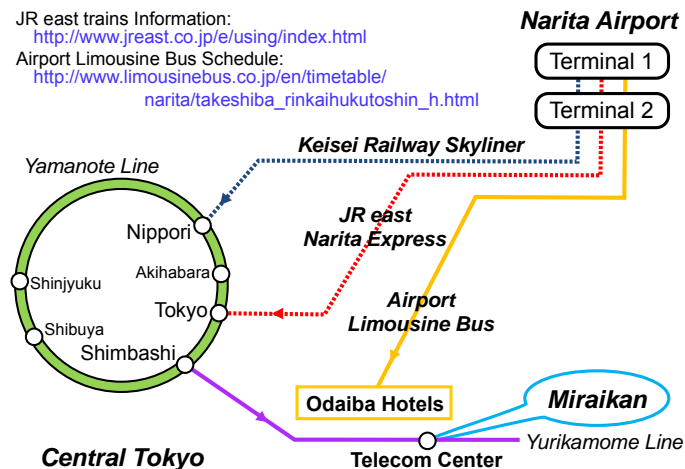
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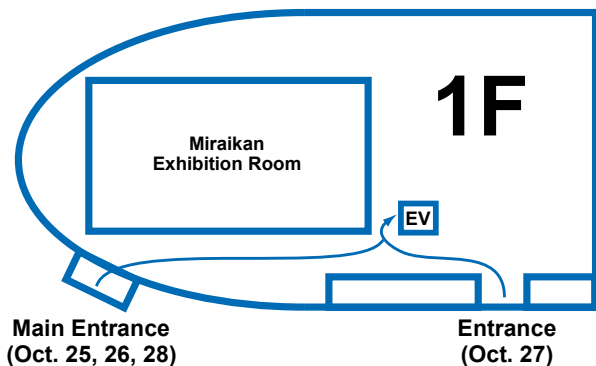
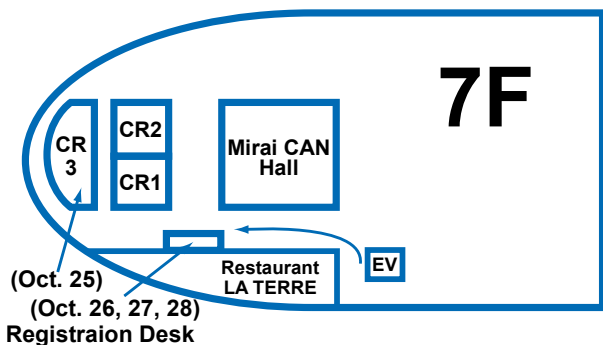


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Miraikan Floor Map



Miraikan

The National Museum of Emerging Science and Innovation (Miraikan) is a new type of science museum that links people directly with the new wisdom of the 21st century. At the heart of Miraikan's activities is the cutting-edge science and technology. This is the "state-of-the-art knowledge and innovation" which Miraikan aims to share with the whole society as part of enriched human culture.



Odaiba

Odaiba is a large artificial island in Tokyo Bay, Japan, across the Rainbow Bridge from central Tokyo. It was initially built for defensive purposes in the 1800s, dramatically expanded during the late 20th century as a seaport district, and has developed since the 1990s as a major commercial, residential and leisure area.



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.

Climate

The weather in Tokyo during the period of the conference is typically sunny with temperature ranges between 11 °C and 21 °C.

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.

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