

# Advanced Program

Ballroom B		Monday,
November 1		
<b>09:00~09:20</b>	<b>Opening Remarks</b>	
Chair	S.C. Wang	
<b>09:20~10:00</b>	<b>Keynote Speech</b>	
Chairs	P. Yeh, and K. Kuroda	
<b>MA1</b>	<b>Passion for Precision (Keynote Speech)</b>	
	Theodor W. Hänsch, Ludwig-Maximilians University and Max-Planck-Institut, Germany	
<b>10:00~10:30</b>	<b>Plenary Talk</b>	
<b>MA2</b>	<b>Photon driven particle accelerator for X ray laser</b>	
	Robert L. Byer, Stanford University, USA	
<b>10:30~11:0</b>	<b>Break</b>	
<b>11:00~12:05</b>	<b>Session MB: Nanophotonics(I)</b>	
Chairs	F. Koyama and L. H. Peng	
<b>MB1</b>	<b>TBD(Invited)</b>	
<b>11:00~11:20</b>	M. K. Wu, Academia Sinica, Taiwan	
<b>MB2</b>	<b>Hexagonal-close-packed Nano-ring Array Fabricated by Nanosphere Lithography</b>	
<b>11:20~11:35</b>	K.H. Li, H.W. Choi*	
	Department of Electrical and Electronic Engineering, The University of Hong Kong, Hong Kong	
<b>MB3</b>	<b>Emission Efficiency Enhancement of GaN Light-emitting Diodes Grown on GaN Nano-pillar Template</b>	
<b>11:35~11:50</b>	P. M. Tu, <sup>1</sup> D. W. Lin, <sup>1</sup> C. H. Chiu, <sup>1</sup> C. C. Lin, <sup>3</sup> Z. Y. Li, <sup>1</sup> H. W. Han, <sup>3</sup> K. L. Chuang, <sup>2</sup> J. R. Chang, <sup>2</sup> T. H. Yang, member, T.C. Lu, H.W. Zan, C. Y. Chao, <sup>2</sup> H.C. Kuo, senior member, S.C. Wang, OSA Fellow and C. Y. Chang, <sup>2</sup> IEEE Fellow	
	<sup>1</sup> Department of Photonic and Institute of Electro-Optical Engineering, National Chiao Tung University, Taiwan	
	<sup>2</sup> Department of Electronics Engineering, National Chiao Tung University, Taiwan	
	<sup>3</sup> Institute of Photonic System, College of Photonics, National Chiao-Tung University, Taiwan.	
	<sup>4</sup> Ulvac Taiwan Inc., Taiwan	
<b>MB4</b>	<b>Ultraviolet Lasing from AlGaIn Nanopillars Patterned by Nanosphere Lithography</b>	
<b>11:50~12:05</b>	Rui Chen, <sup>1</sup> H. D. Sun <sup>1, a)</sup> T. Wang, <sup>2</sup> K.N. Hui, <sup>3</sup> and H. W. Choi, <sup>3, a)</sup>	
	<sup>1</sup> Division of Physics and Applied Physics, School of Physical and Mathematical Sciences, Nanyang Technological University, Singapore	
	<sup>2</sup> EPSRC National Centre for III-V Technologies, University of Sheffield, United Kingdom	
	<sup>3</sup> Semiconductor Lighting and Display Laboratory, The University of Hong Kong, Hong Kong	

<b>12:05~13:30</b>	<b>Lunch</b>
<b>13:30~15:10</b>	<b>Session MC: Nanophotonics(II)</b>
Chairs	S. L. Chuang and S. J. Chang
<b>MC1</b>	<b>Enhanced laser tweezers through engineered nanostructure landscape(Invited)</b>
<b>13:30~13:50</b>	Lih Y. Lin, University of Washington, USA
<b>MC2</b>	<b>Photonic crystal Light Emitting Diodes, performance enhancements for P-side up, N-side up, patterned substrate devices and buried Photonic crystal lattice devices(Invited)</b>
<b>13:50~14:10</b>	Martin D Charlton, University of Southampton, UK
<b>MC3</b>	<b>Verification and calibration of spectral properties of high-resolution nano sensor arrays using microscope spectrometers</b>
<b>14:10~14:25</b>	H.H Mai <sup>1</sup> , O. Setyawati <sup>1,2</sup> , V. Daneker <sup>1</sup> , C. Woitdt <sup>1</sup> , T. Voit, K. Schultz <sup>1</sup> , S. Schudy <sup>1</sup> , M. Engenhorst <sup>1</sup> , X. Wang <sup>1</sup> , S. Wittzack <sup>1</sup> , F.Köhler <sup>1</sup> , A. Albrecht <sup>1</sup> , M. Bartels <sup>1</sup> and H. Hillmer <sup>1</sup>
	<sup>1</sup> Institute of Nanostructure Technologies and Analytics University of Kassel, Germany
	<sup>2</sup> Opsolution Nanophotonics GmbH, Germany
<b>MC4</b>	<b>Nanophotonic Devices without Nano-Lithography</b>
<b>14:25~14:40</b>	Leung K. Lee and Pei-Cheng Ku Department of Electrical Engineering and Computer Science, University of Michigan, U.S.A.
<b>MC5</b>	<b>Optical and Electrical Properties of Indium Tin Oxide Nanocolumns Determined by Terahertz Time Domain Spectroscopy</b>
<b>14:40~14:55</b>	Tsung-Ta Tang <sup>1</sup> , Kuan-Ju Tseng <sup>3</sup> , Chia-Hua Chang <sup>3</sup> , Peichen Yu <sup>3</sup> , Ci-Ling Pan <sup>1,2,3</sup>
	<sup>1</sup> Department of Physics and <sup>2</sup> Institute of Photonics Technologies, National Tsing Hua University, Taiwan
	<sup>3</sup> Department of Photonics and Institute of Electro-Optical Engineering, National Chiao-Tung University, Taiwan
<b>MC6</b>	<b>Nanoparticle Size Dependent SERS Enhancement of Silver Film over Nanosphere (AgFON) Substrate</b>
<b>14:55~15:10</b>	Wen-Chi Lin <sup>1</sup> , Lu-Shing Liao <sup>1</sup> and Yi-Hui Chen <sup>2</sup> , Hung-Chun Chang <sup>2</sup> , Hai-Pang Chiang <sup>1, 3, 4*</sup>
	<sup>1</sup> Institute of Optoelectronic Sciences, National Taiwan Ocean University, Taiwan
	<sup>2</sup> Graduate Institute of Photonics and Optoelectronics, National Taiwan University, Taiwan
	<sup>3</sup> Institute of Physics, Academia Sinica, Taiwan
	<sup>4</sup> Instrument Technology Research Center, National Applied Research Laboratories, Taiwan
<b>15:10~15:40</b>	<b>Break</b>
<b>15:40~17:40</b>	<b>Session MD: Laser</b>
Chairs	A. Arimoto and Andy Kung

- MD1**  
**15:40~15:55**  
**Large signal modulation analysis of lateral-optical-feedback VCSELS**  
Hamed Dalir and Fumio Koyama  
Precision & Intelligence Lab., Tokyo Institute of Technology, Japan
- MD2**  
**15:55~16:10**  
**Side-Mode Suppression of a VCSEL by Polarization Control Using a Hi-Bi Fiber Bragg Grating**  
Toru Mizunami, Ken-iti Yamamoto and Shingo Kunitake  
Department of Electrical Engineering and Electronics, Graduate School of Engineering, Kyushu Institute of Technology, Japan
- MD3**  
**16:10~16:25**  
**Optical Deposition of Graphene in a Fiber Ferrule for Mode-Locked Lasing**  
Kazuyuki Fuse, Amos Martinez, Bo Xu and Shinji Yamashita  
Department of Electronic Engineering, The University of Tokyo, Japan
- MD4**  
**16:25~16:40**  
**Pulse compression control using optical pulse synthesizer and phase modulator**  
Hiroyuki Ishizu, Yuichiro Kodama, Ken Kashiwagi, Takashi Kurokawa  
Graduate School of Engineering, Tokyo University of Agriculture and Technology, Japan
- MD5**  
**16:40~16:55**  
**Generation of optical short pulses with pulse-shaped phase waveforms and their fiber transmission characteristics**  
Weifan Qiao, Hiroyuki Ishizu, Kiyonobu Mozawa, Ken Kashiwagi and Takashi Kurokawa  
Graduate School of Engineering, Tokyo University of Agriculture and Technology, Japan
- MD6**  
**16:55~17:10**  
**Reconfigurable Compressed Pump Pulse Using Optical Pulse Synthesizer for Broadband Supercontinuum Generation through Dispersion Flattened Fiber**  
Ken Kashiwagi, Hiroyuki Ishizu, and Takashi Kurokawa  
Graduate School of Engineering, Tokyo University of Agriculture and Technology, Japan
- MD7**  
**17:10~17:25**  
**MODE-LOCKED Ti:Er-LiNbO<sub>3</sub> WAVEGUIDE LASER USING FIBER BRAGG GRATINGS**  
Yutaro Katano<sup>1</sup>, Hiroshi Matsuura<sup>1</sup>, Satoshi Shinada<sup>2</sup>, Shinya Nakajima<sup>2</sup>, Tetsuya Kawanishi<sup>2</sup> and Hirochika Nakajima<sup>1</sup>  
<sup>1</sup>Department of Applied Physics, Waseda University, Japan  
<sup>2</sup>National Institute of Information and Communications Technology, Japan
- MD8**  
**17:25~17:40**  
**Generation of Blue and Red Upconversion Emissions in Tm<sup>3+</sup>-Doped Tellurite Photonic Wire**  
Pei-Wen Kuan<sup>1</sup>, Yu-Hsin Hsieh<sup>2</sup>, Wei-Chih Kuo<sup>2</sup>, Junjie Zhang<sup>1</sup>, Liyan Zhang<sup>1</sup>, Lili Hu<sup>1</sup> and Nan-Kuang Chen<sup>2,3</sup>  
<sup>1</sup>Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Science, China.  
<sup>2</sup>Department of Electro-Optical Engineering, National United University, Taiwan  
<sup>3</sup>Optoelectronics Research Center, National United University, Taiwan

<b>18:30~20:30</b>	<b>Welcome</b>	<b>Reception</b>
	<b>Ballroom A</b>	
	<b>Ballroom B</b>	<b>Tuesday,</b>
<b>November 2</b>		

<b>09:00~09:30 Plenary Talk</b>	
Chairs	G. Hatakoshi and T. C. Lu
<b>TA1</b>	<b>Manipulated light-matter interaction in 2D/3D photonic crystal nanocavity-quantum dot coupled systems(Plenary)</b> Yasuhiko Arakawa, University of Tokyo, Japan
<b>09:30~10:10 Invited Talk</b>	
<b>TA2</b>	<b>Athermal Semiconductor Lasers based on VCSEL Technology(Invited)</b> Fumio Koyama, Tokyo Institute of Technology, Japan
<b>TA3</b>	<b>Metal-Cavity Micro/Nanolasers(Invited)</b> Shun Lien Chuang, University of Illinois at Urbana-Champaign, USA
<b>09:50~10:10</b>	
<b>10:10~10:30 Break</b>	
<b>10:30~12:10 Session TB: Integrated Optics</b>	
Chairs	S. Ozawa and J. J. Huang
<b>TB1</b>	<b>Flexible plasmonic waveguides based on metal-filled fibers(Invited)</b> Kam Tai Chan, Chinese University of Hong Kong, Hong Kong
<b>10:30~10:50</b>	
<b>TB2</b>	<b>Miniaturized Spot Size Converters for coupling between Single-Mode Optical Fibers and Silicon Photonic Circuits(Invited)</b> Kazuo Shiraishi, Utsunomiya University, Japan
<b>10:50~11:10</b>	
<b>TB3</b>	<b>Low-polarization-dependent-loss, High-diffraction-efficiency, and High-dispersion Immersion Grating Coated with Dielectric Film</b> Yuichi HIGUCHI, Yuzo ISHII, Koichi HADAMA, and Joji YAMAGUCHI NTT Microsystem Integration Labs., NTT Corporation, Japan
<b>11:10~11:25</b>	
<b>TB4</b>	<b>Low-cost micromachined tunable Fabry-Pérot filters for optical nano sensor arrays</b> O. Setyawati <sup>1,2</sup> , H. Mai <sup>1</sup> , C. Woidt <sup>1</sup> , S. Schudy <sup>1</sup> , M. Engenhorst <sup>1</sup> , S. Wittzack <sup>1</sup> , F. Köhler <sup>1</sup> , M. Bartels <sup>1</sup> and H. Hillmer <sup>1</sup> <sup>1</sup> Institute of Nanostructure Technologies and Analytics University of Kassel, Germany <sup>2</sup> Opsolution Nanophotonics GmbH, Germany
<b>11:25~11:40</b>	
<b>TB5</b>	<b>Grating Trimming of VCSEL with High Contrast sub-wavelength Grating</b> Xiaodong Gu, Akihiro Imamura and Fumio Koyama Photonics Integration System Research Center, Precision and Intelligence Lab., Tokyo Institute of Technology, Japan
<b>11:40~11:55</b>	
<b>TB6</b>	<b>Characterizations of Reflection-type Slow Light Optical Switches</b> Ayumi Fuchida, Takeru Sakairi, Akihiro Matsutani, Fumio Koyama Precision & Intelligence Lab., Tokyo Institute of Technology, Japan
<b>11:55~12:10</b>	
<b>12:10~13:30 Lunch</b>	
<b>13:30~15:40 Session TC: Micro-optics and Optical Information Processing</b>	

- Chairs K. Goto and K. Hsu
- TC1**  
**13:30~13:50**  
**Second-Harmonic Radiation Imaging Probes for Bioimaging(Invited)**  
Demetri Psaltis, Ecole Polytechnique Federale de Lausanne, Switzerland
- TC2**  
**13:50~14:10**  
**Integrated microoptical systems for spatial and temporal processing(Invited)**  
Juergen Jahns, Univ. of Hagen, Germany
- TC3**  
**14:10~14:25**  
**Full quantitative characterization of tunable liquid lenses: a benchmarking analysis**  
H. Ottevaere, H. Thienpont  
Department of Applied Physics and Photonics, Brussels Photonics Team B-PHOT, Belgium
- TC4**  
**14:25~14:40**  
**Plastic micro-optical detection systems for microfluidic applications**  
S. Van Overmeire<sup>1</sup>, H. Ottevaere<sup>1</sup>, G. Desmet<sup>2</sup>, H. Thienpont<sup>1</sup>  
<sup>1</sup> Department of Applied Physics and Photonics, Brussels Photonics Team B-PHOT, Vrije Universiteit Brussel, Belgium  
<sup>2</sup> Department of Chemical Engineering, Vrije Universiteit Brussel, Belgium
- TC5**  
**14:40~14:55**  
**UNIFORMITY OF CONCENTRATION FACTOR AND BACK-FOCAL- LENGTH IN MOLDED-POLYMER MICROLENS ARRAY**  
Silvano Donati<sup>1</sup>, Jiun-Haw Lee<sup>2</sup>, Yi-Hsin Lan<sup>2</sup>  
<sup>1</sup> Dipartimento di Elettronica, Università di Pavia , Italy  
<sup>2</sup> Graduate Institute of Photonics and Optoelectronics and Department of Electrical Engineering, National Taiwan University, Taiwan.
- TC6**  
**14:55~15:10**  
**Holographic projection of 3D images**  
H. Zhang<sup>1,2</sup>, N. Collings<sup>1\*</sup>, J. Chen<sup>1</sup> and D. Chu<sup>1</sup>  
<sup>1</sup>Dept of Engineering, University of Cambridge , UK  
<sup>2</sup>School of Optoelectronics, Beijing Institute of Technology, China
- TC7**  
**15:10~15:25**  
**Holographic spatiotemporal lens**  
Kouhei Kimura, Satoshi Hasegawa and Yoshio Hayasaki  
Center for Optical Research and Education (CORE), Utsunomiya University, Japan
- TC8**  
**15:25~15:40**  
**Fractional Fourier domain optical image watermarking**  
Naveen Kumar Nishchal  
Department of Physics, Indian Institute of Technology Patna, India

<b>15:40~16:00</b>	<b>Break</b>
<b>16:00~17:30</b>	<b>Session WP: Poster and Post-deadline Poster</b>
<b>Ballroom A</b>	
<b>WP1</b>	<b>Formation of Band-Pass Filter in Light-Induced Self-Written Waveguides</b> M. Tomiki <sup>1</sup> , H. Watanabe <sup>1</sup> , H. Sakata <sup>1</sup> , A. Kawasaki <sup>2</sup> , T. Yamashita <sup>2</sup> and M. Kagami <sup>2</sup> <sup>1</sup> Shizuoka Univ., Japan <sup>2</sup> Toyota Central R&D Labs., Inc., Japan
<b>WP2</b>	<b>Significant Antireflection Enhancement in Nanowire Array Layers with Controlled Structure Profiles</b>

Hung-Chih Chang,<sup>1</sup> Kun-Yu Lai,<sup>1</sup> Yu-An Dai,<sup>1</sup> Chin-An Lin,<sup>1</sup> and Jr-Hau He<sup>1,2</sup>

<sup>1</sup>Institute of Photonics and Optoelectronics, National Taiwan University, Taiwan

<sup>2</sup> Department of Electrical Engineering , National Taiwan University, Taiwan

**WP3 Low-loss and Wide Free Spectral Range Wavelength Selective Switch using Variable Coupling Microring Resonator and Vernier Effect**

Seiya Sumita, and Yasuo Kokubun

Yokohama National University, Department of Electrical and Computer Engineering,  
, Japan

**WP4 GaN-based Vertical LEDs Fabrication by Mechanical Lift-off Technology**

Po-Min Tu<sup>1</sup>, Shih-Chieh Hsu<sup>2</sup>, Ming-Hua Lo<sup>1</sup>, Hsiao-Wen Zan<sup>1</sup>, Hao-Chung Kuo<sup>1</sup>, Shing-Chung Wang<sup>1</sup>, Yuh-Jen Cheng<sup>3</sup>, Chun-Yen Chang<sup>4</sup>

<sup>1</sup>Department of Photonics and Institute of Electro-Optical Engineering, National Chiao Tung University, Taiwan

<sup>2</sup>Department of Chemical and Materials Engineering, Tamkang University, Taiwan

<sup>3</sup>Research Center for Applied Sciences, Academia Sinica, Taiwan

<sup>4</sup>Institute of Electronics, National Chiao Tung University, Taiwan

**WP5 2-beam fiber Laser Doppler Velocimeter for measurement of specific target within velocity distribution**

Anas Luqman Bin Muhamad, Osamu Mikami

Graduate School of Engineering, Tokai University, Japan

**WP6 Manipulative Polarization of a-plane InGaN/GaN Photonic Crystals for Enhanced Spontaneous Emission**

Yen-Chun Lee<sup>1</sup>, Hung-Hsun Huang<sup>2</sup>, Yuh-Renn Wu<sup>2</sup>, and Peichen Yu<sup>1</sup>

<sup>1</sup>Department of Photonic, National Chiao Tung University, Taiwan

<sup>2</sup>Institute of Photonics and Optoelectronics and Department of Electrical Engineering, National Taiwan University, Taiwan

**WP7 Surface-texture AlGaInP light-emitting diode with patterned sapphire reflector for extracting waveguided light**

Ya-Ju Lee, Chia-Jung Lee, and Chih-Hao Chen

Institute of Electro-Optical Science and Technology, National Taiwan Normal University,  
Taiwan

**WP8 Enhanced Brightness for Inorganic Electroluminescent Devices with a Built-in Electric Charge Layer**

K. F. Chen<sup>1</sup>, F. H. Wang<sup>1\*</sup>, C. S. Ho<sup>1</sup>, Y. H. Chien<sup>2</sup>, C. C. Chang<sup>2</sup>, M. Y. Chuang<sup>2</sup>

<sup>1</sup>.Department of Electrical Engineering and Graduate Institute of Optoelectronic Engineering, National Chung Hsing University, Taiwan

<sup>2</sup>.Display Technology Center/Industrial Technology Research Institute, Taiwan

**WP9 Preserving polarization modes in apertureless scanning near-field optical microscopy by means of elliptically shaped, index tailored optical fibers**

Christoph Zeh<sup>1,3</sup>, Ron Spittel<sup>2</sup>, Sonja Unger<sup>2</sup>, Jörg Opitz<sup>1</sup>, Bernd Köhler<sup>1</sup>, Johannes Kirchhof<sup>2</sup>, Hartmut Bartelt<sup>2</sup> and Lukas M. Eng<sup>3</sup>

<sup>1</sup> Fraunhofer Institute for Non-Destructive Testing, Germany

<sup>2</sup> Institute of Photonic Technology, Germany

<sup>3</sup> Institut für Angewandte Photophysik, Technische Universität Dresden, Germany

- WP10**      **In-Building LED Lighting System with Communication using Pre-compensation Scheme for Increasing the Modulation Data Rate**  
Y. F. Liu<sup>1</sup>, Y. C. Chang<sup>1</sup>, C. W. Chow<sup>1\*</sup>, C. H. Yeh<sup>2</sup>, H. C. Kuo<sup>1</sup>  
<sup>1</sup>Department of Photonics, Institute of Electro-Optical Engineering, National Chiao Tung University, Taiwan  
<sup>2</sup>Information and Communications Research Laboratories, Industrial Technology Research Institute, Taiwan
- WP11**      **Formation of holographic memory using subwavelength grating mask for optically reconfigurable gate array**  
Akifumi Ogiwara <sup>1</sup>, Minoru Watanabe <sup>2</sup>, Takayuki Mabuchi <sup>2</sup>, and Fuminori Kobayashi <sup>3</sup>  
<sup>1</sup>Department of Electronic Engineering, Kobe City College of Technology, Japan,  
<sup>2</sup>Faculty of Engineering, Department of Electrical and Electronic Engineering, Japan  
<sup>3</sup>Department of Systems Design and Informatics, Kyushu Institute of Technology, Japan
- WP12**      **Photoconductive Enhancement of Au Nanoparticle-Decorated Single ZnO Nanowire Photodetector Through Formation of Local Schottky Junction**  
Ming-Wei Chen,<sup>1</sup> Cheng-Ying Chen,<sup>1</sup> Der-Hsien Lien,<sup>2</sup> Yong Ding,<sup>2</sup> and Jr-Hau He  
<sup>1</sup>Institute of Photonics and Optoelectronics, & Department of Electrical Engineering, National Taiwan University, Taiwan  
<sup>2</sup>School of Material Science and Engineering, Georgia Institute of Technology, USA
- WP13**      **Reduction in efficiency droop, forward voltage, and wavelength shift in InGaN based light-emitting diodes grown on free standing GaN substrate**  
Ching-Hsueh Chiu<sup>1</sup>, Chu-Li Chao<sup>1,2</sup>, Da-Wei Lin<sup>1</sup>, Zhen-Yu Li<sup>1</sup>, Hao-Chung Kuo<sup>1\*</sup>, Tien-Chang Lu<sup>1</sup>, Shing-Chung Wang<sup>1</sup>  
<sup>1</sup>Department of Photonics and Institute of Electro-Optical Engineering, National Chiao-Tung University, Taiwan  
<sup>2</sup>Electronics and Opto-electronics Research Laboratories, Industrial Technology Research Institute, Taiwan
- WP14**      **Distance displacement measurement for short distance using two photon absorption in Si-APD and wide scanning range optical millimeter wave sweeper**  
Naofumi Endo, Yosuke Tanaka and Takashi Kurokawa  
Graduate School of Engineering, Tokyo University of Agriculture and Technology, Japan
- WP15**      **Interferometric signal evaluation by mode-frequency sweep of supercontinuum**  
Yosuke Kasuya<sup>1</sup>, Hiroyuki Ishizu<sup>1</sup>, Ken Kashiwagi<sup>1</sup>, Naoyuki Tamura<sup>1</sup>, Samuel Choi<sup>2</sup> and Takashi Kurokawa<sup>1</sup>  
<sup>1</sup>Graduate School of Engineering, Tokyo University of Agriculture and Technology, Japan

<sup>2</sup>Department of Electrical and Electronic Engineering, Niigata University, Japan

- WP16**      **Fabrication of Micro-prism Array with Scanning Immersion Lithography in Single Lens Stereoscopic Mobile Cameras**  
Bor-Yuan Shew<sup>1</sup>, Chien-Yue Chen<sup>2\*</sup>, Zhi-Sheng Cheng<sup>2</sup>, Qing-Long, Deng<sup>2</sup>, Chin-Ping Chen<sup>2</sup>  
<sup>1</sup>Device Technology Group, National Synchrotron Radiation Research Center  
<sup>2</sup> Graduate School of Optoelectronics, National Yunlin University of Science & Technology, Taiwan
- WP17**      **Phase and Amplitude Spectrum Control Circuit Using an Arrayed-Waveguide Grating and Tunable Phase Shifters**  
Koichi Kato<sup>1</sup>, Yuichiro Ikuma<sup>1</sup>, Hiroshi Takahashi<sup>2</sup>, Takayuki Mizuno<sup>2</sup> and Hiroyuki Tsuda<sup>1</sup>  
<sup>1</sup>School of Integrated Design Engineering, Graduate School of Science and Technology, Keio University, Japan  
<sup>2</sup>NTT Photonics Laboratories, NTT Corporation
- WP18**      **Design of omni-direction image for capsule endoscope**  
Wei-De Jeng<sup>1</sup>, Mang Ou-Yang<sup>1</sup>, Yao-Fang Hsieh<sup>2</sup>, Yu-Ta Chen<sup>2</sup>, Chien-Cheng Lai<sup>1</sup>, Hsien-Ming Wu<sup>3</sup>  
<sup>1</sup> Institute of Electrical Control Engineering, National Chiao Tung University, Taiwan  
<sup>2</sup> Department of Optics and Photonics, National Central University, Taiwan.  
<sup>3</sup> Chung-Shan institute of science & technology, Taiwan.
- WP19**      **Spatial quantum efficiency in plasmonic thin film solar cells**  
Chien-Chang Chao<sup>1</sup>, Chih-Ming Wang<sup>2</sup>, Chu-Hsuan Lin<sup>2</sup>, and Jenq-Yang Chang<sup>1,\*</sup>  
<sup>1</sup>Department of Optics and Photonics, National Central University, Taiwan  
<sup>2</sup>Institute of Opto-electronic Engineering, National Dong Hwa University, Taiwan
- WP20**      **Optical properties of nanostructures with embedded AlN/GaN MQWs**  
J. C. Li<sup>1,2</sup>, W. H. Yang<sup>2</sup>, C. H. Chiu<sup>1</sup>, P. K. Huang<sup>1</sup>, S. P. Li<sup>2</sup>, H. Y. Chen<sup>2</sup>, D. Y. Liu<sup>2</sup>,  
T. C. Lu<sup>1\*</sup>, H. C. Kuo<sup>1\*</sup>, J. Y. Kang<sup>2\*</sup>, and S. C. Wang<sup>1</sup>  
<sup>1</sup>Department of Photonics, National Chiao Tung University, Taiwan  
<sup>2</sup>Department of Physics, Xiamen University, China
- WP21**      **Analysis of Near-Field Coupling between Plasmonic Cylinders Using a High-Accuracy Multidomain Legendre Pseudospectral Frequency-Domain Method**  
Chih-Yu Wang<sup>1</sup>, Shih-Yung Chung<sup>1</sup>, Chun-Hao Teng<sup>2</sup>, Chung-Ping Chen<sup>1</sup>, and Hung-Chun Chang<sup>3</sup>  
<sup>1</sup>Graduate Institute of Electronics Engineering and Department of Electrical Engineering, National Taiwan University, Taiwan  
<sup>2</sup>Department of Applied Mathematics and Center of Mathematical Modeling and Scientific Computing, National Chiao Tung University, Taiwan  
<sup>3</sup>Department of Electrical Engineering, Graduate Institute of Photonics and Optoelectronics, and Graduate Institute of Communication Engineering, National Taiwan University, Taiwan

- WP22**                    **Direct near-field optical imaging of plasmonic interference fields for high-resolution nanolithography**  
Fu Han Ho<sup>1\*</sup>, Min An Tsai<sup>2</sup> and Peichen Yu<sup>3</sup>  
<sup>1</sup>Instrument Technology Research Center, National Applied Research Laboratories, Taiwan  
<sup>2</sup>Department of Photonics and Institute of Electro-Optical Engineering, National Chiao-Tung University, Taiwan  
<sup>3</sup>Department of Electrophysics, National Chiao-Tung University, Taiwan
- WP23**                    **Tunable filtering properties of an annular periodic multilayer structure containing lithium niobate**  
Mei-Soong Chen<sup>1</sup>, Chien-Jang Wu<sup>2</sup>, Tzong-Jer Yang<sup>1</sup>  
<sup>1</sup>Department of Electrical Engineering, Chung Hua University, Taiwan  
<sup>2</sup>Institute of Electro-Optical Science and Technology, National Taiwan Normal University, Taiwan
- WP24**                    **Optically driven sensor network with wireless sensor nodes**  
Masahiro Kinoshita, Akiko Takahashi, Ken Kashiwagi, Yosuke Tanaka, Takashi Kurokawa  
Graduate School of Engineering, Tokyo University of Agriculture and Technology, Japan
- WP25**                    **Estimation of Junction Temperature of III-V Compound Lighting-emitting Diodes (LEDs)**  
Ya-Ju Lee, Chia-Jung Lee, and Chih-Hao Chen  
Institute of Electro-Optical Science and Technology, National Taiwan Normal University, Taiwan
- WP26**                    **Liquid Optical Beam Deflector**  
Hsiu-Hsiang Chen<sup>1,2</sup>, C.C. Lin<sup>1</sup>, Y.T. Li<sup>1</sup>, and C. Fu<sup>2</sup>  
<sup>1</sup>Industrial Technology Research Institute  
<sup>2</sup>National Tsing-Hua University, Institute of NanoEngineering and Microsystems, Taiwan
- WP27**                    **On Wavelength Conversion Characteristic about All-Optical Triode Based on Negative Feedback Semiconductor Optical Amplifiers**  
Hirokazu TANIMOTO, Yoshinobu MAEDA  
Department of Electric and Electronic Engineering, School of Science and Engineering, Kinki University, Japan
- WP28**                    **Extension Depth of Field Using Two Types of Circular-Symmetry Phase Mask**  
A. Usui and S. Komatsu  
Department of Applied Physics, Waseda University, Japan
- WP29**                    **MOCVD growth and investigation of dual wavelength InGaN/GaN multiple quantum well light emitting diodes**  
Ting-Wei Kuo<sup>1</sup>, Jen-Lin Huang<sup>1</sup>, Zhe Chuan Feng<sup>1,\*</sup>, C. Y. Wu<sup>2</sup>, Hong-Ling Tsai<sup>3</sup>, Jer-Ren Yang<sup>3</sup>, Ian T. Ferguson<sup>4</sup> and Weijie Lu<sup>5</sup>  
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**WP30**

**Sensitivity Dependences on Waveguide Position and Diaphragm Thickness in Silicon-Based Guided-Wave Optical Accelerometer**

Masashi Ohkawa<sup>1</sup>, Hideto Endo<sup>2</sup>, Takuya Oshima<sup>2</sup>, Yusuke Miura<sup>2</sup>, and Takashi Sato<sup>1</sup>

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**WP31**

**NOVEL PLANAR BEAM EXPANDER**

Jyh-Rou Sze<sup>1</sup>, An-Chi Wei<sup>2</sup>, Fong-Zhi Chen<sup>1</sup>

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<sup>2</sup>Foxsemicom Integrated Technology Inc., Taiwan

**WP32**

**Optical Frequency Signal Transmission by Whispering Gallery Modes**

Yen Ling Yu, Takuma Aihara, Kenzo Yamaguchi, and Mitsuo Fukuda

Department of Electrical and Electronic Information Engineering, Toyohashi University of Technology, Japan

**WP33**

**Development of texture retrieval technique**

H. Kuboyama, S. Arai, K. Yamaguchi, and M. Fukuda

Department of Electrical and Electronic Information Engineering, Toyohashi University of Technology, Japan

**WP34**

**Temperature dependence of anisotropic diffraction in liquid-crystal composite volume gratings**

Akifumi Ogiwara<sup>1</sup>, Hiroshi Kakiuchida<sup>2</sup>, Kazuki Yoshimura<sup>2</sup>, Masato Tazawa<sup>2</sup>, Akira Emoto<sup>3</sup>, and Hiroshi Ono<sup>3</sup>

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**WP35**

**Defect Inspection for Industrial Applications with Optical Coherence Tomography**

Feng-Yu Chang, Jiann-Der Lee, and Meng-Tsan Tsai\*

Department of Electrical Engineering, Chang Gung University, Taiwan

**WP36**

**Design of Liquid Crystal Negative Lenses with Unequal Width Electrodes**

Chao-Jui Hsu<sup>1</sup>, Yung-Yuan Kao<sup>1</sup> and Paul C.-P. Chao<sup>1,2\*</sup>

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<sup>2</sup>Institute of Imaging and Biophotonics, National Chiao Tung University, Taiwan

**WP37**

**A bending curvature sensor based on double-sided polishing long period fiber gratings**

Chuen-Lin Tien\*, Hung-Yi Hsu, Yu-Chung Chen, Tsai-Wei Lin, Wen-Fen Liu

Institute of Electrical Engineering, Feng Chia University, Taiwan

- WP38**      **A Compact Low-power Spectrometer of Acetylene Molecules with an Optical Nanofiber**  
Masato Takiguchi, Yutaka Yoshikawa, Takayuki Yamamoto, Kazuyuki Nakayama, and Takahiro Kuga  
Institute of Physics, University of Tokyo, Japan
- WP39**      **Concentrated photovoltaic module with III-V multi-junction solar cells for portable device**  
Yu-Shu Chen, An-Chi Wei and Jyh-Der Hwang  
Foxsemicon integration technology Inc., Taiwan
- WP40**      **Broadband Antireflection Subwavelength Structure for Nanosphere Lithography and Catalytic Etching**  
H. P. Wang, K. Y. Lai, Y. R. Lin, C. A. Lin, and J. H. He  
Institute of Photonics and Optoelectronics, & Department of Electrical Engineering, National Taiwan University, Taiwan  
Department of Electrical Engineering, Taiwan
- WP41**      **Output-power Stability Improvement of AlGaInP/GaAs Light Emitting Diodes by Hydrogen Annealing**  
Fang-I Lai<sup>1,\*</sup>, Woei-Tyng Lin<sup>1</sup>, Shou-Yi Kuo<sup>2,3</sup>, Min-lun Wu<sup>4</sup>  
<sup>1</sup> Department of Photonics Engineering, Yuan-Ze University, Taiwan  
<sup>2</sup> Department of Electronic Engineering, Chang Gung University  
<sup>3</sup> Green Technology Research Center, Chang Gung University, Taiwan  
<sup>4</sup> Department of Electrical Engineering, Yuan-Ze University, Taiwan
- WP42**      **Analysis of Metal-Dielectric-Metal Plasmonic Waveguide Bends Using the Multidomain Legendre Pseudospectral Time-Domain Method**  
Shih-Yung Chung<sup>1</sup>, Chih-Yu Wang<sup>1</sup>, Chun-Hao Teng<sup>2</sup>, Chung-Ping Chen<sup>1</sup>, and Hung-Chun Chang<sup>3</sup>  
<sup>1</sup> Graduate Institute of Electronics Engineering and Department of Electrical Engineering, National Taiwan University, Taiwan  
<sup>2</sup> Department of Applied Mathematics and Center of Mathematical Modeling and Scientific Computing, National Chiao Tung University, Taiwan  
<sup>3</sup> Department of Electrical Engineering, Graduate Institute of Photonics and Optoelectronics, and Graduate Institute of Communication Engineering, National Taiwan University, Taiwan
- WP43**      **Improvement in utilization of multiple quantum wells in InGaN/GaN light-emitting diodes by graded-thickness design**  
Chao-Hsun Wang, Wei-Tin Chang, Jin-Chai Li, Zheng-Yu Li, Hao-Chung Kuo, Tien-Chang Lu, and Shing-Chung Wang  
Department of Photonics and Institute of Electro-Optical Engineering, National Chiao Tung University, Taiwan
- WP44**      **High Performance Intersatellite Communication Based on Background Light Reduction Technique with Double Phase Conjugate Mirror**  
Tomohiro Fujita<sup>1</sup>, Atsushi Okamoto<sup>1</sup>, Akihisa Tomita<sup>1</sup>, Yuta Wakayama<sup>1</sup>, Yoshihisa Takayama<sup>2</sup>, and Kunihiro Sato<sup>3</sup>  
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Japan

<sup>3</sup>Faculty of Engineering, Hokkai-Gakuen University, Japan

**WP45 Two-dimensional Diffractive Optical Element for the Computed Tomographic Imaging Spectrometer**

Hsi-Fu Shih<sup>1</sup>, Ya-Wun Syu<sup>1</sup>, Chih-Shang Liu<sup>2</sup>, and Chun-I Wu<sup>2</sup>

<sup>1</sup>Department of Mechanical Engineering, National ChungHsing University, Taiwan

<sup>2</sup>Center for Measurement Standards, Industrial Technology Research Institute, Taiwan

**WP46 Broad-band and Omnidirectional Antireflection Nanorod Arrays on InGaP/GaAs Dual-junction Solar Cell**

H. W. Wang, M. A. Tsai, H. C. Chen, Y. L. Tsai, P. C. Tseng, C. Y. Jang, Peichen Yu\*, H. C. Kuo\*

Department of Photonics and Institute of Electro-Optical Engineering, National Chiao Tung University, Taiwan

**WP47 Spoof surface plasmon polaritons guiding by subwavelength periodically corrugated metal strip**

Jin Jei Wu, Yao Huang Kao<sup>1</sup>, Hung Erh Lin<sup>2</sup>, Tzong-Jer Yang, Di Chi Tsai, Hung Jung Chang, Chun Cheng Li, Ing-Jar Hsieh, Linfang Shen<sup>3</sup> and Xufeng Zhang<sup>3</sup>,

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<sup>3</sup>Department of Information Science and Electronic Engineering, The Electromagnetics Academy at Zhejiang University, China

**WP48 Photovoltaic characteristics of In<sub>x</sub>Ga<sub>1-x</sub>N/GaN multiple quantum well solar cells with x=0.15 and x=0.30: Origin of the hot carriers at T > 200K**

K. Y. Lai,<sup>1</sup> G. J. Lin,<sup>1</sup> Y.-L. Lai,<sup>2</sup> and J. H. He<sup>1,3,\*</sup>

<sup>1</sup>Institute of Photonics and Optoelectronics, & Department of Electrical Engineering, National Taiwan University, Taiwan

<sup>2</sup>Genesis Photonics Inc., Taiwan

<sup>3</sup>Department of Electrical Engineering, National Taiwan University, Taiwan

**WP49 ZnO Nanorod Arrays as Broadband and Omnidirectional Antireflection Coatings**

Y. C. Chao,<sup>1</sup> C. Y. Chen,<sup>1</sup> C. A. Lin,<sup>1</sup> Y. A. Dai,<sup>1</sup> and J. H. He<sup>1,2,\*</sup>

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<sup>2</sup>Department of Electrical Engineering, National Taiwan University, Taiwan

**WP50 Analysis of a FBG fabrication platform not limited by the phase mask length with junctures adjustment by real-time side-diffraction position monitoring**

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<sup>2</sup>Department of Electro-Optical Engineering, National United University, Taiwan

**WP51 Fabrication of Long-Period Fiber Gratings in Dispersion-Shifted Fiber without Hydrogen Loading**

Toru Mizunami, Kouki Hondo and Kouitirou Yamamoto

Department of Electrical Engineering and Electronics, Graduate School of Engineering, Kyushu Institute of Technology, Japan

- WP52 Photoluminescence properties of Sm-doped ZnO nanowires fabricated by hydrothermal method**  
 C. C. Lin<sup>1</sup>, C. Y. Kung<sup>1,\*</sup>, S. L. Young<sup>2,\*</sup>, H. Z. Chen<sup>2</sup>, M. C. kao<sup>2</sup>, Y. T. Shih<sup>3</sup>, Lance Horn<sup>3</sup>  
<sup>1</sup>Department of Electronic Engineering, National Chung Hsing University, Taiwan  
<sup>2</sup>Department of Electronic Engineering, Hsiuping Institute of Technology, Taiwan  
<sup>3</sup>Department of Physics, National Changhua University of Education, Taiwan
- WP53 Reducing Aberration of Interferograms by EMD Method**  
 Yu-Ta Chen<sup>1\*</sup>, Mang Ou-Yang<sup>2</sup>, Shuen-De Wu<sup>3</sup>, Yao-Fang Hsieh<sup>1</sup>, Wei-De Jeng<sup>2</sup>, Ting-Wei Huang<sup>1</sup>  
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<sup>2</sup>Institute of Electrical and Control Engineering, National Chiao Tung University, Taiwan.  
<sup>3</sup>Department of Mechatronic Technology, National Taiwan Normal University, Taiwan
- WP54 Optical Phonons and Transport Properties of Cd<sub>1-x</sub>Zn<sub>x</sub>Te by Far Infrared Spectroscopy Studies**  
 T. R. Yang<sup>1\*</sup>, Y. H. Shih<sup>1</sup>, S. H. Jhang<sup>1</sup>, Y. C. Yang<sup>2</sup>, Z.C. Feng<sup>2</sup>, P. Becla<sup>3</sup>  
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<sup>2</sup>Institute of Photonics & Optoelectronics and Department of Electrical Engineering, National Taiwan University, Taiwan  
<sup>3</sup>Francis Bitter National Magnet Laboratory, Massachusetts Institute of Technology, USA
- WP55 Cathodoluminescence studies of hillocks on Al<sub>0.11</sub>Ga<sub>0.89</sub>N**  
 Ling Lee<sup>1,\*</sup>, Wen-Cheng Ke<sup>2</sup>, Wen-Hao Chang<sup>1</sup>, Wei-Kuo Chen<sup>1</sup>, and Wu-Ching Chou<sup>1,†</sup>  
<sup>1</sup>Department of Electrophysics, National Chiao Tung University, Taiwan  
<sup>2</sup>Department of Mechanical Engineering, Yuan-Ze University, Taiwan
- WP56 A relay-lenses scanning method for hyper-spectral imaging system**  
 Yao-Fang Hsieh<sup>1\*</sup>, Mang Ou-Yang<sup>2</sup>, Yu-Da Chen<sup>1</sup>, Wei-De Cheng<sup>1</sup>, Ting-Wei Huang<sup>1</sup>, Jin-Chern Chiou<sup>3</sup>  
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<sup>2</sup>Institute of Electrical and Control Engineering, National Chiao Tung University, Taiwan.  
<sup>3</sup>Department of Mechatronic Technology, National Taiwan Normal University, Taiwan
- WP57 Light-emitting diode on curved substrate for light intensity management**  
 An-Chi Wei, Ying-Chieh Lu and Yu-Ying Chien  
 Foxsemicon integration technology Inc., Taiwan
- WP58 A Design of Fiber-to-Waveguide Spot-Size Converter**  
 Hiroshi HAMADA, Ryohei TAKEI, and Tetsuya MIZUMOTO  
 Dept. of Electric and Electronic Eng., Tokyo Institute of Technology, Japan
- WP59 Theoretical analysis of up-conversion of quantum-correlated photons**

Hisaki Oka  
PRESTO, Japan Science and Technology Agency (JST), Japan  
Photon Pioneers Center, Osaka University, Japan

- WP60**      **Fabrication and characterization of binary diffractive lens with the 100 micrometer-order-focal length**  
Atsushi Motogaito<sup>1,2</sup>, Kazuya Arakawa<sup>1</sup>, Yuuji Nakayama<sup>1</sup>, Hideto Miyake<sup>1,2</sup> and Kazumasa Hiramatsu<sup>1,2</sup>  
<sup>1</sup> Division of Electrical and Electronic Engineering, Graduate School of Engineering, Mie University, Japan  
<sup>2</sup> The Center of Ultimate Technology on nano-Electronics, Mie University, Japan
- WP61**      **High Confidence Iris Recognition System by Wavefront Coded Imaging Using Free-Form Phase Mask**  
T. Shakushio and S. Komatsu  
Department of Applied Physics, Waseda University, Japan
- WP62**      **Dual-Stage Holographic Memory based on Optical Recording and Digital Readout Technique: Proposal and 8-Phase-Level Operation**  
Atsushi Okamoto, Keisuke Kunori, and Masanori Takabayashi  
Graduate School of Information Science and Technology, Hokkaido University, Japan
- WP63**      **Non-Markovian dynamics of microcavity coupled to waveguides in photonic crystals**  
Meng-Hsiu Wu, Chan U Lei, Heng-Na Xiong, and Wei-Min Zhang\*  
Department of Physics, National Cheng Kung University, Taiwan
- WP64**      **Investigating Resonance Modes and Metal Losses of Split-Ring Resonators at Optical Frequencies by Using the Finite-Difference Time-Domain Method**  
Hui-Hsin Hsiao and Hung-Chun Chang\*  
Graduate Institute of Photonics and Optoelectronics, National Taiwan University, Taiwan  
\*also with Department of Electrical Engineering and Graduate Institute of Communication Engineering, National Taiwan University, Taiwan
- WP65**      **Design a New Type of Imaging Lens Based on the Model of Human Eye**  
Shi-Hwa Huang<sup>1</sup>, Hai-Pang Chiang<sup>1,2,3\*</sup>  
<sup>1</sup>Institute of Optoelectronic Sciences, National Taiwan Ocean University, Taiwan  
<sup>2</sup>Institute of Physics, Academia Sinica, Taiwan  
<sup>3</sup>Instrument Technology Research Center, National Applied Research Laboratories, Taiwan
- WP66**      **Physics of Metal Assisted Light-Trapping in Thin Film Solar Cells**  
Brian Roberts and P.-C. Ku  
University of Michigan, Electrical Engineering and Computer Science, USA
- WP67**      **An Liquid Crystal Negative Lens with Unequal Width Electrodes**  
Chao-Jui Hsu<sup>1</sup>, Yung-Yuan Kao<sup>1</sup> and Paul C.-P. Chao<sup>1,2\*</sup>  
<sup>1</sup>Department of Electrical Engineering, National Chiao Tung University, Taiwan

<sup>2</sup>Institute of Imaging and Biophotonics, National Chiao Tung University, Taiwan

- WP68**      **Extended X-ray Absorption Fine Structure and Raman Scattering of 3C-SiC**  
Kung-Yen Lee<sup>1,\*</sup>, Yi-Li Tu<sup>2</sup>, and Zhe Chuan Feng<sup>2,#</sup>  
<sup>1</sup>Department of Engineering Science and Ocean Engineering, National Taiwan University, Taiwan  
<sup>2</sup>Institute of Photonics & Optoelectronics and Department of Electrical Engineering, National Taiwan University, Taiwan
- WP69**      **A study of Pseudo-Nondiffracting Beams at Oblique Incidence**  
Jyh-Rou Sze<sup>1</sup>, An-Chi Wei<sup>2</sup>, Yu-Hsiang Tang<sup>1</sup>, Fong-Zhi Chen<sup>1</sup>  
<sup>1</sup>Instrument Technology Research Center, National Applied Research Laboratories, , Taiwan  
<sup>2</sup>Foxsemicom Integrated Technology Inc., Taiwan
- WP70**      **Measuring the Effects of Collagen and Ascorbic Acid on Aging Skin by Fluorescence Spectroscopy**  
Bor-Wen Yang<sup>1\*</sup>, Xin-Chang Chen<sup>2</sup>, You-Fu Syu<sup>1</sup>, Pao-Keng Yang<sup>1</sup> and D. C. Yeh<sup>1</sup>  
<sup>1</sup>Department of Opto-electronic System Engineering, Ming-hsin University of Science and Technology, Taiwan  
<sup>2</sup>Institute of Electronic Engineering, Ming-hsin University of Science and Technology, Taiwan
- WP71**      **Morphological evolution of MOMBE-grown indium nitride films**  
Shou-Yi Kuo<sup>1,2,\*</sup>, Wei-Chun Chen<sup>3</sup>, Fang-I Lai<sup>4</sup>, Woei-Tyng Lin<sup>4</sup>, Chien-Nan Hsiao<sup>3</sup>  
<sup>1</sup> Department of Electronic Engineering, Chang Gung University, Taiwan  
<sup>2</sup> Green Technology Research Center, Chang Gung University, Taiwan  
<sup>3</sup> Instrument Technology Research Center, National Applied Research Laboratories, Taiwan  
<sup>4</sup> Department of Photonics Engineering, Yuan-Ze University, Taiwan
- WP72**      **Thrombin detection using guided mode resonance aptasensor**  
Sheng-Fu Lin<sup>1</sup>, Wen-Yih Chen<sup>2</sup> and Jenq-Yang Chang<sup>1</sup>  
<sup>1</sup>Department of Optics and Photonics, National Central University, Taiwan  
<sup>2</sup>Department of Chemical and Material Engineering, National Central University, Taiwan
- WP73**      **Bend-Direction Sensor using Chirped Fiber Bragg Grating**  
S. Hashimoto and S. Komatsu  
Major in Pure and Applied Physics, Graduate School of Advanced Science and Engineering, Waseda University, Japan
- WP74**      **Message Encoding and Decoding Using Chaotic Laser Diode Transmitter-Receiver Array with Noisy Drive Current**  
Satoshi EBISAWA<sup>1</sup>, Joji MAEDA<sup>1</sup> and Shinichi KOMATSU<sup>2</sup>  
<sup>1</sup>Department of Electrical Engineering, Faculty of Science and Technology, Tokyo University of Science, Japan,  
<sup>2</sup>Department of Applied Physics, School of Science and Engineering, Waseda University, Japan
- WP75**      **Tunable defect modes in one-dimensional photonic crystal**

### **embedding twisted nematic liquid crystal as a defect layer**

Yu-Ting Lin,<sup>1</sup> Wen-Yang Chang,<sup>2</sup> Victor Ya. Zyryanov,<sup>3</sup> and Wei Lee,<sup>1,2\*</sup>

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<sup>3</sup>Kirensky Institute of Physics, Krasnoyarsk Scientific Center, Siberian Branch of the Russian Academy of Sciences, Russia

**WP76**

### **Temperature- and V/III ratio-dependent characterization of InN films grown by RF-MOMBE**

Fang-I Lai<sup>1,\*</sup>, Woei-Tyng Lin<sup>1</sup>, Shou-Yi Kuo<sup>2,3</sup>, Wei-Chun Chen<sup>4</sup>, Jui-Pin Chen<sup>5</sup>, Chien-Nan Hsiao<sup>4</sup>

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**WP77**

### **High Speed Optical Millimeter Wave Sweeper and its Application to Distance Displacement Measurement**

Daichi Meguro, Yousuke Tanaka, Takashi Kurokawa

Graduate School of Engineering, Tokyo University of Agriculture and Technology, Japan

**WP78**

### **Improve the optical properties of Al<sub>0.4</sub>Ga<sub>0.6</sub>N/Al<sub>0.5</sub>Ga<sub>0.5</sub>N multiple quantum wells by using AlGa<sub>x</sub>N:In interlayer**

W. H. Yang<sup>1</sup>, J. C. Li<sup>2</sup>, S. P. Li<sup>1</sup>, H. Y. Chen<sup>1</sup>, D. Y. Liu<sup>1</sup>, and J. Y. Kang<sup>1\*</sup>

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**WP79**

### **Influence of Fe doping on the optical and magnetic characteristics of transparent Zn<sub>1-x</sub>Fe<sub>x</sub>O nanocrystalline films**

M. C. Jhang<sup>2</sup>, S. L. Young<sup>1,\*</sup>, C. Y. Kung<sup>2,\*</sup>, C. C. Lin<sup>2</sup>, H. Z. Chen<sup>1</sup>, M. C. Kao<sup>1</sup>, Lance Horn<sup>3</sup>, C. H. Lin<sup>2</sup>, C. R. Ou<sup>2</sup>

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**WP80**

### **Terahertz Pipe Waveguides with Metallic Coating**

Chih-Hsien Lai,<sup>1,2</sup> Ja-Yu Lu,<sup>3</sup> and Hung-chun Chang<sup>1,4,5</sup>

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<sup>5</sup>Graduate Institute of Communication Engineering, National Taiwan University, Taiwan

**WP81**

### **Detection of eavesdropping using time-shifted correlation for point-to-multipoint optical chaotic communication**

Kengo Suyama, Satoshi Ebisawa and Shinichi Komatsu

Department of Applied Physics, Waseda University, Japan

- WP82**                    **Photon manipulation using randomly distributed metal scatterers**  
Hideki Fujiwara, Takumi Ikeda and Keiji Sasaki  
Research Institute for Electronic Science, Hokkaido University, Japan
- WP83**                    **A shear force feedback control system for laser capture microdissection system with near field probe**  
Yen-Hao Cheng,<sup>1</sup> Kuei-Ming Kan,<sup>2</sup> Chien-Ming Chen,<sup>1\*</sup>  
<sup>1</sup>Department of Electro-Optical Engineering, National Taipei University of Technology,  
Taiwan.  
<sup>2</sup>Force Precision Instrument Co., Ltd
- WP84**                    **X-ray absorption fine-structure spectroscopy of InAsPSb grown by gas-source molecular beam epitaxy**  
Chen-Jun Wu<sup>1</sup>, You-Ren Lan<sup>2</sup>, Ling-Yun Chang<sup>3</sup>, Zhe-Chuan Feng<sup>2, 4</sup>, and Hao-Hsiung Lin<sup>1, 2, 4,\*</sup>  
<sup>1</sup>Graduate Institute of Electronics Engineering, National Taiwan University, Taiwan  
<sup>2</sup>Graduate Institute of Photonics & Optoelectronics, National Taiwan University, Taiwan  
<sup>3</sup>National Synchrotron Radiation Research Center, Taiwan  
<sup>4</sup>Department of Electrical Engineering, National Taiwan University, Taiwan
- WP85**                    **Design of Polymer 1 x 3 Multimode Interference Optical Power Splitter Operating at 650 nm and 1310 nm**  
Vaclav Prajzler<sup>1</sup>, Ivan Huttel<sup>2</sup>, Oleksiy Lyutakov<sup>2</sup>, Tomas Vesely<sup>1</sup>, Jarmila Spirikova<sup>2</sup>, Vitezslav Jerabek<sup>1</sup>  
<sup>1</sup>Faculty of Electrical Engineering, Czech Technical University, Czech Republic  
<sup>2</sup>Institute of Chemical Technology, Czech Republic
- WP86**                    **Near field and surface plasmon resonance arising from seven silver elliptical nanocylinders with core-shell in a hexagonal structure**  
Yuan-Fong Chau\*, Yi-Ju Lin  
Department of Electronic Engineering, Ching Yun University, Taiwan
- WP87**                    **Performance of an Improved Free-form Phase Mask for Wavefront Coding**  
H. Kudo and S. Komatsu  
Department of Applied Physics, Waseda University, Japan
- WP88**                    **Employing Micro-integrated RGB LED Module in Hand-held Full-colored Skin Imaging System**  
Bor-Wen Yang<sup>1\*</sup>, Xin-Chang Chen<sup>2</sup>, Mi-Jian Chen<sup>1</sup>, Zih-Jyun Wu<sup>1</sup>, Zhen-Wen Luo<sup>1</sup>  
<sup>1</sup>Department of Opto-electronic System Engineering, Ming-hsin University of Science and Technology, Taiwan  
<sup>2</sup>Institute of Electronic Engineering, Ming-hsin University of Science and Technology, Taiwan
- WP89**                    **Measuring the Micro-interaction between Red Blood Cells in the Coagulation Phases by Optical Tweezers**  
Bor-Wen Yang\*, Zhe Li, You-Fu Syu, Ming-Jyun Syu, Chih-Fan Wei and Yi-Kai Shu

Department of Opto-electronic System Engineering, Ming-hsin University of Science and Technology, Taiwan

- WP90**      **Simulation on the Fluorescence Efficiency of Biosensor Array Integrated with Organic Light-Emitting Diode as an Excitation Light Source**  
Rung-Ywan Tsai<sup>\*</sup> and Cheng-Wei Chu  
Industrial Technology Research Institute, Electronics and Optoelectronics Research Laboratories, Taiwan
- WP91**      **Super-resolution by subpixel shift and deconvolution in digital holography**  
Y. Ishi and S. Komatsu  
Department of Applied Physics, Waseda University, Japan
- WP92**      **Brillouin scattering studies of aluminum gallium nitride**  
Tsung Han Wu<sup>1</sup>, Chung Cherng Lin<sup>2</sup>, Ian Ferguson<sup>3</sup>, Dong-Sing Wu<sup>4</sup>, Gu Xu<sup>5</sup>, and Zhe Chuan Feng<sup>1,\*</sup>  
<sup>1</sup>Institute of Photonics & Optoelectronics and Department of Electrical Engineering, National Taiwan University, Taiwan  
<sup>2</sup>Institute of Earth Sciences, Academia Sinica, Nankang, Taipei, Taiwan  
<sup>3</sup>Department of Electrical and Computer Engineering, University of North Carolina, USA  
<sup>4</sup>Department of Materials Science and Engineering, National Chung Hsing University, Taiwan  
<sup>5</sup>Department of Materials Science and Engineering, McMaster University, Canada
- WP93**      **Spin-Coated Mg<sub>x</sub>Zn<sub>1-x</sub>O Metal-Semiconductor-Metal Structured Photoconductive Detector with Tunable Ultraviolet Response**  
K. Chongsri<sup>1,2</sup>, P. Mukdacharoenchai<sup>1,2</sup>, S. Boonruang<sup>3</sup> and W. Pecharapa<sup>1,2</sup>  
<sup>1</sup>College of KMITL Nanotechnology, King Mongkut's Institute of Technology Ladkrabang, Thailand  
<sup>2</sup>ThEP center, Thailand  
<sup>3</sup>National Electronics and Computer Technology Center
- WP94**      **Field test of Color Imaging Using Optimized Free-Form Phase Mask for Wavefront Coding**  
Y. Yoneda, R. Obana and S. Komatsu  
Department of Applied Physics, Waseda University, Japan
- WP95**      **Phase distribution measurement based on wavefront correction using blue-violet laser diode**  
Kentaro Fujisawa, Kohei Nishimura, Yusuke Ono and Shinichi Komatsu  
Waseda University, JAPAN
- WP96**      **Five-Dimensional Optical Digital Key Utilizing Time Characteristic of Light-Emitting Material**  
Y. Shimamoto and S. Komatsu  
Department of Applied Physics, Waseda University, Japan
- WP97**      **Investigation of built-in electric field in InGaP solar cells**

C. C. Yang<sup>1</sup>, P. C. Su<sup>1</sup>, G. W. Shu<sup>1</sup>, J. L. Shen<sup>1\*</sup>, M. D. Yang<sup>2</sup>, C. H. Wu<sup>2</sup>, and Y. S. Huang<sup>3</sup>

<sup>1</sup>Department of Physics, Chung Yuan Christian University, Taiwan

<sup>2</sup>Institute of Nuclear Energy Research, Taiwan

<sup>3</sup>Electronic Engineering Department, National Taiwan University of Science and Technology, Taiwan

**WP98**

**Optical, Material and Electrical Characterization of the High-K Tantalum Pentoxide (Ta<sub>2</sub>O<sub>5</sub>) Dielectric Deposited on the Polycrystalline Silicon**

Chyuan-Haur Kao<sup>1</sup>, Hsiang Chen<sup>2\*</sup>, Tien-Chang Lu<sup>3</sup>

<sup>1</sup>Department of Electronic Engineering, Chang Gung University, Taiwan

<sup>2</sup>Department of Applied Materials and Optoelectronic Engineering, National Chi Nan University, Taiwan

<sup>3</sup>Department of Photonics, National Chiao Tung University, Taiwan

**WP99**

**Solar concentrator using optical-axis-folding optics**

An-Chi Wei<sup>1</sup> and Jyh-Rou Sze<sup>2</sup>

<sup>1</sup>Foxsemicon integration technology Inc., Taiwan

<sup>2</sup>Instrument Technology Research Center, Taiwan

**WP100**

**The Structure and Optical Properties of Nb-doped TiO<sub>2</sub> Thin Films Prepared by Sol-Gel Process**

Ming-Cheng Kao<sup>1</sup>, Hone-Zern Chen<sup>1</sup>, San-Lin Young<sup>1</sup>, Bor-Nian Chuang<sup>2</sup>, Wen-Wang Jiang<sup>2</sup> and Jang-Shii Song<sup>2</sup>

<sup>1</sup>Department of Electronic Engineering, Hsiuping Institute of Technology, Taiwan

<sup>2</sup>Center for Measurement Standards, Industrial Technology Research Institute, Taiwan

**WP101**

**Effect of post-thermal treatment on optoelectronic properties of nano-structured aluminum-doped zinc oxide films**

Shou-Yi Kuo<sup>1,2</sup>, Fang-I Lai<sup>3,\*</sup>, Wei-Chun Chen<sup>4</sup>, Woei-Tyng Lin<sup>3</sup>, Hung-Wen Huang<sup>5</sup>, and Kang-Yuan Lee<sup>5</sup>

<sup>1</sup> Department of Electronic Engineering, Chang Gung University, Taiwan

<sup>2</sup> Green Technology Research Center, Chang Gung University, Taiwan

<sup>3</sup> Department of Photonics Engineering, Yuan-Ze University, Taiwan

<sup>4</sup> Instrument Technology Research Center, National Applied Research Laboratories, Taiwan

<sup>5</sup> Institute of Electro-Optical Engineering, National Chiao Tung University, Taiwan

**WP102**

**Temperature-dependent properties of obliquely deposited MgF<sub>2</sub> thin films**

Chuen-Lin Tien<sup>\*</sup>, Hung-Da Tzeng, Tsai-Wei Lin

Institute of Electrical Engineering, Feng Chia University, Taiwan

**WP103**

**Rutherford Backscattering Studies of InGaN/GaN Structures Grown on ZnO substrate**

Lin Li<sup>1</sup>, Yee Ling Chung<sup>2</sup>, Tao Fa<sup>1</sup>, Xingyu Peng<sup>1</sup>, Nola Li<sup>3</sup>, Shude Yao<sup>1,\*</sup>, Zhe Chuan Feng<sup>2,#</sup>, Ian T. Ferguson<sup>3</sup>, and Weijie Lu<sup>4</sup>

<sup>1</sup>State Key Laboratory of Nuclear Physics and Technology, Peking University, China

<sup>2</sup>Institute of Photonics & Optoelectronics, and Department of Electrical Engineering, National Taiwan University, Taiwan

<sup>3</sup>Department of Electrical and Computer Engineering University of North Carolina, USA

<sup>4</sup>Department of Chemistry, Fisk University, USA

- WP104**      **InGaN Micro-Square Array Light-Emitting Diodes with an insulated Ga<sub>2</sub>O<sub>3</sub> layer**  
Chun-Min Lin, Kuei-Ting Chen, Ren-Hao Jiang, and Chia-Feng Lin  
Department of Materials Science and Engineering, National Chung Hsing University, Taiwan
- WP105**      **Improving Electro-Optical Performance of a Cell Containing Aging Nematic Liquid-Crystal Material**  
Wei Lee<sup>1,2\*</sup> and Chun-Tsai Wang<sup>2</sup>  
<sup>1</sup>Center for Nanotechnology, Chung Yuan Christian University, Taiwan  
<sup>2</sup>Department of Physics, Chung Yuan Christian University, Taiwan
- WP106**      **Applying Micro-Spectrometer in Hand-held Face Scanning System by Non-invasive Tissue Recognition Imaging**  
Bor-Wen Yang<sup>1\*</sup>, Wen-Tse Shih<sup>1</sup>, Yuan-Shuo Chang<sup>2</sup>, Xin-Chang Chen<sup>2</sup>, Shie-Chi Wen<sup>1</sup>, Wei-Jhe Yang<sup>1</sup>  
<sup>1</sup>Department of Opto-electronic System Engineering, Ming-hsin University of Science and Technology, Taiwan  
<sup>2</sup>Institute of Electronic Engineering, Ming-hsin University of Science and Technology, Taiwan
- WP107**      **Photoresponsive Liquid Crystal Overlaid Side-Polished Fiber for UV Monitoring**  
Wei-Huan Fu<sup>1</sup>, Ming-Hung Wu<sup>1</sup>, Vincent K. S. Hsiao<sup>1\*</sup>, Zhe Chen<sup>2</sup>  
<sup>1</sup>Department of Applied Materials and Optoelectronic Engineering, National Chi Nan University, Taiwan  
<sup>2</sup>Key Laboratory of Optoelectronic Information and Sensing Technologies of Guangdong Higher Educational Institutes, Jinan University, China
- WP108**      **Micro-lens array with optically tunable focal intensity by the polarization control of the incident light**  
San-Yi Huang<sup>1</sup>, Tung-Chen Tung<sup>2</sup>, Chi-Lun Ting<sup>1</sup>, Shin-Wei Ko<sup>1</sup>, Hung-Chang Jau<sup>1</sup>, Ming-Shian Li<sup>1</sup>, Hsu-Kuan Hsu<sup>4</sup>, and Andy Ying-Guey Fuh<sup>1,2,3\*</sup>  
<sup>1</sup>Institute of Electro-Optical Science and Engineering, National Cheng Kung University, Taiwan  
<sup>2</sup>Department of Physics, National Cheng Kung University, Taiwan  
<sup>3</sup>Advanced Optoelectronic Technology Center, National Cheng Kung University, Taiwan  
<sup>4</sup>Chimei Innolux Corp., Taiwan
- WP109**      **An Alignment Method of Four-Level Phase Grating Fabrication onto a Transparent Substrate**  
Chien-Yue Chen<sup>1\*</sup>, Wen-Chen Hung<sup>1</sup>, Qing-Long Deng<sup>1</sup>, Yu-Hsiang Tang<sup>2</sup>, Chin-Pin, Chen<sup>1</sup>  
<sup>1</sup>Graduate School of Optoelectronics, National Yunlin University of Science & Technology, Taiwan
- WP110**      **New overwidefield microobjectives**  
Frolov.D.N. <sup>1</sup>, PhD, Frolov A.D.<sup>2</sup>  
<sup>1</sup>Firm "Focus", St-Petersburg  
<sup>2</sup>Saint-Petersburg State University of Information Technologies, Mechanics and Optics

- WP111**      **Microstructure and Ferroelectric Properties of Bi<sub>4</sub>Ti<sub>2.96</sub>Ta<sub>0.04</sub>O<sub>12</sub> Thin Films**  
Ming-Cheng Kao<sup>1</sup>, Hone-Zern Chen<sup>1\*</sup>, San-Lin Young<sup>1</sup>, Chien-Han Lin<sup>2</sup> and Chung-Jen Ou<sup>2</sup>  
<sup>1</sup>Department of Electronic Engineering, Hsiuping Institute of Technology, Taiwan  
<sup>2</sup>Department of Electrical Engineering, Hsiuping Institute of Technology, Taiwan
- WP112**      **Analysis of Pattern Distortion in Proximity Lithography of Circular Apertures at Micro Scale**  
Jhy-Cherng Tsai, Guei-Si Sie and Jhy-Wei Fan  
Department of Mechanical Engineering, National Chung-Hsing University, Taiwan
- WP113**      **The AZO films made by a magnetic controlled DC sputtering system**  
N. F. Shih<sup>1</sup>, B. J. Chen<sup>2</sup>, P. C. Yao<sup>2</sup>, and C. C. Chen<sup>3</sup>  
<sup>1</sup>Dept. of Electronic Engineering, Hsiuping Institute of Technology, Taiwan  
<sup>2</sup>Dept. of Materials Science and Engineering, Dayeh University, Taiwan  
<sup>3</sup>UVAT Technology Co., Ltd., Taiwan
- WP114**      **Optical calculation of structures and unification of objectives for microscopes**  
Frolov, A.D. \*, Frolov D.N. \*\*, PhD. Technical. Science  
\*St. Petersburg State University of Information Technologies, Mechanics and Optics  
\*The Labor-Microscopes, St. Petersburg
- WP115**      **Concept of construction adaptive-selective modeling system for process manufacturing optical devises**  
Vinogradova, O.A.<sup>1</sup>, Pavliy A.D.<sup>2</sup>, Frolov A.D.<sup>2</sup>, Frolov.D.N.<sup>1</sup>, K-P Zoher<sup>3</sup>  
<sup>1</sup>Firm "Focus", St.-Petersburg  
<sup>2</sup>Saint-Petersburg State University of Information Technologies, Mechanics and Optics  
<sup>3</sup>The Ilmenau University of Technology, Germany
- WP116**      **Various 90-degree-bent and T-junction Hybrid Waveguides**  
Keh-Yi Lee<sup>1</sup>, Yu-Ping Liao<sup>2</sup>, Ruei-Chang Lu<sup>3</sup>, Yi-Shin Chao<sup>1</sup>, Hong-Yuan Tzou<sup>1</sup>, Ting-Sheng Lin<sup>1</sup>, Fu-Wen Chen<sup>1</sup>  
<sup>1</sup>Department of Electrical Engineering, Chinese Culture University, Taiwan  
<sup>2</sup>Department of Electronic Engineering, Ching Yun University, Taiwan  
<sup>3</sup>Department of Electronic Engineering, National I-Lan University, Taiwan
- WP117**      **Development of quality control procedures microobjectives.**  
Vinogradova O. A.<sup>1</sup>, Pavliy A.D.<sup>2</sup>, Frolov A.D.<sup>2</sup>, Frolov. D.N.<sup>1</sup>  
<sup>1</sup>Firm "Focus", St.-Petersburg  
<sup>2</sup>Saint-Petersburg State University of Information Technologies, Mechanics and Optics
- WP118**      **Wavelet-based distortion-invariant correlation filters; A review**  
Naveen Kumar Nishchal  
Department of Physics, Indian Institute of Technology Patna, India

**18:00~19:00**      **Micro-Concert**  
**Ballroom B**

**19:00~21:00**      **MOC**

**Banquet**

<b>Ballroom B</b>	
<b>Ballroom B</b>	
<b>November 3</b>	
<b>Wednesday,</b>	
<b>08:40~09:40</b>	<b>Session WA: Energy and Green Photonics</b>
Chairs	N. Mori and H. C. Kuo
<b>WA1</b>	<b>Developments in nanophotonics: dynamics, and solar light trapping(Invited)</b>
<b>08:40~09:00</b>	Shan Hui Fan, Stanford University, USA
<b>WA2</b>	<b>LED chip technology for lighting applications(Invited)</b>
<b>09:00~09:20</b>	M. J. Jou, Epistar, Taiwan
<b>WA3</b>	<b>LED lighting technologies and applications: Current status and perspectives(Invited)</b>
<b>09:20~09:40</b>	Masao Segawa, Toshiba Lighting & Technology Corporation, Japan
<b>09:40~10:10</b>	<b>Session WA: Energy and Green Photonics</b>
Chairs	N. Mori and H. C. Kuo
<b>WA4</b>	<b>High Efficiency Multi-Junction Solar Cells Employing Biomimetic Antireflective Structures</b>
<b>09:40~09:55</b>	Meng-Yih Chiu <sup>1</sup> , Chia-Hua Chang <sup>2</sup> , Ting-Gang Chen <sup>2</sup> , Feng-Yu Chang <sup>1</sup> , and Peichen Yu <sup>2*</sup>
	<sup>1</sup> Department of Photonics and Display Institute, National Chiao Tung University, Taiwan
	<sup>2</sup> Department of Photonics and Institute of Electro-Optical Engineering, National Chiao Tung University, Taiwan
<b>WA5</b>	<b>The Development of LED Optical System Design Based on Variable Separation Mapping Method</b>
<b>09:55~10:10</b>	Yanjun Han <sup>1</sup> , Hongtao Li <sup>1</sup> , Keyuan Qian <sup>2</sup> , Zexin Feng <sup>1</sup> , Wenchang Situ <sup>1</sup> , Yi Luo <sup>1, 2,*</sup>
	<sup>1</sup> State Key Lab on Integrated Optoelectronics/Tsinghua National Lab on Information Science and Technology, Department of Electronic Engineering, Tsinghua University, China
	<sup>2</sup> Semiconductor Lighting laboratory, Graduate School at Shenzhen of Tsinghua University, China
<b>10:10~10:30</b>	<b>Break</b>
<b>10:30~12:20</b>	<b>WB: Optical Storage and Optical System</b>
Chairs	K. Yokomori and C. H. Tien
<b>WB1</b>	<b>Near-field Optical Characteristics of HAMR(heat assisted magnetic recording) Head and Media for Terabyte HDD Application(Invited)</b>
<b>10:30~10:50</b>	Young-Joo Kim, Yonsei University, Korea
<b>WB2</b>	<b>Experiment on Separating of LP Modes by Dynamic Multiplex Holographic Element for Mode Division Multiplex Communication</b>
<b>10:50~11:05</b>	D. Soma <sup>1</sup> , A. Okamoto <sup>1</sup> , T. Oda <sup>1</sup> , A. Tomita <sup>1</sup> and K.Sato <sup>2</sup>
	<sup>1</sup> Graduate School of Information Science and Technology, Hokkaido University, Japan
	<sup>2</sup> Faculty of Engineering, Hokkai-Gakuen University, Japan

- WB3**  
**11:05~11:20**  
**Wide Measurement Range Heterodyne Interferometer Utilizing Astigmatism Position Sensing Scheme**  
Youngkyu Park<sup>1</sup>, Seung-Hyun Yoon<sup>1</sup>, Kyuman Cho<sup>1</sup>, Kyoung-Eop Kim<sup>2</sup>, Sung-Jin Kim<sup>2</sup>, and Seung-Yop Lee<sup>2</sup>  
<sup>1</sup>Department of Physics, Sogang University, Korea  
<sup>2</sup>Department of Mechanical Engineering, Sogang University, Korea
- WB4**  
**11:20~11:35**  
**Fiber network characterization by transmission analysis of test pulses generated by optical pulse synthesizer**  
Kiyonobu Mozawa, Hiroyuki Ishizu, Yuichiro Kodama, Ken Kashiwagi, Takashi Kurokawa  
Graduate School of Engineering, Tokyo University of Agriculture and Technology, Japan
- WB5**  
**11:35~11:50**  
**Optimal Design and Realization of a Novel Optical Image Stabilizer**  
Yu-Han Chen<sup>1</sup>, Paul C.-P. Chao<sup>1,2</sup> and Chi-Wei Chiu<sup>1</sup>  
<sup>1</sup>Department of Electrical Engineering, National Chiao Tung University, Taiwan  
<sup>2</sup>Institute of Imaging and Biomedical Photonics, National Chiao Tung University, Taiwan
- WB6**  
**11:50~12:05**  
**Two-dimensional Phase Imaging Based on Closed Loop Feed-back Control**  
Miki Toshima<sup>1</sup>, Eriko Watanabe<sup>2</sup>, Kashiko Kodate<sup>1</sup>  
<sup>1</sup>Faculty of Science, Japan Women's University, Japan  
<sup>2</sup>National Institute for Materials Science, Materials Nanoarchitectonics, Japan
- WB7**  
**12:05~12:20**  
**A LC Lenticular Lens Array with Staggered Electrodes for WXGA LCD in Applications of Auto-Stereoscopic 3D Display**  
Yung-Yuan Kao<sup>1</sup>, Paul C.-P. Chao<sup>1,2\*</sup> and Yan-Pean Huang<sup>1</sup>  
<sup>1</sup>Department of Electrical Engineering, National Chiao Tung University, Taiwan  
<sup>2</sup>Department of Imaging and Biomechanical Photonics, National Chiao Tung University, Taiwan

**12:20~13:30** **Lunch**

**13:30~14:30** **Session WC: Waveguide and Photonic Crystal**

Chairs P.C Ku and SH Lin

**WC1**  
**13:30~13:45**  
**Directional Photonic Bandgap of Two-Dimensional Silicon Photonic Crystals with a Rectangular Lattice of Elliptical Geometry**

Yung-Jr Hung, San-Liang Lee and Yen-Ting Pan  
Department of Electronic Engineering, National Taiwan University of Science and Technology, Taiwan

**WC2**  
**13:45~14:00**  
**Polarization-insensitive optical coupling between a Si waveguide and surface mounted PD**

K. Uchiho, R. Takei and T. Mizumoto  
Department of Electrical and Electric Engineering, Tokyo Institute of Technology, Japan

**WC3**  
**Athermal and Polarization-Independent Waveguide Structure Using Silicone Resin**

Junya ODORI, and Hiroyuki TSUDA

**14:00~14:15** Graduate School of Science and Technology, Keio University, Japan

**WC4**

**Vertical Interconnections for Stacked Photonic Integrated Circuits with Multimode Interference Hollow Waveguide**

**14:15~14:30**

K. Kirita, T. Sakaguchi and F. Koyama

Precision and Intelligence Laboratory, Tokyo Institute of Technology, Japan

**14:30~15:00 Post-deadline paper session**

Chairs

P.C Ku and SH Lin

**PD1**

**TBD**

**14:30~14:45**

**PD2**

**TBD**

**14:45~15:00**

**15:00~15:30 Break**

**15:30~16:30 Award Ceremony and Closing Remarks**

Chairs

C. H. Tien and T. C. Lu