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**Fukuoka, Japan
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TECHNICAL PROGRAM

Sunday, 25 October

Room 502/503 (5F)

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

TU1 Fundamentals of semiconductor light emitting devices....N/A
14:00 T. Miyamoto, *Tokyo Inst. Tech, Japan*

TU2 High efficiency organic light-emitting diodes with fluorescent emitters....N/A
14:45 H. Nakanotani, *Kyushu Univ., Japan*

Break (15:30-15:45)

TU3 Quantum physics in microoptics....N/A
15:45 S. Iwamoto, *Univ. Tokyo, Japan*

TU4 Fundamentals of optical waveguide and key points in photonic device design....N/A
16:30 H. Takahashi, *Sophia Univ., Japan*

TU5 Active MMI devices -concept, proof, and recent progress-N/A
17:15 K. Hamamoto, *Kyushu Univ., Japan*

5F Lobby

18:00-19:00 Get Together

Monday, 26 October

International Conference Room (5F)

9:00-9:15 Opening Remarks

Conference Co-chairs:

R. Katayama, *Fukuoka Inst. Tech.*

M. Itoh, *NTT Corp.*

9:15-10:45 Session A: Plenary

Chairs:

R. Katayama, *Fukuoka Inst. Tech.*

M. Itoh, *NTT Corp.*

A1 History and recent progress on LiNbO₃ modulators (Plenary)....1

M. Izutsu, *JSPS / Waseda Univ.*

A2 Evolution of small lasers and resonators (Plenary)....3

9:45 Y.-H. Lee, *Korea Advanced Institute of Science and Technology (KAIST)*

A3 Emerging fibre technology for the Petabit/s era (Plenary)....5

D. J. Richardson, *Univ. Southampton*

Break (10:45-11:00)

11:00-12:45 Session B: Imaging and Sensing

Chairs:

E. Acosta, *Univ. Santiago de Compostela*

N. Mori, *Konica Minolta, Inc.*

B1 Optical manipulation with two beam traps in microfluidic polymer systems (Invited)....7

11:00 M. K. Arvelo^{1,2}, M. Matteucci², K. T. Sørensen², B. Bilenberg³, C. Vannahme², A. Kristensen², and K. Berg-Sørensen¹, ¹DTU Physics, *Technical University of Denmark*, ²DTU Nanotech, *Technical University of Denmark*, ³NIL Technology

B2 High-resolution and simultaneous measurement in the depth direction using virtual phase conjugation for optical tomography....9

11:30 Y. Goto¹, A. Okamoto¹, A. Shibukawa², A. Tomita¹, and M. Takabayashi³, ¹Hokkaido University, ²California Institute of Technology, ³Kyushu Institute of Technology

B3 In-vivo human skin imaging by monochromatic source optical coherence tomography....11

11:45 K. Osawa¹, H. Minemura¹, D. Tomita², T. Shimanaka², T. Suzuki², N. Matsuura², and K. Watanabe¹, ¹Hitachi, Ltd., ²Hitachi-LG Data Storage, Inc.

B4 Ultra-thin multi-aperture depth monitoring camera modules with megapixel resolution....13

12:00 A. Bräuer, A. Brückner, F. Wippermann, and A. Oberdörster, *Fraunhofer Institute IOF*

B5 Dual beam single-mode vertical cavity surface emitting lasers using high-index contrast grating....15

12:15 S. Inoue¹, A. Matsutani², H. Ohtsuki³, T. Miyashita³, and F. Koyama¹, ¹Photonics Integration System Research Center, *Tokyo Institute of Technology*, ²Semiconductor and MEMS Processing Center, *Technical Department, Tokyo Institute of Technology*, ³SAMCO, Inc.

B6 Speckle reduction using twin green laser diodes and oscillation of MEMS scanning mirror for pico-projector....17

12:30 J.-Y. Lee¹, T.-H. Kim², J.-U. Bu², and Y.-J. Kim¹, ¹Yonsei University, ²SenPlus Ltd.

Lunch (12:45-14:00)

14:00-16:00 Session C: Novel Devices and Applications
Chairs: Y.-J. Kim, *Yonsei Univ.*
S. Ura, *Kyoto Inst. Tech.*

- C1** **Passive radiative cooling below ambient air temperature under direct sunlight** (Invited)....N/A
14:00 S. Fan, *Stanford Univ.*
- C2** **Lasing in a ZnO membrane microcavity with designable shape fabricated by focused ion beam milling....19**
14:30 T.-C. Chang¹, Y.-Y. Lai¹, Y.-H. Chou^{1,2}, and T.-C. Lu¹,
¹*Department of Photonics, National Chiao Tung University*, ²*Institute of Lighting and Energy Photonics, National Chiao Tung University*
- C3** **Parity-time optical metamaterial devices....21**
14:45 Z. J. Wong¹, L. Feng¹, R.-M. Ma¹, Y. Wang^{1,2}, and X. Zhang^{1,2}, ¹*University of California Berkeley*, ²*Lawrence Berkeley National Laboratory*
- C4** **Electrically driven surface plasmon polaritons circuits....23**
15:00 K. Kwon, K. Choi, J.-B. You, J. Shin, and K. Yu, *Korea Advanced Institute of Science and Technology (KAIST)*
- C5** **Tunable terahertz metamaterials based on ultra-subwavelength graphene-dielectric structures....25**
15:15 L. Liu and H. T. Hattori, *University of New South Wales*
- C6** **Fabrication and measurement of vertical split-ring resonators for light manipulation and metasurface** (Invited)....27
15:30 P. C. Wu¹, W.-L. Hsu¹, W. T. Chen¹, Y.-W. Huang¹, C. Y. Liao¹, W.-Y. Tsai¹, A. Q. Liu², N. I. Zheludev³, G. Sun⁴, and D. P. Tsai^{1,5}, ¹*National Taiwan University*, ²*Nanyang Technological University*, ³*University of Southampton*, ⁴*University of Massachusetts Boston*, ⁵*Academia Sinica*

Break (16:00-16:15)

16:15-17:45 Session D: Guided Optics
Chairs: A. Bröuer, *Fraunhofer IOF*
Y. Ando, *Fujikura Ltd.*

- D1** **Photonic lanterns for mode division multiplexing** (Invited)....29
16:15 S. G. Leon-Saval, *Univ. Sydney*
- D2** **Full mode analysis of vector components of degenerated LP modes in few mode fibers from intensity profile through angled polarizer....31**
16:45 Y. Kokubun¹, T. Watanabe², K. Morita³, and R. Kawata³, ¹*Yokohama National University, Faculty of Eng.*, ²*Yokohama National University, Graduate School of Eng.*, ³*Yokohama National University, College of Engineering Sciences*
- D3** **First demonstration of electrically controlled mode switching....33**
17:00 R. Imansyah, L. Himbele, H. Jiang, and K. Hamamoto, *Kyushu University*
- D4** **1×8 silicon-silica hybrid thermo-optic switch with multi-chip configuration based on optical phased array....35**
17:15 S. Katayose, Y. Hashizume, and M. Itoh, *NTT Corporation*

D5 **Demonstration of magneto-optical switch with amorphous silicon waveguides on magneto-optic garnet....37**
17:30 E. Ishida¹, K. Miura¹, Y. Shoji², T. Mizumoto¹, N. Nishiyama¹, and S. Arai², ¹*Department of Electrical and Electronic Engineering, Tokyo Institute of Technology*, ²*Quantum Nanoelectronics Research Center, Tokyo Institute of Technology*

Break (17:45-18:00)

18:00-20:30 Session E: Special Session
"Challenge for novel organic opto-electronics -prospect for future organic lasers-"
Chairs: C. Adachi, *Kyushu Univ.*
S. Yokoyama, *Kyushu Univ.*
Y. Oki, *Kyushu Univ.*

- E1** **Microstructured organic semiconductors: lasers sensors and visible light communications....39**
18:00 (Invited)
G. L. Whitworth, P. P. Manousiadis, P. Morawska, S. Zhang, G. A. Turnbull, and I. D. W. Samuel, *Univ. St Andrews*
- E2** **Organic single-crystal light-emitting field-effect transistors** (Invited)....41
18:30 S. Hotta, *Kyoto Inst. Tech.*
- E3** **Light emitting transistor for lasers** (Invited)....43
19:00 E. B. Namdas, *The University of Queensland*
- E4** **Future prospects of organic and perovskite based solid-state lasers** (Invited)....45
19:30 T. Riedl, *University of Wuppertal*
- E5** **Recent progress in organic electronics and photonics: a perspective on the future of organic devices....47**
20:00 (Invited)
J.-L. Bredas, *King Abdullah University of Science and Technology*

Tuesday, 27 October

International Conference Room (5F)

9:00-10:45 Session F: Light Sources
Chairs: M. De Micheli, *CNRS*
T. Suhara, *Osaka Univ.*

- F1** **Techniques for optoelectronic performance evaluation in InGaN-based light-emitting diodes (LEDs)** (Invited)....49
9:00 J.-I. Shim¹, and D.-S. Shin², ¹*Dept. of Electronics, Hanyang University ERICA Campus*, ²*Dept. of Appl. Phys., Hanyang University ERICA Campus*
- F2** **Graphene-covered microfiber for passive mode-locking at 1.55 μm and 2 μm....51**
9:30 W. Ni, Y. Wang, and S. Yamashita, *The University of Tokyo*
- F3** **Ultraviolet lasing from spherical ZnO microcrystal produced by laser ablation in air....53**
9:45 D. Nakamura, T. Tanaka, T. Ikebuchi, T. Ueyama, F. Nagasaki, Y. Fujiwara, M. Higashihata, H. Ikenoue, and T. Okada, *Kyushu University*
- F4** **Comparative study of five & three quantum wells AlGaInAs/InP mode-locked lasers....N/A**
10:00 J. Akbar¹, L. Hou², and A. E. Keely², ¹*Hazara University Mansehra*, ²*University of Glasgow*

F5 Large-scale garnet single crystal with high transparency in fiber laser operation wavelength....55
10:15 A. Funaki¹, K. Kabayama¹, T. Kizaki¹, G. Villora², and K. Shimamura², ¹Fujikura Ltd., ²National Institute for Materials Science

F6 DBR laser with over 20nm wavelength tuning range....57
10:30 S. Liang, L. Han, L. Qiao, J. Xu, H. Zhu, and W. Wang, *Institute of Semiconductors, Chinese Academy of Sciences*

Break (10:45-11:00)

11:00-12:45 Session G: Waveguide Devices

Chairs: J.-I. Shim, *Hanyang Univ.*
K. Kato, *Kyushu Univ.*

G1 Fabrication of photonic wires in LiNbO₃ and their interest in nonlinear optics (Invited)....59
11:00 M. P. De Micheli, *Univ. Nice Sophia Antipolis*

G2 Silicon microring resonator-loaded Mach-Zehnder modulator with interleaved pn junction....61
11:30 H. Homma, R. Gautam, T. Arakawa, and Y. Kokubun, *Yokohama National University*

G3 Novel adjustment structure and method for InP-based Mach-Zehnder interferometer polarization splitter....63
11:45 K. Watanabe¹, Y. Nasu², Y. Ohiso¹, and R. Iga¹, ¹NTT Corporation

G4 Single-trench waveguide TE-TM mode converter for GaInAsP/InP waveguide optical isolator....65
12:00 K. Masuyama¹, Y. Shoji², and T. Mizumoto¹, ¹Graduate School of Science and Engineering, Tokyo Institute of Technology, ²Quantum Nanoelectronic Research Center, Tokyo Institute of Technology

G5 GaAsP tunable distributed Bragg reflector laser with ITO thin-film heater....67
12:15 M. Uemukai, and T. Suhara, *Osaka University*

G6 Optical add-drop multiplexer integrating silicon waveguide optical circulators and Bragg reflector....69
12:30 K. Kato¹, Y. Shoji², and T. Mizumoto¹, ¹Dept. of Electrical and Electronic Engineering, Tokyo Institute of Technology, ²Quantum Nanoelectronics Research Center, Tokyo Institute of Technology

Lunch (12:45-13:45)

Room 502/503 (5F) and 5F Lobby

13:45-16:15 Session H: Poster Session

Chairs: K. Hamamoto, *Kyushu Univ.*
S. Iwamoto, *Univ. Tokyo*

(13:45-15:00) Odd numbers: 1st half

(15:00-16:15) Even numbers: 2nd half

H1 Propagation characteristics for quantized Laguerre-Gauss beams using liquid crystal optical devices....71

A. Saito¹, A. Tanabe², M. Kurihara², N. Hashimoto², and K. Ogawa¹, ¹Japan Women's University, ²CITIZEN Holdings Co., Ltd

H2 Optical duplicate system for satellite-ground laser communication: reduction of the effects of atmospheric turbulence and simplification of the optical ground station....73

T. Nakayama¹, Y. Takayama², C. Fujikawa¹, and K. Kodate³, ¹Sch. of Eng., Tokai University, ²Sch. of Inf. and Telecommunication Eng., Tokai University, ³The University of Electro-Communications

H3 Influence of slow-light feedback on noise properties of VCSEL with a transverse coupled cavity....75

H. Ibrahim^{1,2}, M. Ahmed², and F. Koyama¹, ¹Tokyo Institute of Technology, ²Minia University

H4 Coupled-mode analysis of grating-position-shifted cavity-resonator-integrated guided-mode resonance filter....77

K. Asai¹, K. Kintaka², J. Inoue¹, and S. Ura¹, ¹Kyoto Institute of Technology, ²National Institute of Advanced Industrial Science and Technology

H5 Complex response of cavity resonator integrated guided mode resonance filter....79

H. Okuda, J. Inoue, and S. Ura, *Kyoto Institute of Technology*

H6 Design of efficient photo-elastic modulator using quasi-1D phononic crystal cavity....81

I. Kim¹, S. Iwamoto^{1,2}, and Y. Arakawa^{1,2}, ¹Institute of Industrial Science, University of Tokyo, ²Institute for Nano Quantum Information Electronics, University of Tokyo

H7 Orbital angular momentum and polarization multiplexing in microholographic recording....83

R. Katayama, *Fukuoka Institute of Technology*

H8 Numerical simulations on 3D shift multiplexed self-referential holographic data storage: shift multiplexing properties along z-axis....85

T. Eto¹, M. Takabayashi¹, A. Okamoto², M. Bunsen³, and T. Okamoto¹, ¹Kyushu Institute of Technology, ²Hokkaido University, ³Fukuoka University

H9 Plasmonic energy nanofocusing for high-efficiency laser fusion ignition....87

K. Tanabe, *Kyoto University*

H10 Design and characterization of reading glasses with extended-depth-of-field....89

S. Furukawa, and S. Komatsu, *Waseda University*

H11 Femtosecond soliton formation by higher-order soliton compression in linear dispersion decreasing fiber....N/A

S. Md. Salimullah¹, and M. Faisal², ¹Bangladesh Army International University of Science and Technology, ²Bangladesh University of Engineering and Technology

H12 Microscopic Raman spectroscopy of graphene enhanced by gold nanoparticles and micro glass bead....91

H. Matsumura, S. Yanagiya, H. Kishikawa, and N. Goto, *Tokushima University*

H13 Electro-optic side-chain polymers containing adamantyl groups and high-hyperpolar chromophores via the Huisgen reaction and their optical properties....93

S. Takeuchi¹, A. M. Spring², K. Yamamoto², and S. Yokoyama², ¹Kyushu University, ²Institute for Materials Chemistry and Engineering, Kyushu University

H14 Synthesis and characterization of Sb doped ZnO microspheres by pulsed laser ablation....95

F. Nagasaki, T. Shimogaki, T. Tanaka, T. Ikebuchi, T. Ueyama, Y. Fujiwara, M. Higashihata, D. Nakamura, and T. Okada, *Kyushu University*

H15 Detection of high-refractive index media by a surface plasmon sensor using a one-dimensional metal diffraction grating....97

S. Mito¹, A. Motogaito^{1,3}, H. Miyake^{2,3}, and K. Hiramatsu^{1,3}, ¹Graduate School of Engineering, Mie University, ²Graduate School of Regional Innovation Studies, Mie University, ³The Center of Ultimate Technology on nano-Electronics, Mie University

- H16 Pulsed oscillation of organic dye VCSEL excited by blue LD....99**
M. Tanizawa, R. Takahashi, T. Maruyama, and K. Iiyama, *Kanazawa University*
- H17 Novel polymers for polymer light-emitting diodes....101**
B. Somchob¹, N. Wongsang¹, S. Sahasithiwat², and R. Jitchati¹, ¹*Ubon Ratchathani University*, ²*National Metal and Materials Technology Center*
- H18 Temperature dependent luminescent characteristics of Eu²⁺-doped CaAl₂Si₂O₈ blue phosphor....103**
J. H. Lee, W. T. Hong, J. Y. Mun, and H. K. Yang, *Pukyong National University*
- H19 Orange-red light emitting europium doped calcium molybdate phosphor prepared by high energy ball milling method....105**
W. T. Hong, J. H. Lee, H. I. Jang, S. J. Park, J. S. Joo, and H. K. Yang, *Pukyong National University*
- H20 Foldable and electrically switchable polymer dispersed liquid crystal materials for holographic recording....107**
W.-C. Su, and K.-T. Kuo, *National Changhua University of Education*
- H21 Effects of deposition temperature on the structural, optical, and electrical properties of hydrogenated of Ga-doped ZnO film....109**
J.-R. Tsai¹, N.-F. Shih², and R.-H. Yeh¹, ¹*Asia University*, ²*Hsiuping University of Science and Technology*
- H22 EQE response and photovoltaic performance of plasmonic silicon solar cells based on depositing with aluminum, indium, and silver nanoparticles....111**
C.-H. Hu¹, W.-J. Ho¹, C.-W. Yeh¹, Y.-Y. Lee¹, H.-J. Syu², and C.-F. Lin², ¹*National Taipei University of Technology*, ²*National Taiwan University*
- H23 Dry etching for germanium waveguides by using CHF₃ inductively coupled plasma....113**
A. S. Idris, H. Jiang, and K. Hamamoto, *Kyushu University*
- H24 Effect of laser exposure condition on formation of holographic memory by angle-multiplexing recording using liquid crystal composites....115**
A. Ogiwara¹, and M. Watanabe², ¹*Kobe City College of Technology*, ²*Shizuoka University*
- H25 Withdrawn**
- H26 Effect of polymer concentration on selective reflection spectra in cholesteric liquid crystals....117**
A. Ogiwara¹, and H. Kakiuchida², ¹*Kobe City College of Technology*, ²*National Institute of Advanced Industrial Science and Technology (AIST)*
- H27 Emission wavelength selection for InGaAs quantum dots by anodic-aluminum-oxide membrane....119**
T. S. Lay, J. Y. Hsing, K. Y. Chuang, T. E. Tzeng, and K. L. Yang, ¹*National Chung Hsing University*
- H28 Metrology techniques for refractive microlenses and microlens array manufacturing....121**
M.-S. Kim, L. Allegre, J. Sunarjo, W. Noell, and R. Voelkel, *SUSS MicroOptics SA*
- H29 Improved extension of DOF performance by apodized wavefront coding....123**
T. Tsukasaki, and S. Komatsu, *Waseda University*
- H30 Development of optical biosensor based on photonic crystal made of TiO₂ using liquid phase deposition....125**
K. Aono, S. Aki, K. Sueyoshi, H. Hisamoto, and T. Endo, *Osaka Prefecture University*
- H31 Nanoimprinted two-dimensional photonic crystal for detection of fibrinogen using antigen-antibody reaction....127**
T. Endo, K. Sueyoshi, and H. Hisamoto, *Osaka Prefecture University*
- H32 Densely multiplexed refractive index biosensors using lateral Bragg gratings on SOI....129**
M. M. Astudillo¹, H. Takahisa¹, H. Okayama^{1,2}, and H. Nakajima¹, ¹*Waseda University*, ²*Oki Electric Industry Co., Ltd.*
- H33 Fabrication of gold-deposited plasmonic crystal based on nanoimprint lithography for label-free biosensing application....131**
K. Nishiguchi, K. Sueyoshi, H. Hisamoto, and T. Endo, *Osaka Prefecture University*
- H34 Non-overlapping lensless synthetic aperture digital holography....133**
H. Yoshino, R. Suyama, T. Wakasugi, and S. Komatsu, *Waseda University*
- H35 A novel approach for the high speed 3D measurement using a linescan-based chromatic confocal microscopy....135**
K. S. Kim, T. Kim, C. Choi, and B. H. Jeon, *Samsung Electronics*
- H36 Reflection-type fiber-optic multimode interference structure with rounded end-face: a temperature-sensing study....137**
S. Taue, T. Takahashi, and H. Fukano, *Okayama University*
- H37 Virtual interferogram-generation algorithm for phase-shifting digital holography....139**
J. Nozawa¹, A. Okamoto¹, M. Toda², Y. Kuno², and A. Tomita¹, ¹*Hokkaido University*, ²*Second Production Engineering Development Dept., Aisin Seiki Co., Ltd.*
- H38 A fiber Bragg grating temperature sensor using a vertical-cavity surface-emitting laser with temperature stabilization....141**
T. Yamada, S. Tsuchiya, and T. Mizunami, *Kyushu Institute of Technology*
- H39 One port ring refractive index sensor with attached sub-ring....143**
H. Takahisa¹, M. Tsutsui¹, M. M. Astudillo¹, H. Okayama^{1,2}, and H. Nakajima¹, ¹*Waseda University*, ²*Oki Electric Industry Co., Ltd.*
- H40 Phase distribution measurement based on wavefront correction using tabu search....145**
N. Yoda, and S. Komatsu, *Waseda University*
- H41 Measurements of fine-particle-size using the image processing of laser diffraction image....147**
K. Tsubaki, *Toyo University*
- H42 Spectral domain optical coherence tomography with a white light developed for optical device fabrications....149**
T. Nishi¹, N. Ozaki¹, H. Ohsato², E. Watanabe², N. Ikeda², and Y. Sugimoto², ¹*Wakayama University*, ²*National Institute for Materials Science*
- H43 Liquid analytes filling process in suspended-core silica fibers....151**
T. Nemecek, M. Komanec, and S. Zvanovec, *Czech Technical University in Prague*
- H44 Low-cost strategy for time delay adjustment of STED microscopy using digital oscilloscope....153**
G.-J. Choi¹, W.-S. Lee¹, G. Lim¹, H. Moon², Y.-P. Park², and N.-C. Park¹, ¹*Yonsei University*, ²*Center for Information Storage Device, Yonsei University*
- H45 Charged iridium complexes for organic amine sensor application....155**
W. Sombat, K. Wongkhan, and R. Jitchati, *Ubon Ratchathani University*

- H46 Light field microscope for 3D profile measurement of micro-structured array....157**
Y. Hu, H. Gao, S. Yuan, and R. Shi, *Beijing Institute of Technology*
- H47 Optimization of diffraction efficiency and coupling efficiency in spatial mode conversion for photonic cross connector....159**
Y. Zhao¹, A. Okamoto¹, T. Oda¹, A. Tomita¹, M. Bunsen², and S. Honma³, ¹Hokkaido University, ²Fukuoka University, ³Yamanashi University
- H48 Mach-Zehnder interferometer Si structures with weighted sampled grating waveguides featuring FLC cladding....161**
K. Sakakibara¹, Y. Hayama¹, M. Takeda¹, A. Kato², and K. Nakatsuhara¹, ¹Kanagawa Institute of Technology, ²The National Institute of Advanced Industrial Science and Technology (AIST)
- H49 Proposal of novel optical mode demultiplexer based on angled-multimode interference (a-MMI) waveguide....163**
H. Jiang, T. Oiwan, and K. Hamamoto, *Kyushu University*
- H50 Design of optical isolator with strip-loaded waveguide employing nonreciprocal guided-radiation mode conversion....165**
Y. Okada¹, K. Kobayashi¹, Y. Shoji², T. Mizumoto², and H. Yokoi^{1,3}, ¹Shibaura Institute of Technology, ²Tokyo Institute of Technology, ³SIT Research Center for Green Innovation
- H51 Design criteria for wavelength independent mmi mode converter....167**
K. Tanabe, Y. Chaen, R. Sakata, R. Tanaka, H. Jiang, and K. Hamamoto, *Kyushu University*
- H52 Preliminary propagation loss evaluation of core-top etched waveguide for step-core LP₂₁ mode converter....169**
R. Sakata, K. Tanabe, R. Tanaka, H. Jiang, and K. Hamamoto, *Kyushu University*
- H53 The study of effects of hydrogen loading time to the photosensitivity in optical fiber in term of writing time....171**
P. Rutthongjan¹, P. Sudwilai¹, and O.-a. Tangmettattakul², ¹Thai-Nichi Institute of Technology, ²Furukawa FTEL (Thailand) Co., Ltd.
- H54 Mechanical characteristics of MU-type MCF connector....173**
K. Sakaime¹, R. Nagase¹, K. Watanabe², and T. Saito², ¹Chiba Institute of Technology, ²Furukawa Electric Co. Ltd
- H55 Robust waveguide beam splitter using shortcuts to adiabaticity....175**
H.-C. Chung¹, R.-D. Wen², X. Chen², and S.-Y. Tseng¹, ¹National Cheng Kung University, ²Shanghai University
- H56 An air-gap wire-grid polarizer with high optical performance in the visible region....177**
M. Shinkawa, Y. Satoh, and A. Sakai, *Ricoh Company, Ltd.*
- H57 Absorbance-meter constructed by PDMS....179**
H. Higuchi¹, H. Nomada¹, H. Yoshioka¹, K. Morita², and Y. Oki¹, ¹Kyushu University, ²USHIO Inc.
- H58 Light propagation characteristics in photonic crystal fiber with graded air hole diameters....181**
H. Yokota, K. Yoneya, K. Higuchi, and Y. Imai, *Ibaraki University*
- H59 A low loss butt-joint connection by using a graded-index photonic crystal fiber....183**
K. Higuchi, H. Yokota, K. Yoneya, and Y. Imai, *Ibaraki University*
- H60 A stable packaged high-Q microfiber coil resonator....185**
X.-Y. Lu, and L. A. Wang, *National Taiwan University*
- H61 Fabrication of domain inverted ridge waveguide in ion-sliced LiNbO₃ for wavelength conversion devices....187**
K. Tanaka, and T. Suhara, *Osaka University*
- H62 Numerical analyses of all-optical retiming switches using quasi-phase matched devices....189**
Y. Fukuchi, A. Enda, and M. Yamamoto, *Tokyo University of Science*
- H63 Memristive switching in planar devices based on vanadium dioxide thin films using near IR laser pulses....191**
J. Kim¹, K. Park², S. Jo², B.-J. Kim³, and Y. W. Lee^{1,2}, ¹Pukyong National University, ²Interdisciplinary Program of Biomedical Mechanical & Electrical Engineering, Pukyong National University, ³Mobrik Co. Ltd.
- H64 Fast wavelength stabilization of tunable lasers with the internal wavelength locker....193**
R. Kimura¹, Y. Tatsumoto¹, K. Sakuma¹, H. Onji¹, M. Shimokozono², H. Ishii², and K. Kato¹, ¹Kyushu University, ²NTT Device Technology Laboratories, NTT Corporation
- H65 Dynamic characteristics of all-optical feedforward fast automatic gain control scheme for multicore erbium-doped fiber amplifiers....195**
K. Kitamura, K. Udagawa, and H. Masuda, *Shimane University*
- H66 Theoretical modelling of photon-photon resonance on active multimode interferometer laser diode toward 40Gbps....197**
B. Hong¹, M. N. Uddin¹, T. Kitano¹, A. Tajima², H. Jiang¹, and K. Hamamoto¹, ¹Kyushu University, ²NEC corporation
- H67 Wavelength stabilization within 0.05 GHz with photo-mixing technique and laser current controlling....199**
J. Tsuboi, T. Kuboki, and K. Kato, *Kyushu University*
- H68 Hybrid thin silicon nitride and electro-optic polymer waveguide modulators....201**
M. Ishino¹, and S. Yokoyama², ¹Interdisciplinary Graduate School of Engineering Sciences, Kyushu University, ²Institute for Materials Chemistry and Engineering, Kyushu University
- H69 Characterization of ion implantation quantum well intermixing for carrier confinement of VCSEL....203**
S. Moriawaki, M. Saitou, S. Kunisada, and T. Miyamoto, *Tokyo Institute of Technology*
- H70 Demonstration of photon-photon resonance peak enhancement by waveguide design modification on active multimode interferometer laser diode....205**
T. Kitano¹, M. N. Uddin¹, B. Hong¹, A. Tajima², H. Jiang¹, and K. Hamamoto¹, ¹Kyushu University, ²NEC Corp.
- H71 Emission properties of distributed-feedback plastic waveguide lasers fabricated with imprint lithography....207**
M. Nakazumi, and K. Yamashita, *Kyoto Institute of Technology*
- H72 Synchronous THz wave combiner consisting of arrayed photomixers....209**
J. Haruki, K. Sakuma, and K. Kato, *Kyushu University*
- H73 Compact and robust phase stabilization system for high-frequency carrier generation using an integrated lightwave circuit....211**
Y. Fujimura¹, K. Sakuma¹, S. Takeuchi¹, K. Kato¹, S. Hisatake², and T. Nagatsuma², ¹Kyushu University, ²Osaka University

- H74 A study of creative solar-light/solar-thermal separator and its energy storage system....N/A**
C.-W. Wang, C.-H. Chen, C.-J. Chiou, and T.-Y. Chiu, *National Chung Cheng University*
- H75 Silicon waveguide polarization rotating Bragg grating with chirp, phase shift section or super-structure scheme....213**
H. Okayama^{1,2}, Y. Onawa^{1,2}, D. Shimura^{1,2}, H. Yaegashi^{1,2}, and H. Sasaki^{1,2}, ¹*Oki Electric Industry Co., Ltd.*, ²*PETRA*
- H76 Reducing coupling loss between a silicon-cored fiber and a silica optical fiber....215**
J.-H. Chen, Y.-T. Sun, and L. A. Wang, *National Taiwan University*
- H77 Investigating the radiation tolerance of a laser array for an optically reconfigurable gate array....217**
K. Akagi, and M. Watanabe, *Shizuoka University*
- H78 Gap plasmon excitation into plasmonic waveguide using Si waveguide....219**
K. Okuda, T. Okamoto, and M. Haraguchi, *Tokushima University*
- H79 Degradation of signal quality due to pump-phase fluctuation on non-degenerated fiber parametric phase-sensitive amplifier repeaters....221**
Y. Okamura, and A. Takada, *Tokushima University*
- H80 Influence of chromatic dispersion on optical transmission of 16QAM signals interleaved with reference light....223**
Y. Okamura¹, N. Ishimura¹, Y. Mitsui¹, M. Hanawa², and A. Takada¹, ¹*Tokushima University*, ²*University of Yamanashi*
- H81 ONU power saving considering sleep period limitation in QoS-aware cyclic sleep control with PI controller....225**
T. Kikuchi, and R. Kubo, *Keio University*
- H82 Dynamic wavelength allocation technique with multicast-capable AWG router for energy-efficient intra-datacenter networks....227**
T. Uesugi, and R. Kubo, *Keio University*
- H83 Single-shot detection of spatially quadrature amplitude modulated signals in holographic data storage....229**
T. Yamamoto, K. Yosidomi, K. Kanno, and M. Bunsen, *Fukuoka University*
- H84 Widening the angle of view in wavefront coding....231**
Y. Uemura, and S. Komatsu, *Waseda University*
- H85 Compound parabolic concentrator design for RGBW LEDs light mixing....233**
A.-C. Wei¹, S.-C. Lo¹, P.-F. Hung¹, J.-Y. Lee¹, C.-M. Li², H.-C. Huang², and H.-Y. Yeh², ¹*National Central University*, ²*Atomic Energy Council*
- H86 Wireless power transmission between a NIR VCSEL array and silicon solar cells....235**
M. Hirota¹, S. Iio¹, Y. Ohta¹, Y. Niwa¹, and T. Miyamoto², ¹*Nissan Motor Co., Ltd.*, ²*Tokyo Institute of Technology*
- H87 Extended depth of field for laser-scanning barcode reader with wavefront coding....237**
W. Hashimoto, H. Sugita, and S. Komatsu, *Waseda University*
- H88 Plenoptic cameras for imaging through aberrated systems....239**
H. Al-Ameryeen, J. Arines, and E. Acosta, *University of Santiago de Compostela*
- H89 Information processing by using mutually-coupled optoelectronic systems....241**
M. Tezuka¹, K. Kanno², and M. Bunsen², ¹*Fukuoka University*, ²*Department of Electronics Engineering and Computer Science, Fukuoka University*

Break (16:15-16:30)

International Conference Room (5F)

16:30-17:30 Microconcert

5F Lobby

17:30-19:30 Conference Party

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 for chip multiprocessors (Invited)....243**
9:00 G. T. Kanellos^{1,2}, T. Alexoudi¹, D. Fitsios¹, P. Maniotis¹, C. Vagionas¹, and N. Pleros^{1,2}, ¹*Aristotle Univ. Thessaloniki*, ²*Centre for Research and Technology Hellas*
- J2 Sub-gigahertz beam switching with transverse-mode coupled cavity VCSELs....245**
9:30 M. Nakahama¹, X. Gu¹, T. Sakaguchi¹, A. Matsutani², and F. Koyama¹, ¹*P&I Lab., Tokyo Institute of Technology*, ²*Semiconductor and MEMS Processing Center, Tokyo Institute of Technology*
- J3 Ultra wide mode-hop free tuning around 1550-nm telecom wavelength using high-speed MEMS-VCSELs....247**
9:45 S. Paul¹, J. Cesar¹, C. Gierl¹, M. T. Haidar¹, B. Koegel², C. Neumeyr², M. Ortsiefer², and F. Kueppers¹, ¹*Technische Universitaet Darmstadt*, ²*VERTILAS GmbH*
- J4 Polarization dependence of germanium waveguide propagation characteristics in the 1600-1700 nm wavelength regions....249**
10:00 T. Okumura, K. Oda, J. Kasai, M. Sagawa, and Y. Suwa, *Hitachi, Ltd*
- J5 Coupled mode analysis of high-speed transverse coupled cavity VCSEL....251**
10:15 S. Hu, and F. Koyama, *Tokyo Institute of Technology*
- J6 Effect of metal side claddings on emission decay rate of single quantum dots embedded in a subwavelength semiconductor waveguide....253**
10:30 T. Yamamoto¹, Y. Ota¹, S. Ishida², N. Kumagai¹, S. Iwamoto^{1,3}, and Y. Arakawa^{1,3}, ¹*Institute for Nano Quantum Information Electronics, University of Tokyo*, ²*Research Center for Advanced Science and Technology, University of Tokyo*, ³*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-optical components (Invited)....255**
11:00 J. V. Erps, *Vrije Universiteit Brussel*
- K2 Direct write grayscale lithography for arbitrary shaped micro-optical surfaces....257**
11:30 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 cross modulation method with an optical random diffuser....259

11:45 H. Sakuma¹, A. Okamoto¹, A. Shibukawa², H. Funakoshi³, Y. Goto¹, Y. Kan¹, and A. Tomita¹, ¹Hokkaido University, ²California Institute of Technology, ³Gifu University

K4 High Abbe number and high refractive index organic-inorganic nanocomposite films....261

12:00 B. Cai¹, and O. Sugihara², ²University of Shanghai for Science and Technology, ²Utsunomiya University

K5 Micro-optics: key enabling technology for photolithography (Invited)....263

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)....265

14:00 R. R.-Rojo¹, J. L.-Rodriguez¹, I. R.-Mendoza¹, L. R.-Fernandez², and A. Oliver², ¹Centro de Investigación Científica y de Educación Superior de Ensenada, ²Universidad Nacional Autónoma de México

L2 Fabrication of periodically-poled structures in MgO(8mol%):c-LiTaO₃ crystal and waveguide SHG devices....267

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....269

14:45 M. Okazaki¹, and T. Suhara², ¹SCREEN Holdings Co., Ltd., ²Osaka University

L4 Electro-optic polarization conversion type modulator using domain-inverted 8 mol% MgO doped congruent LiTaO₃....271

15:00 T. Inoue, and T. Suhara, Osaka University

L5 Tunable hyperchromatic microlens array for compact 2D spectrometry....273

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....275

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

Post Deadline Papers (MOC'15)

Wednesday, 28 October

International Conference Room (5F)

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

Chairs: K. Hamamoto, *Kyushu Univ.*
S. Iwamoto, *Univ. Tokyo*

PD1 Colorless and polarization-independent polymer two layered 4x4 optical switch for three-dimensional optical interconnection....277

16:00 Y. Kimura, K. Ema, Y. Matsushima, H. Ishikawa, and K. Utaka, *Waseda University*

PD2 Optical efficiency enhancement in white OLED display of high color gamut by a patterned quantum dot film and long-pass reflector....279

16:10 H.-J. Kim, M.-H. Shin, B.-S. Song, and Y.-J. Kim, *Yonsei University*

16:30-16:45 MOC Award Ceremony

16:45-17:00 Closing Remarks

Program Co-chairs:
K. Hamamoto, *Kyushu Univ.*
S. Iwamoto, *Univ. Tokyo*

* * *

Tuesday, 27 October

Room 502/503 (5F) and 5F Lobby

13:45-16:15 Session PD in Poster Session

(13:45-15:00) Odd numbers: 1st half

(15:00-16:15) Even numbers: 2nd half

PD3 Primary alignment technique for free space optics laser beam....281

Y. Shimada¹, Y. Tashiro¹, K. Izumi¹, K. Yoshida², and T. Tsujimura¹, ¹Saga University, ²Fukuoka Institute of Technology

PD4 Room temperature lasing of micropillar with circular grating by liquid immersion laser micromachining....283

W. Y. Fu, Y. F. Cheung, and H. W. Choi, *The University of Hong Kong*

PD5 Proposal of 128ch coupled multi-core fiber configuration using coil-shape (MCF)....285

S. Oe, H. Jiang, and K. Hamamoto, *Kyushu University*

PD6 Expansion method for depth measurement range based on number theory using two wavelength light sources....287

J. Nozawa¹, A. Okamoto¹, M. Toda², Y. Kuno², and A. Tomita¹, ¹Hokkaido University, ²Aisin Seiki Co., Ltd.

PD7 Improvement of measurement-speed by virtual optical-system for confocal laser scanning microscope....289

Y. Goto¹, A. Okamoto¹, M. Toda², Y. Kuno², and A. Tomita¹, ¹Hokkaido University, ²Aisin Seiki Co., Ltd.

PD8 Enhancement of optical absorption in organic inorganic hybrid perovskite layer by controlling the PEDOTPSS surface reactivity for solar cells....291

S.-J. Park, D.-H. Kim, K.-Y. Lee, J.-Y. Lee, and Y.-J. Kim, *Yonsei University*

PD9 Analysis of polymer double-reflection waveguide-type Kretschmann-structure surface plasmon resonance sensor for high-sensitive and wide-measurable range....293

H. Tansho, Y. Kuroda, H. Ishikawa, Y. Matsushima, and K. Utaka, *Waseda University*

PD10 Light absorption enhancement of organic solar cells with metallic plasmonic nanoparticle....295

Q. N. Tran, J. H. Kim, and S. J. Park, *Gachon University*

PD11 Fabrication of no-bias MMI-MZI modulator based on EO polymer....297

H. Sato, K. Yamamoto, and S. Yokoyama, *Kyushu University*

PD12 Bonding of LiNbO₃ thin film on Si substrate using laser irradiation....299

H. Kawano, R. Takigawa, H. Ikenoue, and T. Asano, *Kyushu University*