

# ADVANCE PROGRAM

# MOC '07



## 13th MICROOPTICS CONFERENCE

<http://www.comemoc.com/moc07/>

*Sponsored by*

***The Japan Society of Applied Physics (JSAP)***

*Organized by*

***Microoptics Group, Optical Society of Japan, JSAP***



***In technical co-sponsorship by***

- IEEE/Lasers and Electro-Optics Society

***In cooperation with***

- Optical Society of America
- 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 Optomechatronics Association

***Supported by***

- Kagawa Prefecture
- Takamatsu Convention & Visitors Bureau

**Oct. 28(Sun.) – Oct. 31(Wed.), 2007**  
**Sunport Takamatsu, Takamatsu, Kagawa, Japan**

# MOC '07 Agenda At-A-Glance

October 28 (Sun.)		October 29 (Mon.)	
8:00		8:00	<i>Registration Open</i>
8:30		8:30	
9:00		9:00	Opening Remarks
30		30	<b>A. Plenary</b> Conference Hall (Tower Bldg. 6F)
10:00		10:00	
30		30	<i>Break</i>
11:00		11:00	<b>B. Micro and Nano Structured Devices</b> Conference Hall (Tower Bldg. 6F)
30		30	
12:00		12:00	
30		30	<i>Lunch</i>
13:00	13:00		
30	30	<b>C. Waveguide Devices and Components</b> Conference Hall (Tower Bldg. 6F)	
14:00	14:00		
30	30		
15:00	15:00		
30	30		
16:00	<b>Microoptics Review (Tutorial)</b> Conference Hall (Tower Bldg. 6F)	16:00	<i>Break</i>
30		30	<b>D. Advanced Devices for Interconnects</b> Conference Hall (Tower Bldg. 6F)
17:00		17:00	
30		30	
18:00		18:00	<i>Refreshment</i>
30	30	<b>E. Special Session "Optical Interconnects"</b> Conference Hall (Tower Bldg. 6F)	
19:00	19:00		
30	30		
20:00		20:00	
30		30	

# MOC '07 Agenda At-A-Glance

October 30 (Tue.)		October 31 (Wed.)	
8:00	<i>Registration Open</i>	8:00	<i>Registration Open</i>
8:30	<b>F. New Areas of Microoptics</b> Conference Hall (Tower Bldg. 6F)	8:30	<b>J. Advanced Lasers and Light Sources</b> Conference Hall (Tower Bldg. 6F)
9:00		9:00	
30		30	
10:00	<i>Break</i>	10:00	<i>Break</i>
30	<b>G. Photonic Recording and Sensing</b> Conference Hall (Tower Bldg. 6F)	30	<b>K. Frequency Conversion and Advanced Displays</b> Conference Hall (Tower Bldg. 6F)
11:00		11:00	
30		30	
12:00	<b>Special UDON-Lunch</b> Tent Plaza	12:00	<i>Lunch</i>
30		30	
13:00		13:00	
30	<b>H. Poster Session</b> Exhibition Hall (Hall Bldg. 1F)	30	<b>L. Active and Functional Devices</b> Conference Hall (Tower Bldg. 6F)
14:00		14:00	
30		30	
15:00		15:00	<i>Break</i>
30		30	
16:00		16:00	
30		30	<b>PD. Post Deadline Papers</b>
17:00	<b>MOC Award Ceremony &amp; Micro Concert</b> First Hall (Hall Bldg. 4F)	30	<b>Paper Award Ceremony &amp; Closing Remarks</b>
18:00		17:00	
30		30	
19:00	<b>Conference Party</b> Alice (Tower Bldg. 30F)	18:00	
30		30	
19:00		19:00	
20:00		20:00	
20:30		20:30	

# Technical Program

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The 13th MICROOPTICS CONFERENCE (MOC '07) will be held at Sunport Takamatsu, Takamatsu, Kagawa, Japan on October 28 - October 31, 2007. This conference is sponsored by The Japan Society of Applied Physics (JSAP) and organized by Microoptics Group, The Optical Society of Japan (OSJ), JSAP in cooperation with several academic societies and associations. The MOC '07 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/moc07/>

## Microoptics Review (Tutorial)

Important topical fields of microoptics are lectured as microoptics review to be held in the Conference Hall (Tower Building 6F) on Sunday, 28 October. Students are free to attend this tutorial without the registration.

- "Welcome to microoptics world"** H. Nakajima, *Waseda Univ.*  
**"VCSEL photonics"** K. Iga, *Tokyo Inst. Tech.*  
**"LEDs and photodiodes "** K. Okamoto, *Kagawa Univ.*  
**"Surface-plasmon optics"** M. Fukui, *Univ. Tokushima*  
**"Nonlinear optics"** K. Kuroda, *Univ. Tokyo*  
**"We saw, I see!"** K. Goto, *Tokai Univ.*

## Plenary Session

Plenary session will be held in the Conference Hall (Tower Building 6F) on Monday, 29 October. The following papers are invited as the plenary talks.

- "Microoptics and photonics polymer"** Y. Koike, *Keio Univ.*  
**"Large scale microoptic switching"** J. E. Bowers, *UC Santa Barbara*  
**"Low-cost microoptical components for printed circuit board- and chip-level photonic interconnects"** H. Thienpont, *Vrije Univ. Brussel*

## Special Session

The special session entitled as **"Optical Interconnects"** is planned on Monday, 29 October. Followings are invited;

- "Optical interconnects: A key to advanced super computers"** K. Kobayashi, *Tokyo Inst. Tech.*  
**"Optical interconnect technology for high-speed memory test systems"** T. Okayasu, *Advantest Corp.*  
**"Electrical-optical circuit boards (EOCB) - Optical interconnects and the thin glass layer concept"** H. Schröder and N. Arndt-Staufenbiel, *Fraunhofer IZM*  
**"Integration of optical interconnects on circuit board"** M. Karppinen *et al.*, *VTT*  
**"Optical interconnects for servers"** D. M. Kuchta, Y. Taira *et al.*, *IBM Corp.*

# Technical Program

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## Oral Presentation

Oral session is to be held in the Conference Hall (Tower Building 6F). The presentation time (including discussion) will be 25 minutes for invited papers, 15 minutes for regular papers, and 10 minutes for post deadline papers. The invited speakers for special session will have 20-minute talks. 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 Exhibition Hall (Hall Building 1F) in the afternoon of Tuesday, 30 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 (H1, H3, ...) and the second half is for authors with the paper of even-number (H2, H4, ...). 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 180 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/moc07/>**

The deadline for submission is **October 9, 2007**.

## Special Issue "Microoptics"

A special issue on microoptics of the Japanese Journal of Applied Physics (JJAP) is scheduled for publication in August, 2008. Not only authors of papers for MOC '07 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 16, 2008. If you want any further information, please contact:

Prof. S. Yamashita  
Editor/Secretariat, MOC Special Issue  
University of Tokyo  
7-3-1 Hongo, Bunkyo-ku, Tokyo 113-8656, Japan  
Tel: +81-3-5841-6659, Fax: +81-3-5841-6025  
E-mail: [syama@ee.t.u-tokyo.ac.jp](mailto:syama@ee.t.u-tokyo.ac.jp)

## Official Language

The official language of MOC '07 is English.

## Photograph

No photograph is permitted during the oral and poster sessions.

# **Social Events & Exhibition**

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## **Get Together**

Get Together will be held in the Entrance Lobby (Tower Building 6F) in the evening of Sunday, 28 October. All the attendees of MOC '07 are cordially invited.

## **Special UDON-Lunch**

Special UDON-lunch is planned on Tuesday, 30 October. UDON is a noodle which is a speciality of Takamatsu. The UDON-lunch will be held in the Tent Plaza which is next to the Tower Building. All the attendees of MOC '07 are cordially invited.

## **MOC Award Ceremony**

MOC Award ceremony will be held in the First Hall (Hall Building 4F) at 17:00, Tuesday, 30 October.

## **Micro Concert**

After the MOC Award ceremony, "Micro Concert" will be performed by Machida Philharmony Baroque Ensemble (MPB). The concert will start approximately at 17:20.

All the attendees of MOC '07 and their accompanying family are invited to the concert.

## **Conference Party**

In the evening of Tuesday, 30 October, Conference Party will be held after Micro Concert at Restaurant Alice (Tower Building 30F). The party will start at 18:45. All the attendees of MOC '07 and their accompanying person are cordially invited.

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## **Technical Exhibition**

Table-top technical exhibition is planned during MOC '07. Take this opportunity to see the latest products and technologies in relation to Microoptics. Exhibition will be held in the Entrance Lobby (Tower Building 6F). For information about exhibiting at this conference, please contact:

B. Yao  
Hitachi Cable, Ltd.  
5-1-1 Hitaka-cho, Hitachi, Ibaraki 319-1414, Japan  
Tel: +81-294-25-3837, Fax: +81-294-43-7487  
E-mail: [yao.bing@hitachi-cable.co.jp](mailto:yao.bing@hitachi-cable.co.jp)

# Technical Sessions

Sunday, 28 October

Conference Hall (Tower Bldg. 6F)

14:00-18:20 Microoptics Review (Tutorial)

**TU0 Welcome to microoptics world**

14:00 H. Nakajima, *Waseda Univ.*

**TU1 VCSEL photonics**

14:20 K. Iga, *Tokyo Inst. Tech.*

**TU2 LEDs and photodiodes**

15:10 K. Okamoto, *Kagawa Univ.*

Break (16:00-16:20)

**TU3 Surface-plasmon optics**

16:20 M. Fukui, *Univ. Tokushima*

**TU4 Nonlinear optics**

17:10 K. Kuroda, *Univ. Tokyo*

**TU5 We saw, I see!**

18:00 K. Goto, *Tokai Univ.*

Entrance Lobby (Tower Bldg. 6F)

18:30-20:00 Get Together

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Monday, 29 October

Conference Hall (Tower Bldg. 6F)

9:00-9:10 Opening Remarks

Conference Co-chairs of MOC '07:

S. Yamashita, *Univ. Tokyo*

K. Yamamoto, *Matsushita Electric Ind. Co., Ltd.*

9:10-10:40 Session A: Plenary

Chairs: S. Yamashita, *Univ. Tokyo*

K. Yamamoto, *Matsushita Electric Ind. Co., Ltd.*

**A1 Microoptics and photonics polymer (Plenary)**

9:10 Y. Koike, *Keio Univ.*

**A2 Large scale microoptic switching (Plenary)**

9:40 J. E. Bowers, *UC Santa Barbara*

**A3 Low-cost microoptical components for printed circuit board- and chip-level photonic interconnects (Plenary)**

10:10 H. Thienpont, *Vrije Univ. Brussel*

Break (10:40-11:00)

11:00-12:35 Session B: Micro and Nano Structured Devices

Chairs: M. Wu, *UC Berkeley*

H. Ichikawa, *Ehime Univ.*

**B1 Resonance-domain and subwavelength diffractive optics: Latest trends (Invited)**

11:00 P. Laakkonen<sup>1,2</sup>, J. Turunen<sup>1</sup>, S. Siitonen<sup>1</sup>, T. Levola<sup>3</sup>, N. Passilly<sup>1</sup>, and M. Kuittinen<sup>1</sup>, <sup>1</sup>Univ. Joensuu, <sup>2</sup>Nanocomp Oy Ltd., <sup>3</sup>Nokia Corp.

# Technical Sessions

**Monday, 29 October**

**B2** Fabrication of sub-wavelength periodic structures upon high-refractive-index glasses by precision glass molding

11:25 T. Mori<sup>1</sup>, K. Hasegawa<sup>1</sup>, T. Hatano<sup>1</sup>, H. Kasa<sup>2</sup>, K. Kintaka<sup>2</sup>, and J. Nishii<sup>2</sup>, <sup>1</sup>Konica Minolta Opto, Inc., <sup>2</sup>AIST

**B3** Reformulated Fourier modal method for the analysis of second-harmonic generation in crossed gratings

11:40 B. Bai and J. Turunen, *Univ. Joensuu*

**B4** Wafer level camera technologies for camera phone handsets (Invited)

11:55 M. R. Feldman, *Tessera North America, Inc.*

**B5** Design and UV nano imprinting of aspherical square microlens array for image sensor application

12:20 J. Lim, S.-M. Kim, J.-H. Min, M. Choi, H. Kim, and S. Kang, *Yonsei Univ.*

**Lunch (12:35-13:55)**

**13:55-15:50** Session C: Waveguide Devices and Components

Chairs: J. E. Batubara, *Univ. Pelita Harapan*  
T. Suhara, *Osaka Univ.*

**C1** Polarization control and its application to waveguide devices (Invited)

13:55 J. J. G. M. van der Tol, L. M. Augustin, U. Khaliq, and M. K. Smit, *Eindhoven Univ. Tech.*

**C2** Optimum combination of tuning of hitless wavelength selective switch using quadruple series coupled microring resonator

14:20 Y. Goebuchi, M. Hisada, T. Kato, and Y. Kokubun, *Yokohama National Univ.*

**C3** Waveguide coupling to size-mismatched bispheres

14:35 G. S. Murugan<sup>1</sup>, J. S. Wilkinson<sup>1</sup>, M. N. Zervas<sup>1,2</sup>, <sup>1</sup>Univ. Southampton, <sup>2</sup>SPI Lasers Ltd.

**C4** 40-Gbit/s operation of ultracompact PD integrated dispersion compensator based on 1D photonic crystals

14:50 M. Sagawa<sup>1,2,3</sup>, S. Goto<sup>1,2,3</sup>, K. Hosomi<sup>1,2,3</sup>, T. Sugawara<sup>2,3</sup>, T. Katsuyama<sup>1,3</sup>, and Y. Arakawa<sup>1</sup>, <sup>1</sup>Univ. Tokyo, <sup>2</sup>Hitachi Ltd., <sup>3</sup>OITDA

**C5** High-speed electro-optic polarization modulator using a double periodic poling structure

15:05 H. Murata, A. Takahashi, and Y. Okamura, *Osaka Univ.*

**C6** Low-loss silicon oxynitride waveguides and branches for the 850-nm-wavelength region

15:20 T. Tsuchizawa<sup>1</sup>, K. Yamada<sup>1</sup>, T. Watanabe<sup>1</sup>, H. Fukuda<sup>1</sup>, S. Itabashi<sup>1</sup>, A. Gomyo<sup>2</sup>, J. Ushida<sup>2</sup>, J. Fujikata<sup>2</sup>, D. Okamoto<sup>2</sup>, K. Nishi<sup>2</sup>, and K. Ohashi<sup>2</sup>, <sup>1</sup>NTT Corp., <sup>2</sup>MIRAI-Selete

**C7** Design and fabrication of 3D nanostep hollow waveguide for widely tunable photonic devices

15:35 M. Kumar and F. Koyama, *Tokyo Inst. Tech.*

**Break (15:50-16:10)**

**16:10-17: 50** Session D: Advanced Devices for Interconnects

Chairs: M. Karppinen, *VTT*  
H. Sasaki, *Oki Electric Ind. Co., Ltd.*



# Technical Sessions

Monday, 29 October

- D1** 16:10 **Erbium-based materials and devices for optical gain in optical interconnects for Si photonics** (Invited)  
J. H. Shin, *KAIST*
- D2** 16:35 **Efficiency improvement of focusing grating couplers for WDM optical interconnects board**  
S. Murata<sup>1</sup>, K. Kintaka<sup>2</sup>, K. Nishio<sup>1</sup>, Y. Awatsuji<sup>1</sup>, and S. Ura<sup>1</sup>,  
<sup>1</sup>*Kyoto Inst. Tech.*, <sup>2</sup>*AIST*
- D3** 16:50 **A novel passive alignment technique using a silicon optical bench and a PLC chip with notches and its application to a 1×8 optical splitter module**  
A. Aratake, K. Watanabe, M. Ishii, and Y. Inoue, *NTT Corp.*
- D4** 17:05 **Pluggable coupling components for multilayer interconnections on the printed circuit board-level**  
J. Van Erps<sup>1</sup>, N. Hendrickx<sup>2</sup>, Y. Ishii<sup>1</sup>, C. Debaes<sup>1</sup>, P. Van Daele<sup>2</sup>, and H. Thienpont<sup>1</sup>, <sup>1</sup>*Vrije Univ. Brussel*, <sup>2</sup>*Ghent Univ.*
- D5** 17:20 **High-precision single-mode fiber connectors fabricated through deep proton writing**  
J. Van Erps<sup>1</sup>, H. van Amerongen<sup>1</sup>, P. Toet<sup>1</sup>, C. Debaes<sup>1</sup>, J. Watté<sup>2</sup>, and H. Thienpont<sup>1</sup>, <sup>1</sup>*Vrije Univ. Brussel*, <sup>2</sup>*TYCO Electronics*
- D6** 17:35 **4-channel polymer waveguides with parabolic and W-shaped index circular cores for optical interconnects**  
Y. Takeyoshi and T. Ishigure, *Keio Univ.*

**Break (17:50-18:20)**

**18:20-20:30 Session E: Special Session**  
**"Optical Interconnects"**

Chairs: S. Ura, *Kyoto Inst. Tech.*  
S. Ozawa, *The Furukawa Electric Co., Ltd.*  
K. Kobayashi, *Tokyo Inst. Tech.*

**E0 Introduction**

18:20 S. Ura, *Kyoto Inst. Tech.*

**E1 18:25 Optical interconnects: A key to advanced super computers** (Invited)

K. Kobayashi, *Tokyo Inst. Tech.*

**E2 18:45 Optical interconnect technology for high-speed memory test systems** (Invited)

T. Okayasu, *ADVANTEST Corp.*

**E3 19:05 Electrical-optical circuit boards (EOCB) - Optical interconnects and the thin glass layer concept** (Invited)

H. Schröder and N. Arndt-Staufenbiel, *Fraunhofer IZM*

**E4 19:25 Integration of optical interconnects on circuit board** (Invited)

M. Karppinen<sup>1</sup>, T. Alajoki<sup>1</sup>, P. Karioja<sup>1</sup>, N. Hendrickx<sup>2</sup>, G. Van Steenberge<sup>2</sup>, P. Van Daele<sup>2</sup>, J. Van Erps<sup>3</sup>, C. Debaes<sup>3</sup>, H. Thienpont<sup>3</sup>, S. Obi<sup>4</sup>, M. Immonen<sup>5</sup>, J. Kivilahti<sup>6</sup>, and A. L. Glebov<sup>7</sup>, <sup>1</sup>*VTT*, <sup>2</sup>*Ghent Univ.*, <sup>3</sup>*Vrije Univ. Brussel*, <sup>4</sup>*CSEM*, <sup>5</sup>*Aspocomp Group*, <sup>6</sup>*Helsinki Univ. Tech.*, <sup>7</sup>*Fujitsu Lab. America*

**E5 19:45 Optical interconnects for servers** (Invited)

D. M. Kuchta, Y. Taira, C. Baks, G. McVicker, and L. Schares, *IBM Corp.*

**20:05 Panel Discussion**

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**20:30**

# Technical Sessions

**Tuesday, 30 October**

**Conference Hall (Tower Bldg. 6F)**

**8:30-9:55 Session F: New Areas of Microoptics**

Chairs: H. Schröder, *Fraunhofer IZM*  
M. Haruna, *Osaka Univ.*

**F1 Nano photonics MEMS for innovative devices (Invited)**

8:30 M. Wu, *UC Berkeley*

**F2 Recent developments in silicon-based MEMS photonic systems**

8:55 R. Bitterli<sup>1</sup>, T. Overstolz<sup>2</sup>, S. Waldis<sup>1</sup>, R. Stanley<sup>2</sup>, F. Zamkotsian<sup>3</sup>, M. Zickar<sup>1</sup>, W. Noell<sup>1</sup>, N. F. de Rooij<sup>1</sup>, <sup>1</sup>*Univ. Neuchâtel*, <sup>2</sup>*CSEM*, <sup>3</sup>*Laboratoire d'Astrophysique de Marseille*

**F3 Fabrication and evaluation of liquid crystal lens with radial micro patterns for the focal length control**

9:10 S.-W. Choi and Y.-J. Kim, *Yonsei Univ.*

**F4 Development of surface plasmon resonance sensor system for biological reaction sensing**

9:25 Y. Iwasaki<sup>1,2</sup>, T. Horiuchi<sup>1</sup>, T. Haga<sup>1</sup>, T. Tobita<sup>3</sup>, K. Suzuki<sup>2,4</sup>, O. Niwa<sup>2,5</sup>, <sup>1</sup>*NTT Corp.*, <sup>2</sup>*CREST, JST*, <sup>3</sup>*NTT Advanced Tech. Corp.*, <sup>4</sup>*Keio Univ.*, <sup>5</sup>*AIST*

**F5 Single molecule analysis of condensed DNA: Direct measurement of condensation speed and single molecule sizing by laser trapping**

9:40 K. Hirano<sup>1,2</sup>, T. Ishido<sup>1</sup>, H. Nagata<sup>1</sup>, Y. Tanaka<sup>1</sup>, and M. Ishikawa<sup>1</sup>, <sup>1</sup>*AIST*, <sup>2</sup>*PRESTO, JST*

**Break (9:55-10:15)**

**10:15-12:10 Session G: Photonic Recording and Sensing**

Chairs: Y.-J. Kim, *Yonsei Univ.*  
Y. Okino, *Kansai Univ.*

**G1 Near-field recording technology using solid immersion lens (Invited)**

10:15 N.-C. Park, H.-S. Yang, Y.-C. Rhim, and Y.-P. Park, *Yonsei Univ.*

**G2 Motion picture recording of visible femtosecond light pulse propagation**

10:40 M. Aihara<sup>1</sup>, M. Makino<sup>1</sup>, T. Kakue<sup>1</sup>, A. Kuzuhara<sup>1</sup>, Y. Awatsuji<sup>1,2</sup>, K. Nishio<sup>1</sup>, S. Ura<sup>1</sup>, and T. Kubota<sup>1</sup>, <sup>1</sup>*Kyoto Inst. Tech.*, <sup>2</sup>*PRESTO, JST*

**G3 Novel co-axial bi-directional digital high speed endoscope using optical fiber**

10:55 W. Kubo, T. Minakuchi, K. Sato, K. Tsutamura, T. Shoji, K. Sugitani, A. Arimoto, and S. Arai, *PENTAX Corp.*

**G4 A micro-optical fibre sensor**

11:10 G. Brambilla and F. Xu, *Univ. Southampton*

**G5 AFM in liquid cell using optical interference**

11:25 H. Koyama, F. Oohira, M. Hosogi, G. Hashiguchi, and S. Shimamoto, *Kagawa Univ.*

**G6 Online face recognition system using a highly accurate filtering correlation**

11:40 S. Ishikawa, E. Watanabe, and K. Kodate, *Japan Women's Univ.*

# Technical Sessions

Tuesday, 30 October

- G7** **Microscopic analysis of sweating dynamics of a human fingertip by optical coherence tomography**  
11:55 A. Yamada, Y. Ueda, H. Saigusa, M. Ohmi, and M. Haruna, *Osaka Univ.*

**Special UDON-Lunch (12:10-14:00)**

*Tent Plaza*

## Exhibition Hall (Hall Bldg. 1F)

- 14:10-16:40** **Session H: Poster Session**  
Chairs: T. Mizumoto, *Tokyo Inst. Tech.*  
K. Ogawa, *Japan Women's Univ.*
- (14:10-15:25)** **Odd numbers: 1<sup>st</sup> half**  
**(15:25-16:40)** **Even numbers: 2<sup>nd</sup> half**
- H1** **Sensitivity dependence on waveguide position in silicon-based guided-wave optical flow sensor**  
M. Adachi, Y. Kudo, M. Ohkawa, and T. Sato, *Niigata Univ.*
- H2** **Bandwidth stability of W-shaped plastic optical fiber under microbending**  
K. Aoyagi and T. Ishigure, *Keio Univ.*
- H3** **Liquid optic scanner**  
H.-H. Chen<sup>1,2</sup>, C. S. Chu<sup>1</sup>, W. D. Tyan<sup>1</sup>, Y. T. Li<sup>1</sup>, C. K. Yen<sup>1</sup>, and C. Fu<sup>2</sup>, <sup>1</sup>*ITRI*, <sup>2</sup>*National Tsing-Hua Univ.*
- H4** **Minimum color-difference variation cluster for color interpolation in digital camera**  
S. K. Chiu, *Winbond Electronics Corp.*
- H5** **Optimized design method and evaluation performance of hybrid lens for small sized mobile phone camera**  
H. Choi<sup>1</sup>, Y.-J. Yoon<sup>1</sup>, B. Kim<sup>1</sup>, N.-C. Park<sup>1</sup>, Y.-P. Park<sup>1</sup>, S. Kang<sup>1</sup>, J.-C. Jeong<sup>2</sup>, and C.-H. Park<sup>2</sup>, <sup>1</sup>*Yonsei Univ.*, <sup>2</sup>*Samsung Electro-mechanics Co., Ltd.*
- H6** **Single-beam multi-channel holographic storage system using a transmittive spatial light modulator**  
P. S. Chung<sup>1</sup>, K. C. Wong<sup>1</sup>, and Z. Chen<sup>1,2</sup>, <sup>1</sup>*City Univ. Hong Kong*, <sup>2</sup>*Shanghai Inst. Optics & Fine Mechanics*
- H7** **Optical properties of intercalated dye molecules in titanate nanosheets**  
C. Dou<sup>1,2</sup>, H. Okamoto<sup>2</sup>, A. Kimura<sup>2</sup>, Y. Harada<sup>2</sup>, N. Tsurumachi<sup>2</sup>, N. Takahashi<sup>2</sup>, S. Nakanishi<sup>2</sup>, H. Itoh<sup>2</sup>, P. Wen<sup>1,2</sup>, and F. Qi<sup>2</sup>, <sup>1</sup>*Baoji Univ. Arts & Sci.*, <sup>2</sup>*Kagawa Univ.*
- H8** **Elimination of axial chromatic aberration by diffractive optical element with genetic algorithm**  
Y.-C. Fang<sup>1</sup>, T.-K. Liu<sup>1</sup>, C.-M. Tsai<sup>2</sup>, and H.-C. Lin<sup>1</sup>, <sup>1</sup>*National Kaohsiung First Univ. Sci. Tech.*, <sup>2</sup>*Kun Shan Univ.*
- H9** **Characteristics of all-optical ultra-fast 3R circuits using the cascaded second-order nonlinear effect in quasi-phase-matched lithium niobate devices**  
Y. Fukuchi, T. Tanaka, K. Watanabe, and J. Maeda, *Tokyo Univ. Sci.*
- H10** **Effect of hole and electron injection time on modulation speed of organic light-emitting diode**  
T. Fukuda<sup>1</sup>, B. Wei<sup>2</sup>, M. Ichikawa<sup>2</sup>, and Y. Taniguchi<sup>2</sup>, <sup>1</sup>*Fujikura Ltd.*, <sup>2</sup>*Shinshu Univ.*

# Technical Sessions

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**Tuesday, 30 October**

- H11 Image reconstruction for reflection type diffusion optical tomography using weight function model**  
A. Goto, K. Nitta, and O. Matoba, *Kobe Univ.*
- H12 Evanescent light enhancement simulation results for different grating shapes on gold thin film**  
K. Goto<sup>1</sup> and T. Ohmori<sup>2</sup>, <sup>1</sup>*Tokai Univ.*, <sup>2</sup>*Toshiba Information Systems Corp.*
- H13 Two dimensional phase measurement of microscopic objects using phase locking technique**  
M. Hanesaka, E. Watanabe, J. Mizuno, and K. Kodate, *Japan Women's Univ.*,
- H14 Multi-cell sorting on micro fluidic chip using optical gradient force**  
K. Hirano<sup>1,2</sup>, H. Nagata<sup>1</sup>, T. Ishido<sup>1</sup>, Y. Tanaka<sup>1</sup>, and M. Ishikawa<sup>1</sup>, <sup>1</sup>*AIST*, <sup>2</sup>*PRESTO, JST*
- H15 Design of a wavelength independent grating in the resonance domain**  
T. Hoshino<sup>1</sup>, S. Banerjee<sup>1</sup>, M. Itoh<sup>1</sup>, and T. Yatagai<sup>1,2</sup>, <sup>1</sup>*Univ. Tsukuba*, <sup>2</sup>*Utsunomiya Univ.*
- H16 All-optical switching triode with negative feedback effect induced by semiconductor optical amplifier module**  
J.-H. Huh, H. Nakayama, S. Maki, and Y. Maeda, *Toyota Tech. Inst.*
- H17 Time division multiple connections using optical device in optical space communication**  
T. Ishida and K. Ogawa, *Japan Women's Univ.*
- H18 High efficiency optical coupling structure for resonant-cavity light-emitting diodes**  
P. Iso-Ketola and J. Vanhala, *Tampere Univ. Tech.*
- H19 Intensity-encoded fiber temperature sensor by combination of long-period fiber gratings and light-emitting diode**  
H. Ito and H. Sakata, *Shizuoka Univ.*
- H20 Three-dimensional optical storage medium using arranged nano spheres**  
T. Itoh and C. Egami, *Shizuoka Univ.*
- H21 Design and fabrication of aspherical microlens array to generate multi optical probes**  
G. Jeong, E. Choi, H. Kim, and S. Kang, *Yonsei Univ.*
- H22 Low loss vertical optical path conversion using 45-degrees mirror for coupling between optical waveguide devices and planar devices**  
Y. Johraku and Y. Kokubun, *Yokohama National Univ.*
- H23 Optical property of holographic-polymer dispersed liquid crystal gratings formed at various temperatures**  
H. Kakiuchida<sup>1</sup>, M. Tazawa<sup>1</sup>, and A. Ogiwara<sup>2</sup>, <sup>1</sup>*AIST*, <sup>2</sup>*Takamatsu National College Tech.*
- H24 Förster resonance energy transfer between CdSe-ZnS quantum dots in polymer film**  
R. Kanemoto<sup>1,2</sup>, Y. Matsumoto<sup>1,2</sup>, N. Tsurumachi<sup>1</sup>, H. Itoh<sup>1</sup>, S. Koshiba<sup>1</sup>, S. Nakanishi<sup>1</sup>, V. Biju<sup>2</sup>, and M. Ishikawa<sup>2</sup>, <sup>1</sup>*Kagawa Univ.*, <sup>2</sup>*AIST*
- H25 2-D parallel processor for modulo multiplication with optical interference**  
N. Katsuta, K. Nitta, and O. Matoba, *Kobe Univ.*

# Technical Sessions

*Tuesday, 30 October*

- H26** **Passive waveguide polarization converter with single-trench GaInAsP/InP waveguide**  
S.-H. Kim, Y. Shoji, and T. Mizumoto, *Tokyo Inst. Tech.*
- H27** **Microsphere/cylinder waveguide resonator for direct light beam coupling using metallic core and high refractive index shell**  
A. Kobayashi, H. Okayama, and H. Nakajima, *Waseda Univ.*
- H28** **Error reduction of low-quantized kinoforms using a direct search method**  
S. Kojo, S. Yang, and H. Takajo, *Kyushu Inst. Tech.*
- H29** **Terahertz wave generation by one-dimensional photonic crystal structure**  
T. Kokuhata<sup>1</sup>, H. Shirai<sup>1</sup>, E. Kishimoto<sup>1</sup>, H. Miyagawa<sup>1</sup>, S. Koshiba<sup>1</sup>, S. Nakanishi<sup>1</sup>, H. Itoh<sup>1</sup>, M. Hangyo<sup>2</sup>, and N. Tsurumachi<sup>1</sup>, <sup>1</sup>*Kagawa Univ.*, <sup>2</sup>*Osaka Univ.*
- H30** **Visible AWG spectroscopic sensor using a parabola-shaped sample injection waveguide**  
Y. Komai<sup>1</sup>, H. Nagano<sup>1</sup>, M. Mieno<sup>1</sup>, K. Okamoto<sup>2</sup>, and K. Kodate<sup>1</sup>, <sup>1</sup>*Japan Women's Univ.*, <sup>2</sup>*UC Davis*
- H31** **Numerical shape analysis of reconstructed three-dimensional images of femtosecond pulse propagation recorded by light-in-flight recording by holography**  
A. Kuzuhara<sup>1</sup>, K. Komai<sup>1</sup>, T. Katayama<sup>1</sup>, K. Nishio<sup>1</sup>, Y. Awatsuji<sup>1,2</sup>, S. Ura<sup>1</sup>, and T. Kubota<sup>1</sup>, <sup>1</sup>*Kyoto Inst. Tech.*, <sup>2</sup>*PRESTO, JST*
- H32** **Wide-angle bending waveguide based on phase-compensated microprism**  
H.-C. Lan<sup>1</sup>, C.-C. Chen<sup>1</sup>, C.-S. Chang<sup>1</sup>, C.-M. Wang<sup>2</sup>, Y.-C. Chang<sup>2</sup>, J.-Y. Chang<sup>1</sup>, and M.-L. Wu<sup>1</sup>, <sup>1</sup>*National Central Univ.*, <sup>2</sup>*Academia Sinica*
- H33** **Improved light trapping in silicon thin-film solar cell by guided mode resonance effect**  
Y.-C. Lee, C.-F. Huang, J.-Y. Chang, and M.-L. Wu, *National Central Univ.*
- H34** **Fabrication of light guide panel with micro-prism patterns for compact LCD backlight unit**  
S.-C. Lee, D.-S. Lim, S.-M. Kim, Y.-J. Kim, S. Kang, *Yonsei Univ.*
- H35** **Optical constants dependence of thin Al and Ir films on film thickness and deposition technique**  
A. Lehmuskero, M. Kuittinen, and P. Vahimaa, *Univ. Joensuu*
- H36** **Optimization of light guide plate with micro structure for extra light modern backlight module**  
C.-J. Li, Y.-C. Fang, W.-T. Chu, and M.-C. Cheng, *National Kaohsiung First Univ. Sci. Tech.*
- H37** **Nonlinear confocal microscopy for high resolution measurement**  
Y. Liu and C. Egami, *Shizuoka Univ.*
- H38** **Polymer long period waveguide gratings for sensor applications**  
Y. Liu and E. Y. B. Pun, *City Univ. Hong Kong*

# Technical Sessions

**Tuesday, 30 October**

- H39 A color system for three dimensional imaging using stereogram capturing and holographic reconstruction**  
Y. Matsukura, N. Nishikawa, K. Nitta, and O. Matoba, *Kobe Univ.*
- H40 Interfacial interaction of semiconductor quantum dots with nanoparticles in solution**  
Y. Matsumoto<sup>1</sup>, R. Kanemoto<sup>1</sup>, N. Tsurumachi<sup>1</sup>, S. Koshiba<sup>1</sup>, H. Itoh<sup>1</sup>, S. Nakanishi<sup>1</sup>, T. Itoh<sup>2</sup>, V. Biju<sup>2</sup>, and M. Ishikawa<sup>2</sup>,  
<sup>1</sup>Kagawa Univ., <sup>2</sup>AIST
- H41 Laser micro-smoothing of binary optics as a means to reduce light scatter**  
E. Mendez<sup>1</sup>, H. J. Baker<sup>1</sup>, M. Taghizadeh<sup>1</sup>, R. McBride<sup>2</sup>, N. Ross<sup>1</sup>, and D. R. Hall<sup>1</sup>, <sup>1</sup>Heriot-Watt Univ., <sup>2</sup>PowerPhotonic Ltd.
- H42 Ultra compact and highly efficient QPM-green laser system for display and medical use**  
H. Miki, S. Takagi, M. Nakakita, A. Tanaka, Y. Mizoh, and Y. Okazaki, *Panasonic Shikoku Electronics Co., Ltd.*
- H43 Optical detection of defects in multi-layered optical device**  
K. Minami, E. Kurimoto, K. Hirano, T. Miyake, Y. Nakata, and Y. Kurata, *Sharp Corp.*
- H44 Two dimensional parallel processing for modular exponentiation by means of Montgomery multiplication**  
T. Minami, K. Nitta, and O. Matoba, *Kobe Univ.*,
- H45 A narrow-spectrum long-wavelength VCSEL using a fiber Bragg grating – Dependence on grating reflectivity**  
T. Mizunami, T. Furuta, and T. Kudo, *Kyushu Inst. Tech.*
- H46 A long-period fiber-grating sensor for temperature/strain discrimination**  
T. Mizunami, Y. Ishida, and S. Yoshikura, *Kyushu Inst. Tech.*,
- H47 Measurement of refractive indices of an optical anisotropic film with a slanted optic axis**  
K. Muro<sup>1</sup>, T. Inaba<sup>1</sup>, M. Karibe<sup>1</sup>, H. Yoda<sup>1</sup>, M. Miyagi<sup>2,3</sup>, H. Tsuchiya<sup>1</sup>, and K. Shiraishi<sup>1</sup>, <sup>1</sup>Utsunomiya Univ., <sup>2</sup>Sendai National College Tech., <sup>3</sup>Miyagi National College Tech.
- H48 Interrogation of fiber grating sensor using bandpass filters with chirped fiber Bragg grating**  
K. Nakagawa, *Kagawa Univ.*
- H49 Design of binary computer-generated holograms to avoid speckles with a phase difference constraint method**  
M. Nakata, S. Yang, and H. Takajo, *Kyushu Inst. Tech.*
- H50 Switching characteristics in a 4x4 optical switch using ferro-electric liquid crystal polarization control devices**  
K. Nakatsuhara, Y. Sugimoto, and T. Nakagami, *Kanagawa Inst. Tech.*
- H51 650nm wavelength 20 channel laser diode array for high resolution and high speed laser printer**  
S. Nakatsuka<sup>1</sup>, H. Inenaga<sup>2</sup>, J. Sakamoto<sup>2</sup>, and M. Aoki<sup>1</sup>,  
<sup>1</sup>Hitachi Ltd., <sup>2</sup>Ricoh Printing Systems
- H52 A three dimensional imaging system by means of ray space and holographic reconstruction**  
N. Nishikawa, K. Nitta, and O. Matoba, *Kobe Univ.*

# Technical Sessions

Tuesday, 30 October

- H53 Linewidth control of high power single polarization ytterbium-doped double cladding fiber laser based MOPA**  
J. Nishina, N. Yoshizawa, K. Tanaka, and A. Fujisaki, *The Furukawa Electric Co., Ltd.*
- H54 Formation of anisotropic Bragg gratings in polymer-dispersed liquid crystal films**  
A. Ogiwara<sup>1</sup>, M. Minato<sup>1</sup>, S. Horiguchi<sup>1</sup>, H. Ono<sup>2</sup>, H. Imai<sup>2</sup>, H. Kakiuchida<sup>3</sup>, and M. Tazawa<sup>3</sup>, <sup>1</sup>*Takamatsu National College Tech.*, <sup>2</sup>*Nagaoka Univ. Tech.*, <sup>3</sup>*AIST*
- H55 Fabrication of array waveguide grating by casting method using micro die**  
K. Okada, F. Oohira, G. Hashiguchi, M. Hosogi, and Y. Mihara, *Kagawa Univ.*
- H56 Planar structured 3D light beam deflector using prism shaped electrode and electro-optic effect graded in depth direction**  
H. Okayama<sup>1</sup> and M. Sakuta<sup>2</sup>, <sup>1</sup>*Oki Electric Ind. Co., Ltd.*, <sup>2</sup>*Oki Digital Imaging Co.*
- H57 Width deviation compensation for ridge waveguide and its application to PPLN wavelength converter**  
H. Okayama, H. Ono, and Y. Ogawa, *Oki Electric Ind. Co., Ltd.*
- H58 Comparison of reflection-type holographic memory with transmission-type memory in angular multiplexing**  
J. Onoda, M. Miura, K. Nitta, and O. Matoba, *Kobe Univ.*
- H59 Guiding properties of a modified triangular lattice photonic crystal fibre**  
S. M. A. Razzak, Y. Namihira, S. Kaijage, T. Kinjo, N. H. Hai, and N. Zou, *Univ. Ryukyus*
- H60 High efficient microoptical polarizer**  
P. Ruffieux, T. Scharf, and H.-P. Herzig, *Univ. Neuchâtel*
- H61 Compact grating based spectrometer for illumination recognition**  
T. Saastamoinen, N. Heikkilä, M. Kuittinen, and P. Vahimaa, *Univ. Joensuu*
- H62 Second-harmonic generation in nonlinear photonic structures with disordered ferroelectric domains**  
S. Saltiel<sup>1,2</sup>, R. Fischer<sup>1</sup>, D. Neshev<sup>1</sup>, W. Krolikowski<sup>1</sup>, and Y. Kivshar<sup>1</sup>, <sup>1</sup>*Australian National Univ.*, <sup>2</sup>*Univ. Sofia*
- H63 Micro-optical elements on Bragg reflectors to create iridescent colours**  
T. Scharf, S. Jaquet, P. Ruffieux, and H. P. Herzig, *Univ. Neuchâtel*
- H64 Prototype system of real-time digital holographic microscopy using the graphic processing unit**  
T. Shimobaba<sup>1</sup>, Y. Sato<sup>1</sup>, K. Miyamoto<sup>1</sup>, J. Miura<sup>1</sup>, M. Takenouchi<sup>1</sup>, and T. Ito<sup>2</sup>, <sup>1</sup>*Yamagata Univ.*, <sup>2</sup>*Chiba Univ.*
- H65 Time jitter investigation in compact and simple time jitter suppressed gain-switched DFB laser module**  
H. B. Song, N. Kitaoka, and K. Nonaka, *Kochi Univ. Tech.*
- H66 Photonic crystals on patterned sapphire substrates fabricated using nanosphere lithography**  
Y. K. Su<sup>1</sup>, J. J. Chen<sup>1</sup>, R. W. Chuang<sup>1</sup>, C. L. Lin<sup>2</sup>, and C. C. Kao<sup>1</sup>, <sup>1</sup>*National Cheng Kung Univ.*, <sup>2</sup>*Kun-Shan Univ.*

# Technical Sessions

**Tuesday, 30 October**

- H67 Mechanism of the RGB color in the extended porphyrin derivatives by means of DV-X $\alpha$  calculation**  
A. Takashima<sup>1</sup>, S. Tsuboi<sup>1</sup>, T. Ishii<sup>1</sup>, and G. Sakane<sup>2</sup>,  
<sup>1</sup>Kagawa Univ., <sup>2</sup>Okayama Univ. Sci.
- H68 Liquid sample injector driven by laser pulses**  
M. Tanaka<sup>1,3</sup>, T. Ooie<sup>1,3</sup>, T. Nakahara<sup>1</sup>, S. Hyodo<sup>2</sup>, Y. Shinohara<sup>3</sup>, H. Miyashita<sup>1</sup>, Y. Baba<sup>1,4</sup>, <sup>1</sup>AIST, <sup>2</sup>Toyo Manufacturing Co., Ltd., <sup>3</sup>Univ. Tokushima, <sup>4</sup>Nagoya Univ.
- H69 Autonomous downlink and uplink beam alignment and searching techniques for smart link multi-user accessibility optical wireless micro-cell system**  
C. Tangtronbenchasil, T. Kato, and K. Nonaka, *Kochi Univ. Tech.*
- H70 Optical thin film with high damage resistance for Nd:YAG laser device**  
R. Tateno<sup>1</sup> and K. Kashiwagi<sup>2</sup>, <sup>1</sup>Shimadzu Corp., <sup>2</sup>Toyo Univ.
- H71 Zn-diffused polarization phase modulator in x-cut lithium niobate**  
R.-C. Twu, H.-H. Lee, H.-Y. Hong, and C.-Y. Yang, *Southern Taiwan Univ. Tech.*
- H72 Blind deconvolution method using the zero-constraint**  
T. Ueda, S. Yang, and H. Takajo, *Kyushu Inst. Tech.*
- H73 Design of phase-shifting mask generating sawtooth optical interference pattern**  
S. Ura<sup>1</sup>, C. Kim<sup>1</sup>, K. Nishio<sup>1</sup>, Y. Awatsuji<sup>1</sup>, K. Kintaka<sup>2</sup>, <sup>1</sup>Kyoto Inst. Tech., <sup>2</sup>AIST
- H74 DMD evaluation of rectangular optical waveguide for 10Gbps board-to-board and chip-to-chip interconnection with numerical analysis**  
Y. Wakazono, A. Suzuki, D. Nagao, T. Ishikawa, T. Hino, Y. Hashimoto, H. Masuda, S. Suzuki, M. Tamura, T. Suzuki, K. Kikuchi, H. Nakagawa, M. Aoyagi, and T. Mikawa, *AIST*
- H75 Optical tracking for the estimation of human upper body model and its 3D motion**  
K. Wan and H. Sawada, *Kagawa Univ.*
- H76 Transmission enhancement through single slit embedded in plasmonic multilayer structure**  
C.-M. Wang<sup>1</sup>, C.-C. Chao<sup>2</sup>, H.-I. Huang<sup>2</sup>, Y.-C. Chang<sup>1</sup>, D.-P. Tsai<sup>3</sup>, and J.-Y. Chang<sup>2</sup>, <sup>1</sup>Academia Sinica, <sup>2</sup>National Central Univ., <sup>3</sup>National Taiwan Univ.
- H77 Sensitivity dependence with respect to diaphragm dimensions in a glass-based guided-wave optical pressure sensor**  
Y. Watanabe, H. Nikkuni, M. Ohkawa, and T. Sato, *Niigata Univ.*
- H78 Planar beam expander for fluorescence correlation spectroscopy**  
A.-C. Wei<sup>1</sup> and J.-R. Sze<sup>2</sup>, <sup>1</sup>Foxsemicon Integrated Tech. Inc., <sup>2</sup>Instrument Tech. Research Center
- H79 Fabrication of SnO<sub>2</sub> nanopillar array by liquid-phase deposition assisted by porous anodic alumina**  
S. Yamaguchi<sup>1</sup>, H. Segawa<sup>1</sup>, T. Nagaura<sup>2</sup>, S. Inoue<sup>2</sup>, T. Yano<sup>1</sup>, and S. Shibata<sup>1</sup>, <sup>1</sup>Tokyo Inst. Tech., <sup>2</sup>National Inst. Materials Sci.



# Technical Sessions

*Tuesday, 30 October*

- H80 Effective derivation method of weight function in diffusion optical tomography**  
T. Yamamura, K. Nitta, and O. Matoba, *Kobe Univ.*
- H81 Plasmon-free vertically-standing nanometal structure**  
J.-K. Yang, M.-K. Seo, S.-H. Kim, J.-Y. Kim, and Y.-H. Lee, *KAIST*
- H82 Effect of annular-aperture in solid immersion lens based near-field recording**  
Y.-J. Yoon, T.-S. Kim, W.-C. Kim, H. Choi, N.-C. Park, and Y.-P. Park, *Yonsei Univ.*
- H83 Short pulse propagation in DFB waveguides**  
M. Yoshimura and T. Mizumoto, *Tokyo Inst. Tech.*
- H84 Optical characteristics and electric conductivity of manganese oxide nano-fibers and nano-tubes**  
N. Yoshimura, Y. Miyaoka, M. Yamano, A. Yoshimura, Q. Feng, M. Terabayashi, H. Miyagawa, N. Tsurumachi, S. Koshiba, S. Nakanishi, and H. Itoh, *Kagawa Univ.*

**Break (16:40-17:00)**

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## *First Hall (Hall Bldg. 4F)*

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**17:00-17:20 MOC Award Ceremony**

**17:20-18:30 Micro Concert**

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## *Alice (Tower Bldg. 30F)*

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**18:45-20:30 Conference Party**

# Technical Sessions

**Wednesday, 31 October**

**Conference Hall (Tower Bldg. 6F)**

**8:30-10:10 Session J: Advanced Lasers and Light Sources**

Chairs: R. King, *U-L-M Photonics GmbH*

S. Tsuji, *Hitachi Ltd.*

**J1 MOCVD growth and nanofabrication of GaN-based VCSELs (Invited)**

8:30 H. C. Kuo, C. C. Kao, J. T. Chu, T. C. Lu, and S. C. Wang, *National Chiao-Tung Univ.*

**J2 Characterization of first-order AlInGaN 405nm distributed feedback laser diodes**

8:55 S. Masui, K. Tsukayama, T. Yanamoto, T. Kozaki, S. Nagahama, and T. Mukai, *Nichia Corp.*

**J3 Mechanism of enhanced light extraction efficiency in III-nitride-based micro-array light-emitting diodes**

9:10 J.-Y. Chang, Y.-C. Lee, P.-S. Lee, C.-H. Kuo, and M.-L. Wu, *National Central Univ.*

**J4 Multimode laser emission from organic photonic dots**

9:25 M. Sudzius, M. Langner, S. Hintschich, V. G. Lyssenko, H. Fröb, and K. Leo, *Tech. Univ. Dresden*

**J5 Surface-emitting red DBR laser array for semiconductor laser-induced fluorescence biosensing**

9:40 M. Uemukai, Y. Yamada, and T. Suhara, *Osaka Univ.*

**J6 A direct diode laser system using a planar lightwave circuit**

9:55 K. Hasegawa, H. Matsubara, T. Ichikawa, M. Maeda, and H. Ito, *TOYOTA Central R&D Labs.*

**Break (10:10-10:30)**

**10:30-12:25 Session K: Frequency Conversion and Advanced Displays**

Chairs: B. Luther-Davies, *Australian National Univ.*

S. Ishihara, *JST and OITDA*

**K1 Compact intracavity SHG green light source with wide operation temperature range using periodically poled Mg:LiNbO<sub>3</sub>**

10:30 T. Yokoyama, K. Mizuuchi, K. Nakayama, A. Kurozuka, T. Sugita, A. Morikawa, and K. Yamamoto, *Matsushita Electric Ind. Co., Ltd.*

**K2 Lithium niobate nonlinear-optical device for hybrid silicon photonics**

10:45 T. Okubo<sup>1,2</sup>, R. Kou<sup>1,2</sup>, S. Kurimura<sup>1,2</sup>, H. Nakajima<sup>2</sup>, J. Ichikawa<sup>3</sup>, and K. Kondou<sup>3</sup>, <sup>1</sup>*National Inst. Materials Sci.*, <sup>2</sup>*Waseda Univ.*, <sup>3</sup>*Sumitomo Osaka Cement Co., Ltd.*

**K3 Waveguide QPM-SFG device pumped by InGaAs laser diode for single photon detection in communication band**

11:00 M. Fujimura, H. Okabe, K. Beniya, and T. Suhara, *Osaka Univ.*

**K4 Crystal-quartz-based wavelength converter for deep ultraviolet generation**

11:15 S. Kurimura<sup>1</sup>, M. Adachi<sup>1,2</sup>, J. Nakanishi<sup>1,2</sup>, and K. Hayashi<sup>2</sup>, <sup>1</sup>*National Inst. Materials Sci.*, <sup>2</sup>*Nidek Co., Ltd.*

# Technical Sessions

Wednesday, 31 October

- K5 Microoptical solutions for imaging and displays** (Invited)  
11:30 A. Bräuer, P. Dannberg, J. Duparre, A. Brückner, F. Wippermann, P. Schreiber, and D. Michaelis, *Fraunhofer IOF*
- K6 3-dimensional displaying in liquid**  
11:55 A. Chekhovskiy and H. Toshiyoshi, *Univ. Tokyo*
- K7 Multi-laser diodes condenser/homogenizer applicable to laser projection systems**  
12:10 T. Itoh<sup>1</sup>, T. Mizushima<sup>1</sup>, H. Furuya<sup>1</sup>, K. Mizuuchi<sup>1</sup>, A. Morikawa<sup>1</sup>, S. Shikii<sup>1</sup>, K. Yamamoto<sup>1</sup>, S. Kadowaki<sup>1</sup>, T. Hiratsuka<sup>2</sup>, S. Takagi<sup>2</sup>, and Y. Mizoh<sup>2</sup>, <sup>1</sup>*Matsushita Electric Ind. Co., Ltd.*, <sup>2</sup>*Panasonic Shikoku Electronics Co., Ltd.*

## Lunch (12:25-13:45)

### 13:45-15:50 Session L: Active and Functional Devices

Chairs: H. C. Kuo, *National Chiao-Tung Univ.*  
K. Nonaka, *Kochi Univ. Tech.*

- L1 VCSELs address a wide range of applications** (Invited)  
13:45 R. King, M. Grabherr, D. Wiedenmann, and R. Jäger, *U-L-M Photonics GmbH (a Philips Lighting Co.)*
- L2 The characteristics and reliability of 10 Gbps/ch 1×10 VCSEL array at 850-nm wavelength**  
14:10 T. Kondo, S. Omori, K. Takeda, M. Yoshikawa, A. Murakami, and N. Ueki, *Fuji Xerox Co., Ltd.*
- L3 Thermal resistance reduction of GaAs-based vertical cavity surface emitting lasers by thickness modulated distributed Bragg reflector**  
14:25 T. Nishina, Y. Kashihara, S. Ishida, T. Miyamoto, and F. Koyama, *Tokyo Inst. Tech.*
- L4 Chalcogenide planar devices for all-optical processing**  
14:40 (Invited)  
B. Luther-Davies<sup>1</sup>, S. Madden<sup>1</sup>, D.-Y. Choi<sup>1</sup>, R. Wang<sup>1</sup>, D. A. Bulla<sup>1</sup>, A. V. Rode<sup>1</sup>, A. Prasad<sup>1</sup>, M. Pelusi<sup>2</sup>, V. G. Ta'eed<sup>2</sup>, M. Lamont<sup>2</sup>, L. Fu<sup>2</sup>, N. Baker<sup>2</sup>, K. Finterbusch<sup>2</sup>, D. J. Moss<sup>2</sup>, H. C. Nguyen<sup>2</sup>, and B. J. Eggleton<sup>2</sup>, <sup>1</sup>*Australian National Univ.*, <sup>2</sup>*Univ. Sydney*
- L5 Optical flip-flop device composed of photonic crystal waveguides and quantum dots**  
15:05 Y. Sugimoto<sup>1,2</sup>, Y. Watanabe<sup>1</sup>, N. Ozaki<sup>1</sup>, A. Mizutani<sup>1</sup>, Y. Takata<sup>1</sup>, Y. Kitagawa<sup>1</sup>, N. Ikeda<sup>2</sup>, S. Ohkouchi<sup>3,4</sup>, S. Nakamura<sup>3</sup>, A. Watanabe<sup>5</sup>, K. Asakawa<sup>1</sup>, <sup>1</sup>*Univ. Tsukuba*, <sup>2</sup>*National Inst. Materials Sci.*, <sup>3</sup>*NEC Corp.*, <sup>4</sup>*AIST*, <sup>5</sup>*Meijo Univ.*
- L6 Low loss signal selector using FWM in highly nonlinear optical fiber for bus-type access networks**  
15:20 K. Hara, N. Oota, H. Nakamura, N. Miki, N. Yoshimoto, and M. Tsubokawa, *NTT Corp.*
- L7 Widely and fast wavelength-tunable mode-locked linear cavity fiber laser**  
15:35 R. Konishi<sup>1</sup>, S. Yamashita<sup>1</sup>, and K. Hsu<sup>2</sup>, <sup>1</sup>*Univ. Tokyo*, <sup>2</sup>*Micron Optics, Inc.*

## Break (15:50-16:00)

# Technical Sessions

**Wednesday, 31 October**

**16:00-16:30 Session PD: Post Deadline Papers**

Chairs: N.-C. Park, *Yonsei Univ.*  
N. Nishida, *Univ. Tokushima*

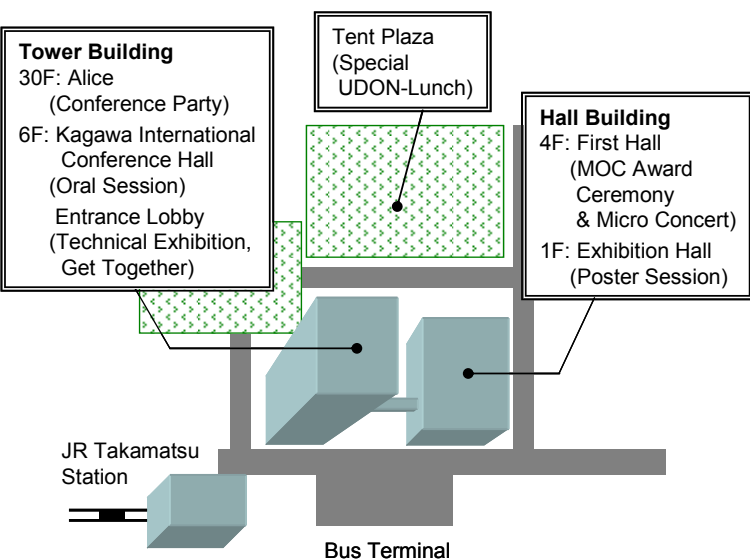
**16:30-16:40 Paper Award Ceremony**

**16:40-16:50 Closing Remarks**

Program Co-chairs:

T. Miyamoto, *Tokyo Inst. Tech.*  
N. Mori, *Konica Minolta Opto, Inc.*

## Venue Layout (Overview) Sunport Takamatsu



# Registration

Kinki Nippon Tourist Co., Ltd. (KNT) has been appointed as secretariat for registration and hotel reservation for MOC '07. All registrations, reservations, cancellations etc. should be sent to:

## MOC '07 Desk

Event & Convention, Kansai

Kinki Nippon Tourist Co., Ltd.

c/o Daiko Imabashi Bldg. 3F

2-4-10, Imabashi, Chuo-ku, Osaka 541-0042 JAPAN

TEL: 81-6-6202-0224

FAX: 81-6-6202-7921

E-Mail: eckansai@or.knt.co.jp

## Registration Fees

	Before/On Sept. 30, 2007	On/After Oct. 1, 2007
Conference (General)	¥ 45,000	¥ 50,000
Conference (Student)	¥ 7,000	¥ 8,000
Extra Copy of Digest	¥ 6,000	¥ 6,000

\* The registration fee includes admission to MOC '07 and a copy of Technical Digest.

## REGISTRATION AND PAYMENT

Those who wish to attend MOC '07 should access to MOC website (<http://www.comemoc.com/>), where the procedure of the registration is described. Online registration is highly recommended. In case where online registration is not convenient, you can register by submitting the Registration Form via Facsimile. The deadline of advanced registration is Monday, October 15 and the advantage of early registration rate is available by Sunday, **September 30, 2007**.

Payment by domestic attendees should be made in Japanese yen by bank transfer (inside Japan only) to the account shown below. Payment by overseas attendees should be made in Japanese yen by Credit cards (Diners Club, AMEX, VISA, JCB and Master Card) only. If unable to pay by credit card, please contact MOC '07 Desk, KNT for alternative arrangements. On-site payment should be made in Japanese yen only by cash.

### \*Bank Transfer inside Japan for Domestic Attendees

日本在住参加者は下記銀行口座に登録費用をお振込み願います。

三菱東京UFJ銀行 千代田支店

口座名: 近畿日本ツーリスト(株)

口座番号: (普)NO. 2565402

※入金時の振込手数料はお客様ご自身にてご負担下さい。

Bank Name : Bank of Tokyo-Mitsubishi UFJ, Chiyoda Branch

Account Name : Kinki Nippon Tourist Co., Ltd

Account Number : 2565402

\*Bank handling charge must be paid by the remitter.

## REGISTRATION CANCELLATION

Cancellation should be made in writing to MOC '07 Desk, Kinki Nippon Tourist, but 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

A block of rooms has been reserved by Kinki Nippon Tourist Co., Ltd. for the convenience of the participants. The rooms are to be reserved on a first-come first-served basis. To ensure your reservation at the reduced convention rate, please make your hotel reservation at your earliest convenience.

## How to Make Hotel Reservations

Those who wish to make hotel reservations should have access to MOC website (<http://www.comemoc.com/>), where the procedure of the hotel reservation is described. Online reservation is highly recommended no later than **October 15, 2007**, together with the payment of Deposit (JPY10,000 per room ) and Handling charge (JPY 500 per room).

The reservation website will be opened until Monday, October 15. In case where online reservation is not convenient, you can reserve by submitting the Reservation Form via Facsimile.

## Hotel List

Hotel Name	Code	Room Type	Room Charge	Hotel Location
ANA Hotel Clement Takamatsu	AS	Single	¥ 11,025	1min. walk from JR Takamatsu station
	AT	Twin	¥ 17,325	
	AD	Double	¥ 15,225	
RIHGA Hotel Zest Takamatsu	BS	Single	¥ 9,450	10min. walk from JR Takamatsu station
	BT	Twin	¥ 16,800	
	BD	Double	¥ 12,600	
Takamatsu Tokyu Inn	CS	Single	¥ 9,765	7min. walk from JR Takamatsu station
	CT	Twin	¥ 14,700	
	CU	Twin (1 person)	¥ 11,550	
Takamatsu Century Hotel	DT	Twin	¥ 12,600	6min. walk from JR Takamatsu station
Takamatsu Terminal Hotel	ES	Single	¥ 7,350	3min. walk from JR Takamatsu station
	ET	Twin	¥ 12,600	

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

\* Breakfast is not included in these rates except for Takamatsu Terminal Hotel.

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

## PAYMENT

Payment must be completed in Japanese Yen with the same manner for conference registration. (See "Registration".)

## HOTEL CANCELLATION

Cancellation or change of hotel reservations should be made in writing to MOC '07 Desk, Kinki Nippon Tourist Co., Ltd. In case of cancellation, your deposit will be refunded after deducting bank charge, commission and the following cancellation fee. Please note that the handling charge cannot be refunded.

*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

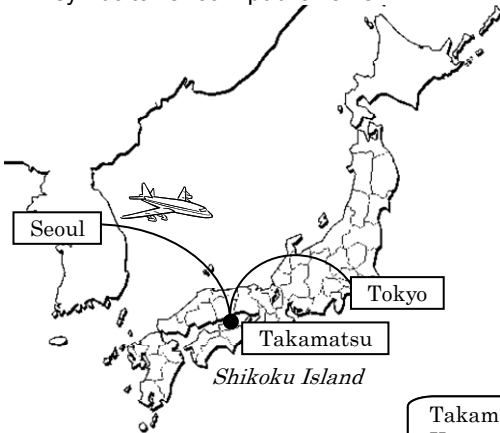
## LOCATION OF CONFERENCE SITE

The MOC '07 will take place at Sunport Takamatsu, Takamatsu city, Kagawa prefecture in Shikoku Island, Japan. Sunport Takamatsu is located at a 1-minute walk from JR Takamatsu Station, the center of Takamatsu city. Besides flights from major cities in Japan, there are direct flights from Seoul to Takamatsu. When visiting Takamatsu city from overseas, travel via Tokyo Haneda Airport (not Narita International) is convenient. Buses will take you to the center of the city from Takamatsu Airport (about a 40-minute ride).

### Sunport Takamatsu

2-1 Sunport, Takamatsu, Kagawa 760-0019, Japan

<http://www.symboltower.com/public/hall/en/>



### Takamatsu City in Shikoku Island

Takamatsu city is blessed with scenic beauty and a year-round mild climate. It faces on the Seto Inland Sea, a national sea park, dotted with marvelous small islands in the north

and commands a beautiful view of the skyline of the Sanuki mountain range to the south. It is a vital political and commercial hub of this area with many branches of the national government and various private enterprises.

Shikoku Island is surrounded by the Seto Inland Sea, the Japan Current (a warm ocean current that moderates Japan's climate) and many other natural wonders. The Seto Inland Sea is blue and peaceful, its islands are warm in heart and rich in nature, and the magnificent Seto Ohashi Bridge is perfectly situated within here. This, the best of Kagawa, is what you should see and enjoy.

<http://www.city.takamatsu.kagawa.jp/ENGLISH/index.html>



# **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 your travel agent or the local consular office in your country.

## **Climate**

The weather in Takamatsu 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 60 Hz in western Japan including Takamatsu, Osaka and Kyoto, and 50 Hz in eastern Japan including Tokyo.



# MOC '07 Committee Members

## ORGANIZING COMMITTEE

### *Conference Co-chairs*

- S. Yamashita (Univ. Tokyo)  
K. Yamamoto (Matsushita Electric Ind. Co., Ltd.)

### *Members*

- N. Arai (Konica Minolta Opto, Inc.)  
A. Arimoto (PENTAX Corp.)  
Y. Fujii (Nihon Univ.)  
T. Fukunaga (Fuji Photo Film Co., Ltd.)  
H. Furuta (Fukuoka Univ.)  
K. Hamanaka (Nippon Sheet Glass Co., Ltd.)  
M. Haruna (Osaka Univ.)  
H. Hosokawa (OMRON Corp.)  
K. Hotate (Univ. Tokyo)  
A. Ibaraki (SANYO Electric Co., Ltd.)  
I. Ishibai (Fu-Tech. Co., Ltd.)  
K. Ishida (Chitose Inst. Sci. Tech.)  
S. Ishihara (JST and OITDA)  
Y. Iwasaki (Nikon Corp.)  
H. Kanamori (Sumitomo Electric Ind., Ltd.)  
M. Kawachi (NTT Electronics Corp.)  
K. Kodate (Japan Women's Univ.)  
Y. Koike (Keio Univ.)  
S. Komatsu (Waseda Univ.)  
S. Kubota (Sony Corp.)  
K. Maru (Hitachi Cable Ltd.)  
H. Nishihara (Univ. of the Air)  
K. Nishizawa (Polytechnic Univ.)  
Y. Okino (Kansai Univ.)  
Y. Ono (Ritsumeikan Univ.)  
H. Sasaki (Oki Electric Ind. Co., Ltd.)  
H. Sato (Asahi Glass Co., Ltd.)  
K. Tada (Kanazawa Inst. Tech.)  
Y. Tamagawa (Mitsubishi Electric Corp.)  
J. Tokumitsu (Canon Inc.)  
H. Toratani (HOYA Corp.)  
S. Tsuji (Hitachi Ltd.)  
K. Ueyanagi (JST)  
S. Ura (Kyoto Inst. Tech.)  
A. Watabe (NTT AFTY Co.)  
M. Watanabe (AIST)  
T. Watanabe (Fujikura Ltd.)  
I. Yamaguchi (Gunma Univ.)  
T. Yatagai (Utsunomiya Univ.)

# MOC '07 Committee Members

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## PROGRAM COMMITTEE

### *Co-chairs*

- T. Miyamoto (Tokyo Inst. Tech.)  
N. Mori (Konica Minolta Opto, Inc.)

### *Domestic Members\**

- H. Fuji (Sharp Corp.)  
M. Fujimaki (Fujikura Ltd.)  
K. Goto (Tokai Univ.)  
Y. Handa (Canon Inc.)  
G. Hatakoshi (Toshiba Corp.)  
K. Iga (Tokyo Inst. Tech.)  
T. Ishigure (Keio Univ.)  
R. Katayama (NEC Corp.)  
S. Kawai (Polytechnic Univ.)  
S. Kittaka (Nippon Sheet Glass Co., Ltd.)  
Y. Kokubun (Yokohama National Univ.)  
W. Kubo (PENTAX Corp.)  
K. Kuroda (Univ. Tokyo)  
T. Mizumoto (Tokyo Inst. Tech.)  
H. Nakajima (Waseda Univ.)  
S. Nakatsuka (Hitachi Ltd.)  
K. Ogawa (Japan Women's Univ.)  
Y. Ogura (Lightron Co., Ltd.)  
S. Ozawa (The Furukawa Electric Co., Ltd.)  
T. Sasagawa (Mitsubishi Electric Co.)  
T. Shibuya (Tokai Univ.)  
H. Shoji (Eudyna Devices, Inc.)  
T. Suhara (Osaka Univ.)  
K. Takahashi (Sumitomo Electric Ind., Ltd.)  
Y. Uenishi (NTT Corp.)  
T. Watanabe (NTT Corp.)  
B. Yao (Hitachi Cable, Ltd.)  
K. Yokomori (Ricoh Co., Ltd.)

### *Overseas Members*

- E. Acosta (Univ. Santiago de Compostela)  
J. E. Batubara (Univ. Pelita Harapan)  
P. S. Chung (City Univ. Hong Kong)  
S. Fleming (Univ. Sydney)  
Y.-J. Kim (Yonsei Univ.)  
G. D. Khoe (Eindhoven Univ. Tech.)  
J. Leger (OSA, Minnesota Univ.)  
Y. Liu (National Tsing-Hua Univ.)  
N.-C. Park (Yonsei Univ.)  
T. Possner (GRINTECH)  
H. K. Shin (Opticis Co., Ltd.)  
C. G. Someda (Univ. Padova)  
W. J. Stewart (FREng, FinstP)  
W. B. Veldkamp (MIT Lincoln Lab.)

\*Domestic Members are also Organizing Committee Members.

# MOC '07 Committee Members

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## INTERNATIONAL ADVISORY COMMITTEE

W. A.	Gambling	(LTK Ind. Ltd.)
A. K.	Ghatak	(Indian Inst. Tech., New Delhi)
C.	Gomez-Reino	(Univ. Santiago de Compostela)
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M.	Kawazu	(Nanosystem Solutions Co., Ltd.)
B. Y.	Kim	(KAIST)
T.	Kojima	(Konica Minolta Opto, Inc.)
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Y.-P.	Park	(Yonsei Univ.)
D. N.	Payne	(Univ. Southampton)
R. V.	Ramaswamy	(Univ. Florida)
G. C.	Righini	(DMD-CNR)
L.	Ross	(IOTech)
Y.	Suematsu	(National Inst. Info.)
C. S.	Tsai	(UC Irvine)
T.	Uchida	(Tokai Univ.)

## LOCAL STEERING COMMITTEE

### *Chair*

H.	Itoh	(Kagawa Univ.)
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### *Members*

H.	Ichikawa	(Ehime Univ.)
K.	Nakagawa	(Kagawa Univ.)
H.	Nakajima	(Waseda Univ.)
K.	Nonaka	(Kochi Univ. Tech.)
K.	Okamoto	(Kagawa Univ.)
H.	Sawada	(Kagawa Univ.)
M.	Tanaka	(AIST Shikoku)

### *Advisory Members*

H.	Kanbe	(Kochi Univ. Tech.)
N.	Nishida	(Univ. Tokushima)
Y.	Okazaki	(Panasonic Shikoku Electronics Co., Ltd.)
F.	Oohira	(Kagawa Univ.)
T.	Yamasaki	(Kagawa Univ.)

**MOC '07**  
October 28 - October 31, 2007  
at  
Sunport Takamatsu  
Takamatsu, Kagawa, Japan

## **Important Deadlines**

Early Registration: September 30, 2007  
Post Deadline Papers: October 9, 2007  
Hotel Accommodations: October 15, 2007

## **MOC '07 Secretariat**

c/o Prof. Shinji Yamashita  
Conference Co-chair, MOC '07  
University of Tokyo  
7-3-1 Hongo, Bunkyo-ku, Tokyo  
113-8656, Japan  
Tel: +81-3-5841-6659  
Fax: +81-3-5841-6025  
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<http://www.comemoc.com/moc07/>

