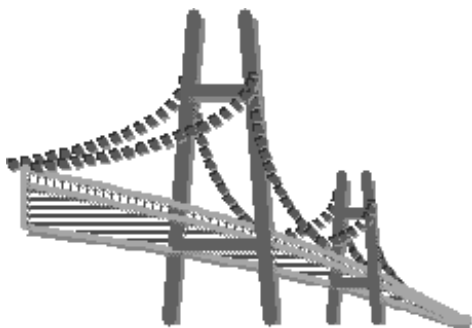


# ADVANCE PROGRAM

# M◎C '03



## 9th MICROOPTICS CONFERENCE

<http://www.din.or.jp/~microopt/moc03/>

*Sponsored by*  
**The Japan Society of Applied Physics**



*In cooperation with*

- Optical Society of America
- IEEE/Lasers and Electro-Optics Society
- Electronics Society, IEICE
- 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

**October 29 - 31, 2003**  
**Tokyo International Exchange Center**  
**Odaiba (Waterfront), Tokyo, Japan**

# MOC '03 Agenda At-A-Glance

International Conference Hall, Tokyo International Exchange Center

28 October (Tue.)		29 October (Wed.)	
8:30		8:30	
9:00		9:00	
30		30	Opening Remarks
10:00		10:00	A. Plenary
30		30	
11:00		11:00	
30		30	Lunch
12:00		12:00	
30		30	
13:00		13:00	B. Wavelength MUX/DEMUX Devices
30		30	
14:00		14:00	Break
30		30	C. Waveguide Devices
15:00		15:00	
30		30	Break
16:00		16:00	D. Nano-Tech & PhC
30		30	
17:00		17:00	Refreshment
30		30	E. Special Session
18:00	Registration Get Together (Main Foyer 3F)	18:00	
30		30	
19:00		19:00	
30		30	
20:00		20:00	

# MOC '03 Agenda At-A-Glance

International Conference Hall, Tokyo International Exchange Center

30 October (Thu.)		31 October (Fri.)	
8:30		8:30	
9:00	F. MEMS & Their Applications	9:00	K. Fiber Devices & Assembly
30		30	
10:00	Break	10:00	Break
30		30	
11:00	G. Micro Fabrication	11:00	L. Optical Systems & Applications
30		30	
12:00	Lunch	12:00	Lunch
30		30	
13:00	H. Poster Session (Main Entrance 1F & Main Foyer 3F)	13:00	M. Semiconductor Lasers
30		30	
14:00	Break	14:00	Break
30		30	
15:00	J. Functional Devices	15:00	PD. Post Deadline Papers
30		30	Award Ceremony & Closing Remarks
16:00	Break	16:00	Micro Concert <i>by Machida Philharmony Baroque</i>
30		30	
17:00	Conference Party (Youtei-maru, 5min-walk)	17:00	Adjourn
30		30	
18:00		18:00	
30		30	
19:00		19:00	
30		30	
20:00		20:00	

# Technical Program

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The 9th MICROOPTICS CONFERENCE (MOC '03) will be held at Tokyo International Exchange Center, Tokyo, Japan on October 29-31, 2003. This conference is organized and sponsored by the Japan Society of Applied Physics in cooperation with several academic societies and associations. The MOC '03 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 content of Advance Program and the latest information will be seen on the following web site:

<http://www.din.or.jp/~microopt/moc03/>

## Plenary Session

MOC '03 will have the following plenary talks:

K. Tada, *Kanazawa Institute of Technology*

**"High speed semiconductor optical modulators / switches"**

P. Lagasse, P. Demeester, and A. Ackaert, *Gent University*

**"Recent advances in photonic technology research in the European IST programme"**

S. C. Wang, *National Chiao Tung University*

**"White light – Dawn and semiconductor sun –"**

## Special Session

The special session entitled as **"Nanotechnology in Photonics"** is planned on Wednesday, October 29, 2003 to provide highlighted topics of nanotechnology in relation to photonics.

Organizers: S. C. Wang, *National Chiao Tung University*

K. Iga, *JSPS*

Moderator: T. Miyamoto, *Tokyo Institute of Technology*

The following are invited talks for special session.

A. Tuennermann and E.-B. Kley,  
*Friedrich-Schiller-University, Jena*

**"Photonic crystals in low index contrast for applications in telecommunication"**

R. J. Saykally, *UC Berkeley*

**"Single nanowire lasers"**

S. Noda, *Kyoto University*

**"Various engineerings in photonic crystals for manipulation of photons"**

## Oral Presentation

The presentation time (including discussion) will be 30 min. for invited and 15 min. for regular papers. All speakers are requested to present the paper with a data (LCD) projector and to check in at the session registration desk prior to the starting time of the session. *If the other visual equipments are required, please contact with MOC '03 Secretariat.*

## Poster Session

In the conference, poster session will be held in the afternoon of October 30. Each author is requested to display materials on a 180 cm wide and 90 cm high bulletin board. The bulletin boards are available from 10:00 on October 30. Authors should stay in the vicinity of the bulletin board for the duration of the session to answer the questions.

## Post Deadline Papers

A limited number of post deadline papers will be accepted for the post deadline session. Latest and significant results obtained after the regular deadline are most welcome. Post deadline papers must be submitted electronically to the same address as the regular papers:

**[moc03@wave.pe.titech.ac.jp](mailto:moc03@wave.pe.titech.ac.jp)**

The deadline for submission is October 7, 2003. Detailed instructions on how to prepare a paper are available as the template from the web site:

**<http://www.din.or.jp/~microopt/moc03/>**

## Special Issue "Microoptics"

A special issue on microoptics of the Japanese Journal of Applied Physics (JJAP) is scheduled for publication in August, 2004. Not only authors of papers for MOC '03 but also people having activities related to microoptics are strongly encouraged to submit original papers to the special issue. The deadline for submission is January 15, 2004. If you want any further information, please contact with:

Dr. G. Hatakoshi  
Editor/Secretariat, MOC Special Issue  
Toshiba Research Consulting Corp.  
1 Komukai Toshiba-cho, Saiwai-ku,  
Kawasaki 212-8582, Japan  
TEL: +81-44-549-2138 FAX: +81-44-520-1501  
E-mail: [genichi.hatakoshi@toshiba.co.jp](mailto:genichi.hatakoshi@toshiba.co.jp)

## Conference Party

A Conference Party will be held on Thursday evening, Oct. 30 from 18:00 to 20:00 at the Youtei-maru close to the conference site. All the attendees of MOC '03 are invited to the party.

## Micro Concert

Micro Concert will be performed by Machida Philharmony Baroque (organized by K. Iga). The concert will start after MOC '03 Award Ceremony and Closing Remarks on Oct. 31 at the International Conference Hall. The attendees of MOC and their families are cordially invited.

# Technical Sessions

Wednesday, October 29

International Conference Hall

**9:30-9:45**      **Opening Remarks**  
Conference Co-chairs of MOC '03

**9:45-11:30**      **Session A: Plenary**  
Presiders:      H.Nakajima, *Waseda University*  
                         K.Yokomori, *Ricoh Co., Ltd.*

**A1**      **High speed semiconductor optical modulators /**  
9:45      **switches** (Plenary)  
                 K.Tada, *Kanazawa Institute of Technology*

**A2**      **Recent advances in photonic technology research in the**  
10:20      **European IST programme** (Plenary)  
                 P.Lagasse, P.Demeester, and A.Ackaert,  
                 *Gent University*

**A3**      **White light – Dawn and semiconductor sun –**  
10:55      (Plenary)  
                 S.C.Wang, *National Chiao Tung University*

[Lunch (11:30-13:00)]

**13:00-14:15**      **Session B: Wavelength MUX/DEMUX Devices**  
Presiders:      H.P.Herzig, *University Neuchatel*  
                         H.Kanamori, *Sumitomo Electric Ind., Ltd.*

**B1**      **Long-period waveguide gratings** (Invited)  
13:00      K.S.Chiang, *City University of Hong-Kong*

**B2**      **Design and fabrication of grating demultiplexer using**  
13:30      **hollow optical waveguide**  
                 M.Ishikawa, T.Miura, A.Matsutani, and F.Koyama,  
                 *Tokyo Institute of Technology*

**B3**      **Wide range tunable microring resonator filter by**  
13:45      **thermo-optic effect in polymer waveguides**  
                 Y.Yanagase, S.Yamagata, and Y.Kokubun,  
                 *Yokohama National University*

**B4**      **A four-channel X 10-Gbit/s CWDM optical receiver with**  
14:00      **an AWG demultiplexer**  
                 T.Ban, M.Shishikura, R.Mita, Y.Matsuoka, H.Ishikawa\*, and  
                 H.Uetsuka\*, *Hitachi, Ltd.*, \**Hitachi Cable, Ltd.*

[Break (14:15-14:30)]

**14:30-15:45**      **Session C: Waveguide Devices**  
Presiders:      N.Peyghambarian, *University of Arizona*  
                         H.Furuta, *Fukuoka University*

**C1**      **Efficient and practical modeling of finite waveguide**  
14:30      **grating couplers**  
                 K.Cottier, R.E.Kunz, and H.P.Herzig\*,  
                 *Centre Suisse d'Electronique et de Microtechnique SA*  
                 (*CSEM*), \**University de Neuchâtel*

**C2**      **Ultra-wide range and stable UV trimming of center**  
14:45      **wavelength of microring resonator filter**  
                 T.Naganawa, H.Haeiwa, and Y.Kokubun,  
                 *Yokohama National University*

# Technical Sessions

Wednesday, October 29

- C3** **Multi-stacked integration of microring resonator filter for reduction of scattering loss at crossing point of busline**  
15:00 T.Hanai, S.Suzuki, Y.Hatakeyama, and Y.Kokubun,  
*Yokohama National University*
- C4** **Interferometric isolator with CeY<sub>2</sub>Fe<sub>5</sub>O<sub>12</sub> guiding layer employing nonreciprocal phase shift**  
15:15 K.Sakurai, H.Yokoi, and T.Mizumoto,  
*Tokyo Institute of Technology*
- C5** **Optical harmonic generation using reciprocating optical modulators**  
15:30 T.Kawanishi, S.Oikawa\*, K.Yoshiara\*\*, T.Sakamoto,  
S.Shinada, and M.Izutsu,  
*Communications Research Lab., \*Sumitomo Osaka Cement Co., Ltd., \*\*Mitsubishi Electric Corp.*

[Break (15:45-16:15)]

## 16:15-17:15 Session D: Nano-Tech and PhC

Presiders: M.K.Hibbs-Brenner, *Honeywell International*  
S.Ishihara, *OITDA*

- D1** **Molecular transistor** (Invited) -- Cancelled  
M.E.Welland, *University of Cambridge*
- D2** **Realization of photonic crystal blue LED by means of extended-pitch design**  
16:15 K.Orita, S.Tamura, T.Takizawa, T.Ueda, M.Yuri, S.Takigawa,  
and D.Ueda, *Matsushita Elec. Ind. Co., Ltd.*
- D3** **Near-field evanescent wave power enhancement with new nano meter sized grating structure and microlens in semiconductor optical array head**  
16:30 K.Goto, T.Kirigaya, and Y.Masuda, *Tokai University*
- D4** **Fiber-based optical manipulation system**  
16:45 K.Taguchi, M.Tanaka\*, and M.Ikeda\*,  
*Ritsumeikan University, \*Fukuyama University*
- D5** **2-dimensional photonic crystal beamsplitters**  
17:00 C.-C.Chen, H.-D. Chien, P.-C.Luan, and Y.-J.Chan,  
*National Central University*

[Refreshment (17:15-17:45)]

## 17:45-19:45 Session E: Special Session

"Nanotechnology in Photonics"

Presiders: S.C.Wang, *National Chiao Tung University*  
K.Iga, *JSPS*

Moderator: T.Miyamoto, *Tokyo Institute of Technology*

- E1** **Photonic crystals in low index contrast for application in telecommunication** (Invited)  
17:45 A.Tuennermann and E.-B Kley,  
*Friedrich-Schiller- University, Jena*
- E2** **Single nanowire lasers** (Invited)  
18:15 R.J.Saykally, *UC Berkeley*
- E3** **Various engineerings in photonic crystals for manipulation of photons** (Invited)  
18:45 S.Noda, *Kyoto University*
- 19:15 **Panel Discussion**

# Technical Sessions

**Thursday, October 30**

**International Conference Hall**

## **9:00-10:30 Session F: MEMS and Their Applications**

Presiders: S.Kang, *Yonsei University*  
R.Sawada, *NTT Corp.*

### **F1 From micro-optics to optical MEMS (Invited)**

9:00 H.P.Herzig, *University of Neuchatel*

### **F2 A three-dimensional MEMS optical switch module using low-cost highly accurate polymer components**

9:30 T.Yamamoto, J.Yamaguchi, N.Takeuchi, A.Shimizu,  
R.Sawada, E.Higurashi, and Y.Uenishi,  
*NTT Microsystem Integration Laboratories*

### **F3 Self-assembled axial type variable optical attenuator using continuously movable pop-up MEMS mirror**

9:45 Y.-J.Lai, C.Lee, C.-Y.Wu, Y.-S.Lin, and M.H.Tsai,  
*Asia Pacific Microsystems, Inc.*

### **F4 Bio-MEMS and integration with micro-optics (Invited)**

10:00 A.Tixier-Mita, *University of Tokyo*

**[Break (10:30-11:00)]**

## **11:00-12:30 Session G: Micro Fabrication**

Presiders: J.E.Batubara, *University Pelita Harapan*  
M.Oikawa, *Nippon Sheet Glass Co., Ltd.*

### **G1 Fabrication technology for micro-optics – micromolding (Invited)**

11:00 S.Kang, *Yonsei University*

### **G2 Plastic microlens arrays by deep lithography with protons: fabrication and characterization**

11:30 H.Ottevaere, B.Volckaerts, M.Vervaeke, P.Vynck,  
and H.Thienpont, *Vrije Universiteit Brussel*

### **G3 Fabrication method of double micro lens array using self-alignment technology**

11:45 K.Kitamura, K.Okada, N.Fujita, Y.Nagasaka, M.Ueda,  
Y.Sekimoto, and Y.Kurata, *SHARP Corporation*

### **G4 Fabrication of highly reliable diffraction gratings by the sol-gel method**

12:00 M.Taniyama, K.Shimmo, Y.Sasaki, N.Hikichi, Y.Sekiguchi,  
K.Asada, and K.Nakama, *Nippon Sheet Glass Co., Ltd.*

### **G5 Micro-optical polarizer with high efficiency**

12:15 I.Pola, P.Ruffieux, and T.Scharf, *Institute of Microtechnology*

**[Lunch (12:30-14:00)]**



# Technical Sessions

Thursday, October 30

Main Entrance & Main Foyer

## 14:00-15:30 Session H: Poster Session

- H1 Epitaxial lift-off of GaAs/AlGaAs films with vertical cavity surface emitting lasers for high-density packaging of opto-electronic integrations**  
K.Hiruma, M.Kinoshita, S.Hiramatsu, and T.Mikawa,  
*Association of Super-Advanced Electronics Technologies (ASET)*
- H2 Molecular orientation and nonlinear optical properties of VOPc thin films prepared on polycarbonate substrate**  
Y.Jin, G.Sawa, Y.Uchida, K.Kojima, A.Ohashi, S.Ochiai, and T.Mizutani\*, *Aichi Institute of Technology, \*Nagoya University*
- H3 Development of bi-directional electrothermal V-beam actuators for latched optical switch**  
W.-C.Chen, C.-Y.Wu, and C.Lee,  
*Asia Pacific Microsystems, Inc.*
- H4 A wide-angle full-vector beam propagation method based on ADI iterations**  
S.L.Chui and Y.Y.Lu, *City University of Hong-Kong*
- H5 Full vector electro-optic field mapping on a micro-structured electrode**  
Y.Matsuo, T.Kawanishi, S.Oikawa\*, K.Higuma\*, and M.Izutsu, *Communications Research Lab., \*Sumitomo-Osaka Cement Co., Ltd.*
- H6 Gallium nitride planar waveguides fabricated by magnetron sputtering**  
V.Prajzler, I.Hüttel\*, V.Peřina\*\*, J.Špirková\*, J.Schröfel, and J.Oswald\*\*, *Czech Technical University, \*Institute of Chemical Technology, \*\*Czech Academy of Science*
- H7 Optical alignment system with a visible light source and an image**  
J.-Y.Jung, H.-S.Ryu, and H.-S.Kang,  
*Electronics and Telecommunications Research Institute*
- H8 Development of ultra compact optical components and gain-block**  
T.Kato, M.Hoshikawa, C.Nishida, A.Masuda, and M.Suzuki,  
*FDK Corporation*
- H9 FDTD studies of gold optical waveguides based on surface plasmon polariton**  
K.Hakamata, T.Hayashi, and H.Rikukawa, *FDK Corporation*
- H10 Fabrication of a long-period fiber grating by femtosecond laser pulses with a novel fiber-positioning method**  
T.Fujii, T.Fukuda, S.Ishikawa, Y.Ishii, K.Sakuma, and H.Hosoya, *Fujikura Ltd.*
- H11 Advanced design and optical thickness control for TFF based GFF**  
T.Ito, H.Abe, and K.Mizuno, *The Furukawa Electric Co., Ltd.*
- H12 All-optical interconnection with photorefractive cross-polarized four-wave mixing and control beam**  
T.Yagai, A.Okamoto, K.Sato\*, and M.Bunsen,  
*Hokkaido University, \*Hokkai-Gakuen University*

# Technical Sessions

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*Thursday, October 30*

- H13 All-optical bi-directional interconnection with double mutual-pumped phase conjugation**  
S.Hondo, A.Okamoto, S.Honma\*, and H.Funakoshi,  
*Hokkaido University, \*Yamanashi University*
- H14 Fault-tolerant automatic routing method with photorefractive double phase conjugate mirrors**  
H.Kato, A.Okamoto, and M.Bunsen, *Hokkaido University*
- H15 All-optical auto-tracking bi-directional connection switch with cross polarized DPCM**  
S.Uemura, A.Okamoto, and S.Honma\*,  
*Hokkaido University, \*Yamanashi University*
- H16 Anisotropic dry etching of Silicon using SF<sub>6</sub>/O<sub>2</sub> with photoresist mask at room temperature**  
H.-H.Chen, *Industrial Technology Research Institute*
- H17 Polymer waveguide with holography grating for dynamic wavelength selection**  
Y.-T.Lu, C.-L.Yang, and S.Chi\*, *Industrial Technology Research Institute, \*National Chiao-Tung University*
- H18 Novel application of arrayed waveguide grating to compact planar spectroscopic sensors**  
Y.Komai, K.Kodate, K.Okamoto\*, and T.Kamiya\*\*,  
*Japan Women's University, \*Okamoto Lab., \*\*National Institute for Academic Degrees & University Evaluation*
- H19 Nanostructured random organic/inorganic composites as transparent materials for optical components**  
H.Mataki, S.Yamaki, and T.Fukui,  
*Kansai Research Institute, Inc.*
- H20 Small v-bend optical silica-waveguide using an elliptic mirror for planar lightwave circuits**  
T.Suzuki, Y.Shibata, and H.Tsuda, *Keio University*
- H21 A wavelength sensor using a structure of curved optical waveguide**  
R.Panhasa, S.Khuntaweetep, and S.Somkuarnpanit, *KMITL*
- H22 A design of a silicon based race track microcavity resonator using FDTD method**  
S.Jaturuntruengsri, S.Somkuarnpanit, and K.S.Tang, *KMITL*
- H23 Reflective micro optical element array fabricated by photofabrication technique**  
Y.Awatsuji, M.Sasada, N.Kawano, and T.Kubota,  
*Kyoto Institute of Technology*
- H24 Error reduction of quantized Fourier modulus in the iterative Fourier transform algorithms used for phase retrieval**  
S.Yang and H.Takajo, *Kyushu Institute of Technology*
- H25 New fiber Bragg grating filter assembly for reciprocating optical modulators**  
K.Yoshiara, J.Hoshizaki, S.Matsumoto, R.Namiki,  
T.Kawanishi\*, and M.Izutsu\*, *Mitsubishi Electric Corporation, \*Communications Research Lab.*

# Technical Sessions

Thursday, October 30

- H26 DNA hybridization acceleration by photovoltaic array**  
C.-C.Chen, W.-C.Ku<sup>\*,\*\*</sup>, S.-K.Chiu<sup>\*</sup>, and C.-M.Tzeng<sup>\*</sup>,  
*National Central University, \*U-Vision Biotech Inc.,*  
*\*\*Academia Sinica*
- H27 Design and analyses of a planar zoom module as a laser beam expander**  
A.-C.Weii and H.-P.D.Shieh, *National Chiao-Tung University*
- H28 Thermal controllable polymer waveguide optical attenuator with large attenuation range**  
Y.-T.Lu, H.-C.Guo<sup>\*</sup>, H.-T.Wang, H.-H.Chen<sup>\*</sup>, and S.Chi,  
*National Chiao-Tung University,*  
*\*Industrial Technology Research Institute*
- H29 High-efficiency and wideband wavelength converters based on four-wave-mixing in light-holdings SOA's**  
J.-T.Hsieh, S.-L.Lee<sup>\*</sup>, and J.Wu, *National Taiwan University,*  
*\*National Taiwan University of Science and Technology*
- H30 One-dimensional photonic crystal waveguide**  
S.Kittaka, K.Oya, M.Nara, T.Asai, and K.Tsunetomo,  
*Nippon Sheet Glass Co., Ltd.*
- H31 A "dual-lens-type dual collimator array system" using a planar microlens array**  
S.Wada, K.Yamada, K.Nakamura, and K.Hamanaka,  
*Nippon Sheet Glass Co., Ltd.*
- H32 A MUX/DEMUX module for CWDM with concave micro-mirrors**  
K.Hadama, T.Sakamoto, and Y.Arai,  
*NTT Microsystem Integration Laboratories*
- H33 Parametric fluorescence generation in LiNbO<sub>3</sub> quasi-phase matched waveguide pumped by semiconductor laser**  
H.Kintaka and T.Suhara, *Osaka University*
- H34 GaInP/AlGaInP quantum well distributed Bragg reflector laser using surface curved grating**  
P.K.Das, K.Hamana, O.Omachi, N.Shimada, M.Uemukai,  
and T.Suhara, *Osaka University*
- H35 Profile estimation for microlens fabrication using a simple dry etching model**  
Y.Satoh, H.Mifune, Y.Kiyosawa, T.Ishii, and S.Satoh,  
*Ricoh Co., Ltd.*
- H36 Optical memory with add/drop using all-optical triode based on a tandem wavelength converter in reflective semiconductor optical amplifiers**  
Y.Maeda, K.Narita<sup>\*</sup>, and N.Ojima<sup>\*</sup>,  
*Toyota Technological Institute, \*Connect Japan, Ltd.*
- H37 Optical isolator with Si guiding layer fabricated by wafer bonding**  
H.Yokoi, Y.Shoji, and T.Mizumoto,  
*Tokyo Institute of Technology*
- H38 Spin reorientation transitions of epitaxial magnetic thin films Cu/Ni/Cu(001) structure by ion irradiation**  
J.-S.Yang, H.Yokoi, T.Mizumoto, M.C.Sung<sup>\*</sup>, D.G.You<sup>\*</sup>,  
J.Lee<sup>\*</sup>, and K.Jeong<sup>\*</sup>,  
*Tokyo Institute of Technology, \*Yonsei University.*

# Technical Sessions

**Thursday, October 30**

- H39 Measurement of intensity-dependent response of GaInAsP distributed feedback waveguide**  
J.-K.Seo, S.-H.Jeong, T.Mizumoto, M.Takenaka\*, and Y.Nakano\*,  
*Tokyo Institute of Technology, \*University of Tokyo*
- H40 Control of group delay and chromatic dispersion in tunable hollow waveguide with highly reflective mirrors**  
Y.Sakurai and F.Koyama, *Tokyo Institute of Technology*
- H41 Analysis of higher-order transverse mode suppression using a convex mirror in VCSELs including thermal lensing effect**  
T.Uchida, T.Miyamoto, and F.Koyama,  
*Tokyo Institute of Technology*
- H42 A novel spot-size converter using cylindrical micro GRIN slab tip**  
K.Shiraishi\*\*, C.S.Tsai\*\*\*, H.Yoda\*\*, T.Ito\*\*, and I.Tomita\*\*, *\*University of California, Irvine, \*\*Utsunomiya University, \*\*\*Academia Sinica*
- H43 Nonlinearity reduction in WDM system using equilibrium phase strategic rotation cancelling**  
C.H.Hum, S.D.Walker, V.Lalithambika\*, F.C.Lin\*, D.M.Holburn\*, R.J.Mears\*, and M.C.Parker\*\*,  
*University of Essex, \*University of Cambridge, \*\*Fujitsu Network Communications*
- H44 Optical add/drop multiplexers using slanted fiber bragg gratings**  
S.Hagiwara, M.Endo, S.Kawai, H.Miyakawa\*, and Y.Ohta\*\*,  
*University of Industrial Technology, \*Tokyo University of Agriculture and Technology, \*\*NEC Patent Service, Ltd.*
- H45 Temperature dependence of photorefractive effect in PVK-based composites**  
G.B.Jung, M.Ozawa, T.Akasaka, T.Shimura, K.Araki, and K.Kuroda, *University of Tokyo*
- H46 Fabrication of silica-based glass optical waveguide by UV beam scanning**  
K.Kashiwagi and S.Yamashita, *University of Tokyo*
- H47 Deep lithography with protons for mastering refractive micro-optical components and modules**  
B.Volckaerts, H.Ottevaere, P.Tuteleers, M.Vervaeke, P.Vynck, C.Debaes, R.Krajewski, A.Hermanne, and H.Thienpont, *Vrije Universiteit Brussel*
- H48 Optical switch with a few-micron-length structure**  
K.Furuhashi, H.Okayama\*, and H.Nakajima,  
*Waseda University, \*Oki Electric Industry*
- H49 Chaotic communication using LD-transmitter / receiver array**  
S.Ebisawa and S.Komatsu, *Waseda University*
- H50 Narrow band-pass transmission filter consisting of two fiber Bragg gratings with different periods**  
Y.Yamada, Y.Yabe, and S.Komatsu, *Waseda University*

[Break (15:30-15:45)]

# Technical Sessions

Thursday, October 30

International Conference Hall

## 15:45-17:30 Session J: Functional Devices

Presiders: H.J.S.Dorren, *COBRA Research Institute*  
Y.Fujii, *Nihon University*

### J1 Multifunctional nonlinear optical polymer and molecular assemblies (Invited)

15:45 N.Peyghambarian, *University of Arizona*

### J2 Polysilane/polysilazane composite: novel material for optical waveguides and its application to mode-conversion filters

16:15 H.Mataki, S.Yamaki, T.Fujiki\*, S.Kawasaki\*, N.Tanabe\*\*, H.Okayama\*\*, and H.Nakajima\*\*, *Kansai Research Institute, Inc.*, \**Osaka Gas Co., Ltd.*, \*\**Waseda University*

### J3 Low-driving-voltage electro-optic modulator with novel KTN crystal waveguides

16:30 S.Toyoda, K.Fujiura, M.Sasaura, K.Enbutsu, A.Tate, M.Shimokozono, H.Fushimi\*, T.Imai, K.Manabe, T.Matsuura, and T.Kurihara, *NTT Photonics Laboratories*, \**Sendai National College of Technology*

### J4 22mW UV second harmonic generation in a first-order periodically poled MgO:LiNbO<sub>3</sub> waveguide

16:45 T.Sugita, K.Mizuuchi, K.Yamamoto, T.Kawaguchi\*, T.Yoshino\*, and M.Imaeda\*, *Matsushita Electric Industrial Co., Ltd.*, \**NGK Insulators, Ltd.*

### J5 Fabrication of domain-inverted gratings in MgO:LiNbO<sub>3</sub> by voltage application with ultraviolet light irradiation through photomask at room temperature

17:00 M.Fujimura, T.Sohmura, and T.Suhara, *Osaka University*

### J6 Sum-frequency generation in periodically poled KTiOPO<sub>4</sub> with large tolerances of temperature and wavelength

17:15 Y.Furukawa, H.Sakata, and T.Yagi, *Canon Research Center*

————— "Youtei-maru" of Funeno-kagakukan —————

18:00-20:00 Conference Party

# Technical Sessions

Friday, October 31

International Conference Hall

## 9:00-10:30 Session K: Fiber Devices and Assembly

Presiders: K.S.Chiang, *City University of Hong-Kong*  
T.Watanabe, *Fujikura Ltd.*

### K1 Microstructure optical fibers (Invited)

9:00 D.J.Trevor, R.Bise, E.Monberg, and F.Dimarcello,  
*OFS Laboratories*

### K2 Recent advances in applications of holey fibers

9:30 T.Hasegawa, T.Saitoh, D.Nishioka, E.Sasaoka,  
and T.Hosoya, *Sumitomo Electric Industries, Ltd.*

### K3 Compact 64-fiber PLC connector utilizing angled connection for super-multi-channel optical modules

9:45 S.Asakawa, M.Kobayashi, Y.Abe, and R.Nagase,  
*NTT Photonics Laboratories.*

### K4 Subminiature micro-optic devices with mini quartz-rod-lens

10:00 Y.Noguchi, K.Nishiwaki, K.Oda, K.Asano, and H.Hosoya,  
*Fujikura Ltd.*

### K5 Ultra compact optical sub assembly using surface mountable silicon microlens

10:15 K.Kotani, H.Sasaki, M.Uekawa, D.Shimura, Y.Maeno,  
and T.Takamori, *Ok Electric Industry Co., Ltd.*

[Break (10:30-11:00)]

## 11:00-12:30 Session L: Optical Systems and Applications

Presiders: D.J.Trevor, *OFS Labs.*  
A.Arimoto, *PENTAX Corp.*

### L1 All-Optical signal processing based on ultrafast carrier dynamics in semiconductor optical amplifiers (Invited)

11:00 H.J.S.Dorren, *COBRA Research Institute*

### L2 Guided-mode-selective focusing grating coupler for optical add/drop multiplexing of free-space wave with guided waves

11:30 Y.Imaoka, J.Ohmori, M.Hamada, S.Ura, K.Kintaka\*,  
R.Satoh\*\*, and H.Nishihara\*\*\*,  
*Kyoto Institute of Technology, \*National Institute of Advanced Industrial Science and Technology, \*\*Osaka Univ., \*\*\*The University of the Air*

### L3 Ultra-fast facial recognition system based on Vanderlugt correlator

11:45 E.Watanabe and K.Kodate, *Japan Women's University*

### L4 A method for personal identification based on the recognition of three-dimensional objects

12:00 J.Kobayashi and S.Komatsu, *Waseda University*

### L5 A practical laser projector with new illumination optics for reduction of speckle noise

12:15 K.Kasazumi, Y.Kitaoka, K.Mizuuchi, and K.Yamaoto,  
*Matsushita Electric Industrial Co., Ltd.*

[Lunch (12:30-14:00)]

# Technical Sessions

Friday, October 31

## 14:00-15:15 Session M: Semiconductor Lasers

Presiders: C.S.Tsai, *University of California, Irvine*  
S.Tsuji, *Hitachi Ltd.*

### M1 Advances in short wavelength (650nm and 780nm)

14:00 VCSELs (Invited)  
M.K.Hibbs-Brenner, J.Kim, and A.Cox,  
*Honeywell International*

### M2 High-efficiency InGaAs/AlGaAs quantum well distributed Bragg reflector laser with curved grating

14:30 M.Uemukai, K.Kitano, N.Shimada, and T.Suhara,  
*Osaka University*

### M3 Optimization of low temperature flip chip bonding for VCSEL arrays for polymeric-waveguide-integrated optical interconnection systems

14:45 K.-M.Chu, J.-S.Lee, B.S.Rho\*, H.S.Cho\*, H.-H.Park\*, and D.Y.Jeon, *Korea Advanced Institute of Science and Technology*, \**Information and Communications University*

### M4 Characterization of single wavelength optically pumped

15:00 GaInAsP/InP VCSELs with dielectric mirrors  
J.Kinoshita, T.Miyamoto, Y.Onishi, and F.Koyama,  
*Tokyo Institute of Technology*

[Break (15:15-15:45)]

## 15:45-16:15 Session PD: Post Deadline Papers

## 16:15-16:45 Award Ceremony and Closing Remarks

Program Co-chairs: T.Mizumoto, *Tokyo Institute of Technology*  
Y.Handa, *Canon Inc.*

## 16:45-18:00 Micro Concert

By Machida Phil harmony Baroque (organized by K.Iga)

## Check! Important Deadlines

Pre-Registration: October 7, 2003

Post Deadline Papers: October 7, 2003

Hotel Accommodations: October 1, 2003

# Registration

## Registration Fees

	Before/On Oct. 7, 2003	After Oct. 8, 2003
Conference (General)	¥40, 000	¥45, 000
(Student)	¥7, 000	¥8, 000
Extra Copy of Digest	¥6, 000	¥6, 000

The registration fee includes admission to MOC '03, a copy of Technical Digest. The attached Registration Form should be sent to:

MOC '03 Desk, Kinki Nippon Tourist Co., Ltd.,  
Corporate Branch, Kanda  
c/o SAITOWER BLDG 6F, 19,  
Kandamatsunaga-cho,  
Chiyoda-ku, Tokyo 101-0023 JAPAN  
TEL: 81-3-5256-1712 FAX: 81-3-5256-1772  
E-Mail: kanda-fox@or.knt.co.jp

MOC '03 Organizing Committee entrusts Kinki Nippon Tourist Co., Ltd. with a part of the management (Registration and Hotel Reservation). All payment should be made in Japanese yen by one of the following methods:

### 1. Bank transfer to

(Overseas attendees)

Sumitomo Mitsui Banking Corporation, Tokyo Daiich Branch

Account Name: Kinki Nippon Tourist Co., Ltd.,  
Corporate Branch, Kanda

Account No. 7886096

Phone: +81-47-425-4861

(Domestic attendees)

三井住友銀行 東京第一支店 (普) NO. 7 8 8 6 0 9 6

近畿日本ツーリスト(株) 神田法人旅行支店

**2. Credit card:** VISA, Master Card, American Express and Diner's Club are available only for overseas attendees. Personal checks are NOT accepted.

Pre-registration, by October 7, 2003, is encouraged and will be entitled to reduced fees. Upon receipt of registration form and payment, MOC '03 Desk will send a letter of confirmation which should be presented at the Conference Registration Desk.

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.

## Registration Desk

The registration desk will be located in the **Lobby (Main Foyer) of Tokyo International Exchange Center**. The hours are:

Tuesday, October 28 18:00 – 20:00

Wednesday, October 29 08:30 – 17:00

Thursday, October 30 08:30 – 17:00

Friday, October 31 08:30 – 12:00



# General Information

## HOTEL ACCOMMODATIONS

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

The attached "Registration and Hotel Reservation Form" should be sent to MOC '03, Desk Kinki Nippon Tourist Co., Ltd. **no later than October 01, 2003, together with the payment of Deposit (JPY 10,000 per room) and Handling charge (JPY 500 per room)**

Hotel Name	Code	Room Type	Room Charge	Hotel Location
Mitsui Urban Hotel Ginza	A-S	Single	17,000yen	3min. walk from YURIKAMOME "Shimbashi" station
	A-T	Twin	24,140yen	
Tokyo Bay Ariake Washington Hotel	B-S	Single	12,070yen	3min. walk from YURIKAMOME "Ariake" station
	B-T	Twin	21,200yen	
Sun Hotel Shimbashi	C-S	Single	10,075yen	3min. walk from YURIKAMOME "Shimbashi" station
	C-T	Twin	15,950yen	

\* The above rates are per room, including service charge, and consumption tax.

Breakfast is included. (**Except Sun Hotel Shimbashi**)

\* **No reservation will be made without payment of deposit and handling charge.**

## CANCELLATIONS

Any kind of cancellation or reservation change must be submitted in writing to **MOC '03 Desk**, Kinki Nippon Tourist Co., Ltd.

### 1) REGISTRATION FEE REFUND POLICY

In case of cancellation of registration and / or purchase of the extra copy of Digest, please note neither the registration fee nor the Digest fee can be refunded.

### 2) HOTEL DEPOSIT REFUND POLICY

In case of cancellation of hotel reservation, your deposit will be refunded after deducting bank charge/commission and cancellation fee as follows. Please note the handling charge cannot be refunded.

If cancellation notification is received:

a. 10 days or more prior to the date of arrival.

→No charge

b. 8 to 2 days prior.

→20% of one night accommodation fee

c. Fewer than 2 days prior, or no notice given.

→100% of one night accommodation fee

# **General Information**

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## **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 with 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 15°C and 22°C.

## **Currency Exchange**

Only Japanese yen (¥) is acceptable at regular stores and restaurants. Certain foreign currencies and credit cards 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, Dinners 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 including Osaka and Kyoto.

# Committee Members

## Organizing Committee

### *Conference Co-chairs*

- H. Nakajima (Waseda University)  
K. Yokomori (Ricoh Co., Ltd.)

### *Members*

- N. Arai (KONICA Corp.)  
A. Arimoto (PENTAX Corp.)  
K. Chikuma (Pioneer Corp.)  
Y. Fujii (Nihon University)  
T. Fukunaga (Fuji Photo Film Co., Ltd.)  
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T. Hatano (Minolta Co., Ltd.)  
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K. Hotate (University of Tokyo)  
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M. Kawachi (NTT Corp.)  
K. Kodate (Japan Women's University)  
Y. Koike (Keio University)  
S. Komatsu (Waseda University)  
T. Koyama (Nippon Sheet Glass Co., Ltd.)  
S. Kubota (Sony Corp.)  
Y. Kurata (Sharp Corp.)  
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Y. Okino (Kansai University)  
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M. Setani (Canon Inc.)  
T. Shimura (University of Tokyo)  
K. Tada (Kanazawa Institute of Technology)  
Y. Tamagawa (Mitsubishi Electric Corp.)  
H. Toratani (HOYA Corp.)  
S. Tsuji (Hitachi Ltd.)  
H. Uetsuka (Hitachi Cable Ltd.)  
K. Ueyanagi (Fuji Xerox Co., Ltd.)  
A. Watabe (NTT AFTY Co.)  
M. Watanabe (AIST)  
T. Watanabe (Fujikura Ltd.)  
I. Yamaguchi (Gunma University)  
K. Yamamoto (Olympus Optical Co., Ltd.)  
T. Yatagai (University of Tsukuba)

*The organizing committee includes 31 program committee members from Japan.*

# Committee Members

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## Program Committee

### *Co-chairs*

- T. Mizumoto (Tokyo Inst. Tech.)  
Y. Handa (Canon Inc.)

### *Members*

- M. Fushimi (PENTAX Corp.)  
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C. G. Someda (University of Padova)  
C.M.de Sterke (OSA SEC Representative /  
The University of Sydney)  
W. J. Stewart (Formerly Marconi)  
L. Thylén (KTH)  
W. B. Veldkamp (MIT Lincoln Lab.)

# Committee Members

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## International Advisory Committee

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W. A. Gambling	(LTK Industries Ltd.)
A. K. Ghatak	(Indian Inst. Tech., New Delhi)
C. Gomez-Reino	(University of Santiago de Compostela)
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C. S. Tsai	(UC Irvine)
T. Uchida	(Tokai University)



# Access

## Location of Conference Site

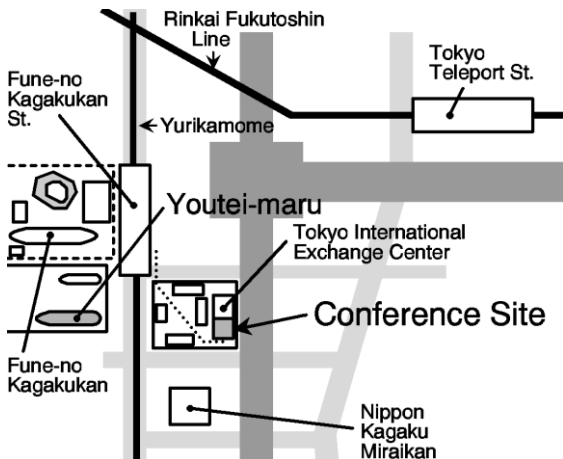
The conference site, Tokyo International Exchange Center, Tokyo, is located in Odaiba (Waterfront-Area).

Tokyo International Exchange Center

2-79 Aomi, Koto-ku, Tokyo 135-8630 JAPAN

TEL: +81-3-5520-6001, FAX: +81-3-5520-6011

[http://www.tap.aiej.or.jp/index\\_e.html](http://www.tap.aiej.or.jp/index_e.html)



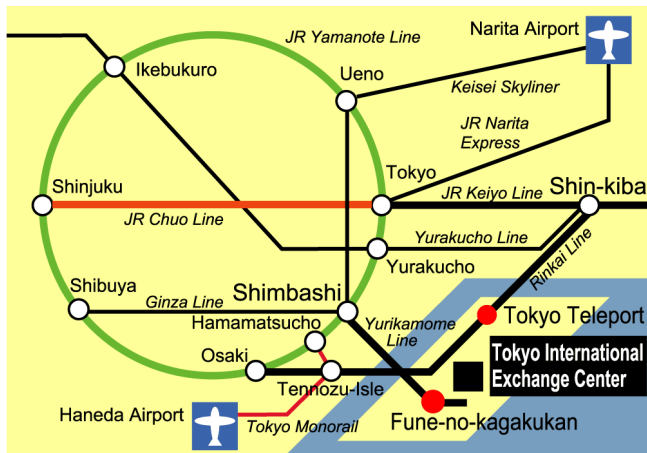
Map nearby Tokyo International Exchange Center

### Access to Tokyo International Exchange Center;

- 3-minute walk from "Fune-no-Kagakukan" station on New Transit "Yurikamome" line. It takes 20-minutes from Shimbashi to "Fune-no-Kagakukan" station.
- 15-minute walk from "Tokyo Teleport" station on "Rinkai" line. It takes 15-minutes from Osaki to "Tokyo Teleport" station.

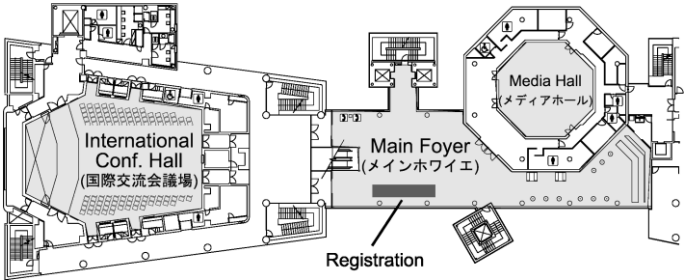
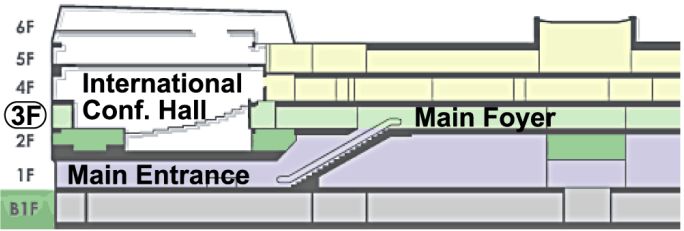
### Access to Tokyo area from Narita airport;

- 60-minutes from Narita airport to Tokyo by JR "Narita-Express".
- 60-minutes from Narita airport to Ueno by "Keisei Skyliner".



# Floor Layout

## Tokyo International Exchange Center 3rd floor



### Registration Desk Open

Tuesday, October 28	18:00 – 20:00
Wednesday, October 29	08:30 – 17:00
Thursday, October 30	08:30 – 17:00
Friday, October 31	08:30 – 12:00



International Conference Hall

**MOC '03**  
October 29-31, 2003  
at  
Tokyo International Exchange Center  
Tokyo, Japan

**Important Deadlines**

Pre-Registration: October 7, 2003

Post Deadline Papers: October 7, 2003

Hotel Accommodations: October 1, 2003

**MOC '03 Secretariat**

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<http://www.din.or.jp/~microopt/moc03/>

