

# Technical Sessions

Wednesday, 28 October

International Conference Room (5F)

## 9:00-10:45 Session J: Optical Interconnects

Chairs: T.-C. Lu, *National Chiao Tung Univ.*  
T. Mizunami, *Kyushu Inst. Tech.*

- J1** **Optical RAM-enabled cache memory and optical routing**  
9:00 **for chip multiprocessors** (Invited)  
N. Pleros, *Aristotle Univ. Thessaloniki*
- J2** **Sub-gigahertz beam switching with transverse-mode**  
9:30 **coupled cavity VCSELs**  
M. Nakahama<sup>1</sup>, X. Gu<sup>1</sup>, T. Sakaguchi<sup>1</sup>, A. Matsutani<sup>2</sup>, and F. Koyama<sup>1</sup>, <sup>1</sup>*P&I Lab., Tokyo Institute of Technology*, <sup>2</sup>*Semiconductor and MEMS Processing Center, Tokyo Institute of Technology*
- J3** **Ultra wide mode-hop free tuning around 1550-nm**  
9:45 **telecom wavelength using high-speed MEMS-VCSELs**  
S. Paul<sup>1</sup>, J. Cesar<sup>1</sup>, C. Gierl<sup>1</sup>, M. T. Haidar<sup>1</sup>, B. Koegel<sup>2</sup>, C. Neumeyr<sup>2</sup>, M. Ortsiefer<sup>2</sup>, and F. Kueppers<sup>1</sup>, <sup>1</sup>*Technische Universitaet Darmstadt*, <sup>2</sup>*VERTILAS GmbH*
- J4** **Polarization dependence of germanium waveguide**  
10:00 **propagation characteristics in the 1600-1700 nm**  
**wavelength regions**  
T. Okumura, K. Oda, J. Kasai, M. Sagawa, and Y. Suwa, *Hitachi, Ltd*
- J5** **Coupled mode analysis of high-speed transverse**  
10:15 **coupled cavity VCSEL**  
S. Hu, and F. Koyama, *Tokyo Institute of Technology*
- J6** **Effect of metal side claddings on emission decay rate of**  
10:30 **single quantum dots embedded in a subwavelength**  
**semiconductor waveguide**  
T. Yamamoto<sup>1</sup>, Y. Ota<sup>1</sup>, S. Ishida<sup>2</sup>, N. Kumagai<sup>1</sup>, S. Iwamoto<sup>1,3</sup>, and Y. Arakawa<sup>1,3</sup>, <sup>1</sup>*Institute for Nano Quantum information Electronics, University of Tokyo*, <sup>2</sup>*Research Center for Advanced Science and Technology, University of Tokyo*, <sup>3</sup>*Institute of Industrial Science, University of Tokyo*

**Break (10:45-11:00)**

## 11:00-12:45 Session K: Fabrication Technology and Components

Chairs: J. E. Batubara, *Bina Nusantara Univ.*  
S. Yasuda, *Fuji Xerox Co., Ltd.*

- K1** **Prototyping and replication of polymer freeform micro-**  
11:00 **optical components** (Invited)  
J. V. Erps, *Vrije Universiteit Brussel*
- K2** **Direct write grayscale lithography for arbitrary shaped**  
11:30 **micro-optical surfaces**  
H.-C. Eckstein, M. Stumpf, P. Schleicher, S. Kleinle, A. Matthes, U. D. Zeitner, and A. Bräuer, *Fraunhofer Institute IOF*
- K3** **Experiment on three-dimensional display using spatial**  
11:45 **cross modulation method with an optical random**  
**diffuser**  
H. Sakuma<sup>1</sup>, A. Okamoto<sup>1</sup>, A. Shibukawa<sup>2</sup>, H. Funakoshi<sup>3</sup>, Y. Goto<sup>1</sup>, Y. Kan<sup>1</sup>, and A. Tomita<sup>1</sup>, <sup>1</sup>*Hokkaido University*, <sup>2</sup>*California Institute of Technology*, <sup>3</sup>*Gifu University*

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**K4 High Abbe number and high refractive index organic-inorganic nanocomposite films**  
12:00

B. Cai<sup>1</sup>, and O. Sugihara<sup>2</sup>, <sup>1</sup>University of Shanghai for Science and Technology, <sup>2</sup>Utsunomiya University

**K5 Micro-optics: key enabling technology for photolithography** (Invited)  
12:15

R. Voelkel, *SUSS MicroOptics SA*

**Lunch (12:45-14:00)**

**14:00-15:45 Session L: Passive and Functional Devices**

Chairs: N. Pleros, *Aristotle Univ. Thessaloniki*

M. Bunsen, *Fukuoka Univ.*

**L1 Direct femtosecond laser writing in metallic nanoparticle-containing films for photonic device fabrication** (Invited)  
14:00

R. R.-Rojo<sup>1</sup>, J. L.-Rodriguez<sup>1</sup>, I. R.-Mendoza<sup>1</sup>, L. R.-Fernandez<sup>2</sup>, and A. Oliver<sup>2</sup>, <sup>1</sup>Centro de Investigación Científica y de Educación Superior de Ensenada, <sup>2</sup>Universidad Nacional Autónoma de México

**L2 Fabrication of periodically-poled structures in MgO(8mol%):c-LiTaO<sub>3</sub> crystal and waveguide SHG devices**  
14:30

T. Oka, and T. Suhara, *Osaka University*

**L3 EO Raman-Nath spatial light modulator with 1024 pixels using cascaded periodically-poled three-stage gratings**  
14:45

M. Okazaki<sup>1</sup>, and T. Suhara<sup>2</sup>, <sup>1</sup>SCREEN Holdings Co., Ltd., <sup>2</sup>Osaka University

**L4 Electro-optic polarization conversion type modulator using domain-inverted 8 mol% MgO doped congruent LiTaO<sub>3</sub>**  
15:00

T. Inoue, and T. Suhara, *Osaka University*

**L5 Tunable hyperchromatic microlens array for compact 2D spectrometry**  
15:15

P.-H. C.-Nguyen, A. Seifert, and H. Zappe, *University of Freiburg*

**L6 Array-antenna-electrode electro-optic modulator for next-generation millimeter-wave wireless links**  
15:30

T. Inoue, H. Murata, and Y. Okamura, *Osaka University*

**Break (15:45-16:00)**

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

Chairs: K. Hamamoto, *Kyushu Univ.*

S. Iwamoto, *Univ. Tokyo*

**16:30-16:45 MOC Award Ceremony**

**16:45-17:00 Closing Remarks**

Program Co-chairs:

K. Hamamoto, *Kyushu Univ.*

S. Iwamoto, *Univ. Tokyo*