

2012 Photonics

Asia[®]

5–7 November 2012

Technical Program

www.spie.org/pa

Location

Beijing International
Convention Center
Beijing, China

Conference

5–7 November 2012

Technologies

- High-Power Lasers and Applications
- Semiconductor Lasers and Applications
- Optics in Health Care and Biomedical Optics
- Quantum and Nonlinear Optics
- Optoelectronic Devices and Integration
- Holography, Diffractive Optics, and Applications
- Optical Design and Testing
- Optoelectronic Imaging and Multimedia Technology
- Information Optics and Optical Data storage
- LED and Display Technologies
- Advanced Sensor Systems and Applications
- Infrared, Millimeter Wave, and Terahertz Technologies
- Optical Metrology and Inspection for Industrial Applications
- Nanophotonics and Micro/Nano Optics



SPIE

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Contents

Special Events

Poster Session

Room: Exhibition Hall 1

Tuesday 6 November 16:00 to 18:00

Conference attendees are invited to attend the poster session on Tuesday afternoon. Come view the posters, ask questions, and network with colleagues in your field. Authors of poster papers will be present to answer questions concerning their papers. Drinks and snacks will be served. Attendees are required to wear their conference registration badges to the poster sessions.

Poster authors can set up presentations between 10:00 and 15:00. Posters that are not set up by 15:00 will be considered a no-show and will not be published in the Proceedings volume. Poster presentation guidelines can be viewed at <http://spie.org/x37999.xml>

Photonics Asia Banquet

Room: Convention Hall No. 1

Tuesday 6 November 18:30 to 20:30

Join us for the official SPIE/COS Photonics Asia banquet. Note that Banquet tickets are NOT included with the price of registration. Banquet tickets can be purchased at the registration desk onsite. Banquet program includes Chinese folk music performance.

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Quantum and Nonlinear Optics II (Gong/Guo/Shen).....	21-23
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SPIE would like to express its deepest appreciation to the symposium chairs, conference chairs, program committees, session chairs, and authors who have so generously given their time and advice to make this symposium possible.

The symposium, like our other conferences and activities, would not be possible without the dedicated contribution of our participants and members. This program is based on commitments received up to the time of publication and is subject to change without notice.

2012 Photonics Asia®

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Hong Yang, Peking University
Xiaoying Li, Tianjin University
Lin Zhai, Chinese Optical Society

Visit the exhibiting companies in the Exhibition Area.

See map on page 5.



Welcome

Photonics and optical technologies are increasingly critical in health care and medicine, nanotechnologies, environment and energy, manufacturing, information systems and communications, display, defense and aerospace, and multimedia. China is the fastest growing market for the global optics and photonics industries.

Since 2001 Photonics Asia has been the must-attend event for the global photonics community who need to keep up with what is happening in the Asian optics and photonics industry, especially the dynamic Chinese optics and photonics industry, and for developing new partnerships and new markets. It provides a unique forum for the reporting and review of new developments in photonics and optoelectronics ranging from material and devices to advanced systems and applications. The conference sections and product exhibitions will cover cutting-edge technologies, applications, product announcements and demonstrations, market analysis and investment opportunities. Photonics Asia includes plenary sessions with visionary speakers, parallel technical sessions, poster session and reception, and social/networking events.

We extend our most sincere greetings to you, and hope that your experience at SPIE/COS Photonics Asia 2012 is a very exciting and rewarding experience.

General Chairs:



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SPIE President,
University of Arizona (USA)



Bingkun Zhou,
COS President,
Tsinghua University (China)

Beijing International Convention Center Floor Plans

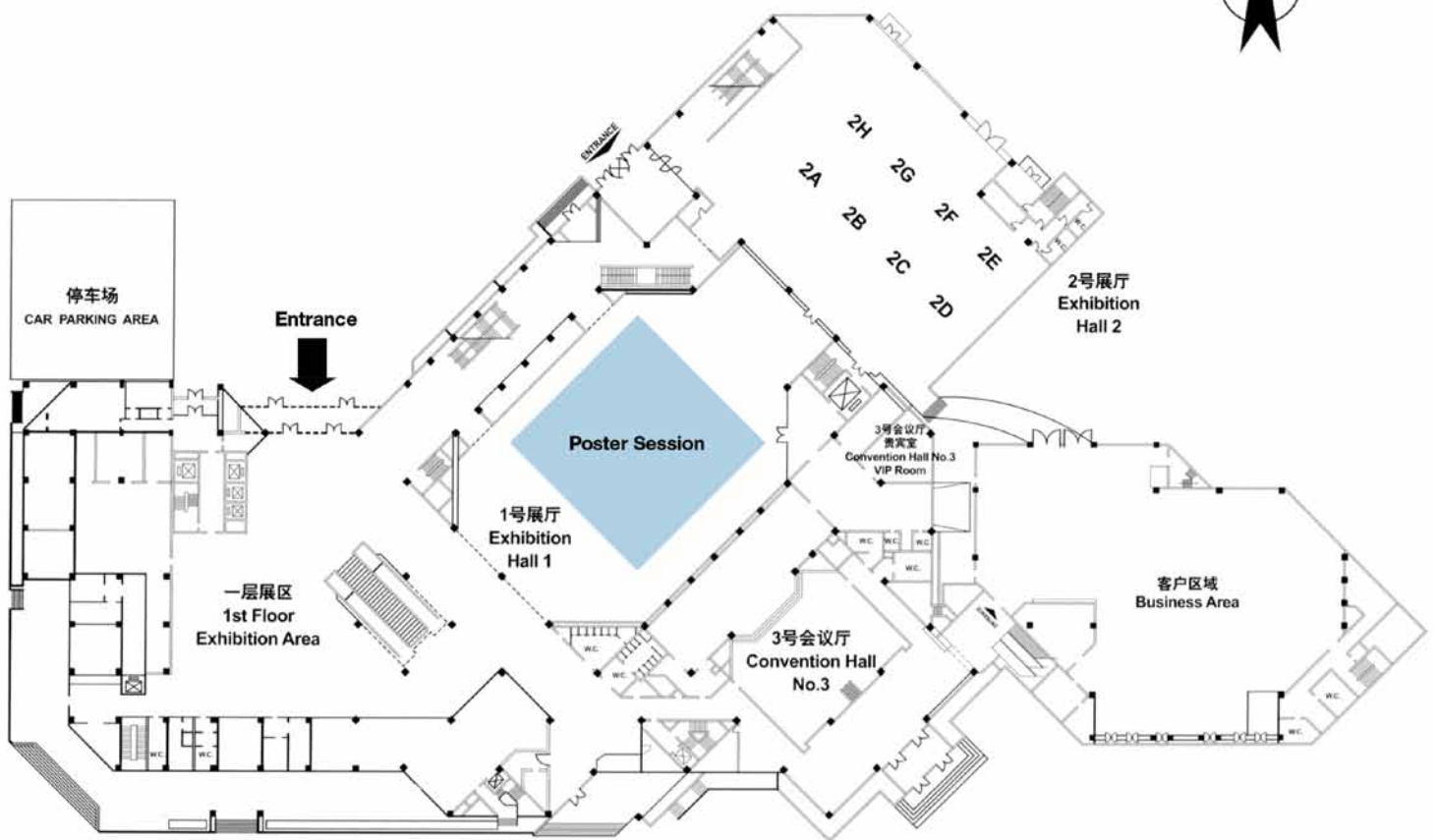


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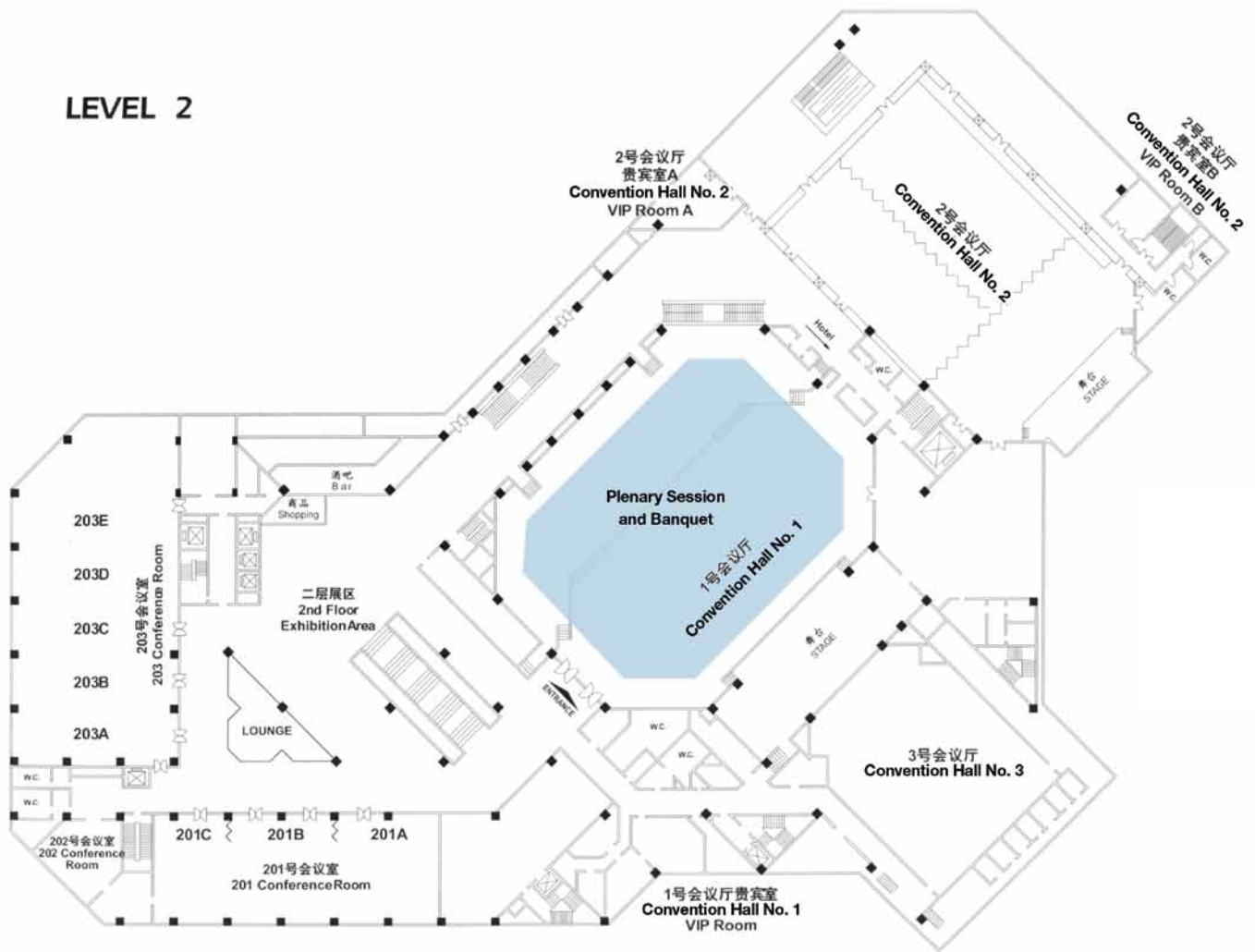
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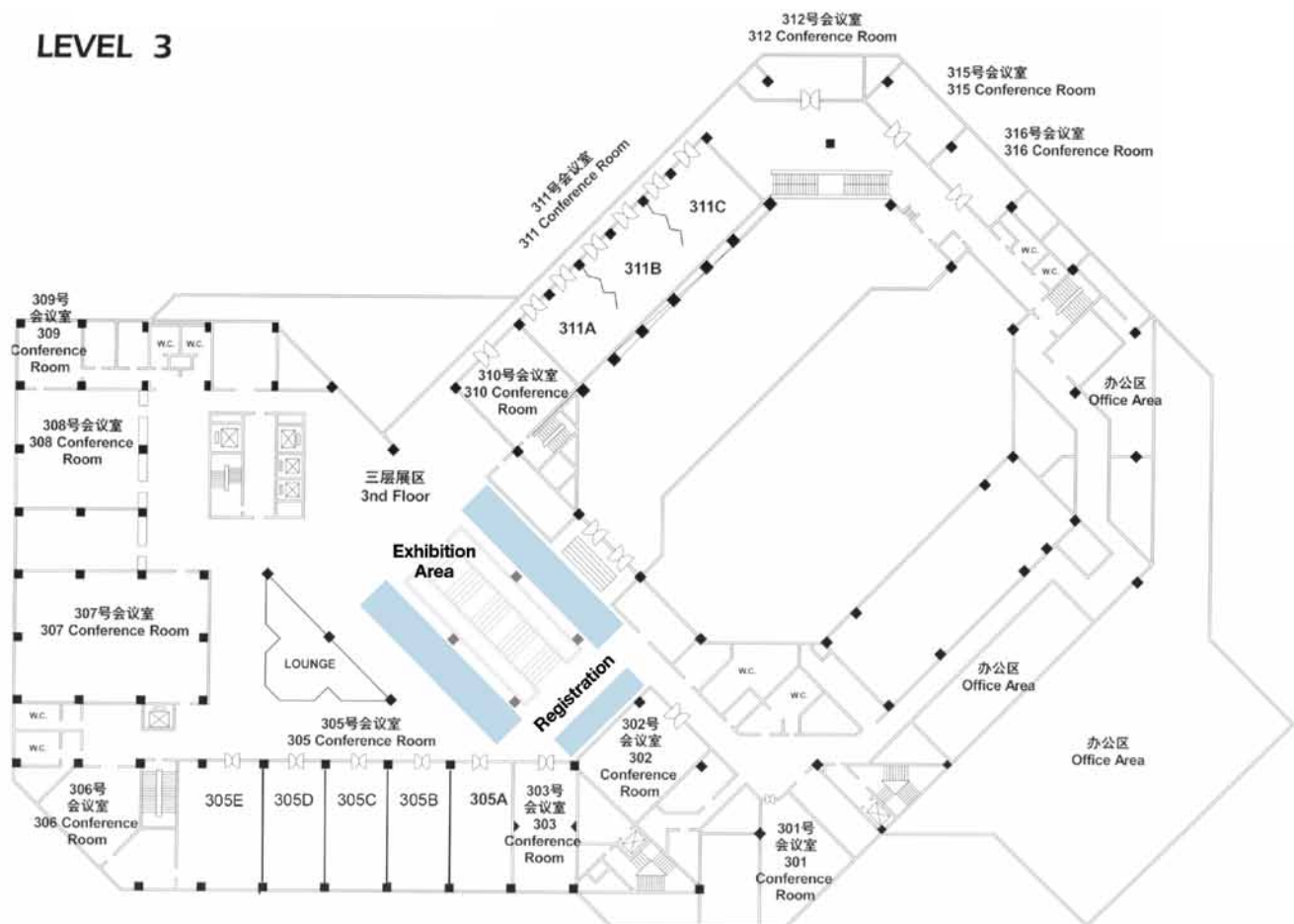
LEVEL 1



LEVEL 2



LEVEL 3



Session Schedule

	Conference 8551 High-Power Lasers and Applications VI	Conference 8552 Semiconductor Lasers and Applications V	Conference 8553 Optics in Health Care and Biomedical Optics V	Conference 8554 Quantum and Nonlinear Optics II
Monday 5 November				
TIME	Opening Ceremony and Plenary Session			
09:00 to 12:00	Opening Ceremony and Plenary Session			
12:00 to 13:30	Lunch Break			
13:30 to 15:30	Session 1 High Power Lasers (Uendra N. Singh)	Session 1 Characterization Technologies for Laser Diodes I (Werner H. Hofmann)	Session 1 Advanced Biomedical Optical Techniques (Xingde Li)	Session 3 Photonic Therapeutics (Ying Gu)
15:50 to 18:10	Session 2 Slab Lasers I (Jirong Yu)	Session 2 Characterization Technologies for Laser Diodes II (Yong Liu)	Session 2 Innovative Optical Imaging Methods I (Valery V. Tuchin)	Session 4 Photodynamic Therapy (Wei R. Chen)
				Session 1 Quantum Optics and Bose-Einstein Condensation I (Qiongyi He)
				Session 2 Quantum Optics and Bose-Einstein Condensation II (Sheng Feng)
Tuesday 6 November				
08:30 to 12:00	Session 3 Fiber Lasers (Robert F. Walter)	Session 3 Measurement, Testing, and Packaging for Semiconductor Laser Diodes (Ninghua Zhu)	Session 5 Innovative Optical Imaging Methods II (Qingming Luo)	Session 8 Photonic Diagnostics I (Jianxin Chen)
	Session 4 Slab Lasers II (Jinxue Wang)	Session 4 Applications of Semiconductor Lasers I (Jianguo Liu)	Session 6 Optical Coherence Tomography I (Kirill V. Larin)	Session 9 Photonic Diagnostics II (Xunbin Wei)
				Session 3 Quantum Entanglement (Weiping Zhang)
				Session 4 Quantum Information (Qiongyi He)
12:00 to 13:30	Lunch Break			
13:30 to 16:00	Session 5 Laser Applications (Jianquan Yao)	Session 5 Applications of Semiconductor Lasers II (Hua Yang)	Session 7 Optical Coherence Tomography II (Yu Chen)	Session 10 Photonic Diagnostics III (Buhong Li)
				Session 5 Nonlinear Optical Effect and Phenomena I (Fang Bo)
16:00 to 18:00	POSTERS			
18:30 to 20:30	Photonics Asia Banquet			
Wednesday 7 November				
08:00 to 12:10	Session 6 Ultrafast Lasers (Dianyuan Fan)		Session 11 Innovative Microscopy Imaging Method (Shaoqun Zeng)	Session 13 Optics Imaging Algorithms and Analysis I (Xincheng Yao)
	Session 7 Diode Pumped Lasers		Session 12 Multimode Imaging (Qin Li)	Session 14 Optics Imaging Algorithms and Analysis II (Zhihua Ding)
				Session 6 Nonlinear Optical Effect and Phenomena II (Heping Zeng)
				Session 7 Nonlinear Optical Effect and Phenomena III (Wei Ding)
12:00 to 13:30	Lunch Break			
13:30 to 17:30	Session 8 Novel Lasers		Session 15 Spectroscopy for Biomedical Application (Dan Zhu)	Session 8 Applications of Nonlinear Optics I (Feng He)
			Session 16 Laser-Tissue Interaction (Tianhong Dai)	Session 9 Applications of Nonlinear Optics II (Jianping Wang)

**Conference 8555
Optoelectronic Devices and
Integration IV**

**Conference 8556
Holography, Diffractive Optics,
and Applications V**

**Conference 8557
Optical Design and Testing V**

**Conference 8558
Optoelectronic Imaging and
Multimedia Technology II**

**Conference 8559
Information Optics and
Optical Data Storage II**

Monday 5 November

Opening Ceremony and Plenary Session

Lunch Break

Session 1
Plasmonic and Nano Materials/
Devices I
(Xuping Zhang, Bikash Nakarmif)

Session 2
Plasmonic and Nano Materials/
Devices II
(Xuejun Lu, Bikash Nakarmi)

Session 1
3D Display I
(Yunlong Sheng)

Session 2
3D Display II
(Chongxiu Yu)

Session 3
Telecomm Application
(Chongxiu Yu)

Session 1
Liquid Optics and Micro-Optics
(Chunlei Du)

Session 2
New Testing Technologies
(Glen McHale)

Session 1

Session 2

Tuesday 6 November

Session 3
Fiber and Guided-Wave Lasers/
Semiconductor Devices I
(Ho-Pui A. Ho, Jianwei Wu)

Session 4
Fiber and Guided-Wave Lasers/
Semiconductor Devices II
(Jianwei Wu, Ho-Pui A. Ho)

Session 4
Diffraction of Plasmonic Structure I
(Xiacong Yuan)

Session 5
Diffraction of Plasmonic Structure II
(ByoungHo Lee)

Session 6
Digital Holography I
(Chinhua Wang)

Session 3
Holographic 3D Display and 3D
Modeling
(Juan Liu)

Session 4
Laser Beam Propagation
(Sylvania F. Pereira)

Session 3

Session 4

Lunch Break

Session 5
Fiber and Guided-Wave Lasers/
Semiconductor Devices III
(Joel M. Therrien, Guanghui Wang)

Session 7
Digital Holography II
(Chinhua Wang)

Session 5
Analysis and Simulation Methods
(Yongtian Wang)

Session 5

POSTERS

Photonics Asia Banquet

Wednesday 7 November

Session 6
Devices for Photonic Applications I
(Hai Ming, Douguo Zhang)

Session 7
Devices for Photonic Applications II
(Lixin Xu, Yuejiang Song)

Session 8
Advanced Diffractive Elements
(Changhe Zhou)

Session 9
Nano Measurement and Fabrication
(Peter W.M. Tsang)

Session 6
Novel Optical System Design
(Xuemin Cheng)

Session 7
Advanced Sensing and
Measurement
(Bosanta R. Boruah)

Session 6

Session 7

Session 1
Information Optics Technology I
(Suganda Jutamulia)

Session 2
Information Optics Technology II
(Suganda Jutamulia)

Lunch Break

Session 10
Applications
(Baoli Yao)

Session 11
Devices and Fabrication
(Dayong Wang)

Session 8
Advances in Space Optics
(Jun Chang)

Session 8

Session 3
Information Optics Technology III
(Feijun Song)

Session 4
Optical Holographic Storage
(Feijun Song)

Session Schedule continues next page

Session Schedule

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Monday 5 November					
09:00 to 12:00	Opening Ceremony and Plenary Session				
12:00 to 13:30	Lunch Break				
13:30 to 15:30		Session 1 Advanced Sensor Systems and Applications I (Ming-Jun Li)	Session 1 (Cunlin Zhang)	Session 1 Metrology Modeling and Simulation (Song Zhang)	Session 1 Silicon-based Lasing (Xingjun Wang)
15:50 to 18:10		Session 2 Advanced Sensor Systems and Applications II (Shuping Wang, Haiyan Chen)	Session 2 (Cunlin Zhang)	Session 2 Metrology Calibration (Dong Chen)	Session 2 New Material/New Structure for Light Emission (Jurgen Michel)
Tuesday 6 November					
08:30 to 12:00	Session 1 LED I (Bin Hu)	Session 3 Advanced Sensor Systems and Applications III (Rene Landgraf, Hsiang-Chen Wang)	Session 3 (Xi-Cheng Zhang)	Session 3 Metrology Applications I (Jiangtao Xi)	Session 3 Novel Approaches and Devices I (Zhiping Zhou)
	Session 2 LED II (Bin Hu)	Session 4 Advanced Sensor Systems and Applications IV (Yuanhong Yang)	Session 4 (Xi-Cheng Zhang)	Session 4 3D Methods I (Toru Yoshizawa)	Session 4 Photonic Crystal (Anatoly V. Zayats)
12:00 to 13:30	Lunch Break				
13:30 to 16:00	Session 3 Display (Yanbing Hou)	Session 5 Advanced Sensor Systems and Applications V (Changsheng Li)	Session 5 (Sheng-Cai Shi)	Session 5 3D Methods II (Kevin G. Harding)	Session 5 New Fabrication Method (Changhe Zhou)
					Session 6 New Structure/New Material for Photonic Devices (Huaxiang Yi)
16:00 to 18:00	POSTERS				
18:30 to 20:30	Photonics Asia Banquet				
Wednesday 7 November					
08:00 to 12:10			Session 6 (Sheng-Cai Shi)	Session 6 Metrology Applications II (Hao Zhang)	Session 7 Light Resonators for Sensing/ Detectors (Ching-Fuh Lin)
			Session 7 (He Li)	Session 7 NDT Methods (Osami Sasak)	Session 8 Passive Devices: Gratings/ MMI (Yan-Qing Lu)
12:00 to 13:30	Lunch Break				
			Session 8 (He Li)		Session 9 Novel Approaches and Devices II (Wanhua Zheng)
					Session 10 Surface Plasmon Polaritons in Metamaterials (Yun-Feng Xiao)

Plenary Session

Opening Ceremony and Plenary Session

Room: Convention Hall No. 1

Monday 5 November. 9:00 to 12:00

9:00

Opening Ceremony

9:30

New Directions for Microcavity Physics



Kerry J. Vahala, California Institute of Technology (USA)

Abstract: Over the last ten years there has been remarkable progress in boosting quality factor (Q-factor) in micro and millimeter-scale optical resonators. Chip-based devices have attained Q factors of nearly 1 billion and micro-machined crystalline devices have provided Q factors exceeding 100 billion. The resulting long, energy-storage times combined with small form factors have made it possible to access a wide range of nonlinear phenomena, and has led to new science such as cavity

optomechanics. I will review some of these results including optical frequency microcombs, opto-mechanical cooling to the quantum ground state and mechanical amplification by stimulated emission of phonons. Prospects for new technologies will also be discussed.

Biography: **Prof. Kerry Vahala** studies nonlinear optical and opto-mechanical phenomena in ultra-high-Q optical microresonators. He has received the IEEE Sarnoff Award for his research on quantum-well laser dynamics, an Alexander von Humboldt Award for his work on ultra-high-Q optical microcavities and is a Fellow of the Optical Society of America.

10:00

Laser Spectroscopy Applied to Environmental and Medical Research



Sune Svanberg, Lund Laser Ctr., Lund Univ. (Sweden) and South China Normal Univ. (China)

Abstract: Applied laser-based diagnostic methods as developed and pursued at the Atomic Physics Division, Lund University, are illustrated. The fields of application range from environmental monitoring including cultural heritage assessment to biomedical applications. General aspects of laser-based methods are non-intrusiveness, high spectral and spatial resolution, and data production in real-time. Different applications are

frequently generically very similar irrespective of the particular context, which, however, decides the spatial and temporal scales as well as the size of the optics employed. Thus, volcanic plume mapping by lidar and optical mammography are two manifestations of the same principle, as is fluorescence imaging of a human bronchus using an endoscope and the scanning of a cathedral using a fluorescence lidar system. Recent applications include remote lidar-based monitoring of insect and bird migration, and gas monitoring in scattering media (GASMAS). The latter technique was employed as a new diagnostic tool for studying materials including ceramics, but also for diagnostics of human sinus cavities and new-born babies, as well as for assessing the integrity of food packages.

Biography: **Sune Svanberg** received his PhD in 1972 from Göteborg University, Sweden, with a thesis on Optical Resonance Spectroscopy. After a post-doc year at Columbia University, New York and initial work on atomic laser spectroscopy he continued laser-based spectroscopy in Göteborg up till 1980, when he became professor and head of the Atomic Physics Division at Lund Institute of Technology, up till 2008. In Lund a vigorous program of laser spectroscopy, including basic atomic physics and applications to energy, environmental and medical research has been pursued. Basic research includes studies of radiative properties of atoms and ions as well as super-intense laser/matter interactions (high harmonics generation, X-ray laser pumping and broadband X-ray generation). Applications include laser radar sounding of pollutants in the atmosphere and hydrosphere, laser diagnostics of combustion processes, and laser-based detection and treatment of cancer and cardio-vascular disease. In 1995 he was appointed director of the newly established Lund Laser Centre, which also gained the EC status of a European Large Scale Facility. He remained its director till 2010, and continues as Senior Professor and coordinator for the largest grant at the centre. Since 2011 he is also a part-time Distinguished professor at the South China Normal University, Guangzhou, focusing on environmental monitoring and biophotonics. Sune Svanberg has about 600 scientific papers. He received around 20 international and national awards (including 5 gold medals) in addition to 4 honorary doctor degrees, 4 honorary professorships, .and 3 fellowships of learned societies. He is a member of 6 scientific academies, including the Royal Swedish Academy of Sciences and the Royal Swedish Academy of Engineering Sciences. He was a member or chairman of more than 20 International Research Evaluation committees or Scientific Advisory committees. He served 10 years on the Nobel Committee for Physics, 2 years as its chairman.

10:30: Coffee/Tea Break



Plenary Session

Room: Convention Hall No. 1

11:00:

Scalable Quantum Information Processing with Atoms and Photons



Jian-Wei Pan, Hefei National Lab. for Physical Sciences at Microscale (China) and Univ. of Science and Technology of China (China)

Biography: **Prof. Jian-Wei Pan** is a full professor of physics at the University of Science and Technology of China and the Director of the Division of Quantum Physics and Quantum Information at Hefei National Laboratory for Physical Sciences at Microscale. He obtained his Ph.D. degree in 1999 from the University of Vienna. In 2008, he was elected as TWAS Young

Affiliates, and was enrolled in the Recruitment Program of Global Experts (also called the Thousand Talents Program) of China. In 2011, he was appointed as the Chief Scientist for the Quantum Science Satellite belonging to Chinese Academy of Sciences' Strategic Priority Research Program in Space Science. In the same year, he was elected as the youngest CAS academician.

11:30:

Quantum Dot Lasers and Relevant Nanoheterostructures



Alexey E. Zhukov, Saint-Petersburg Academic Univ. (Russia)

Abstract: Microring and microdisk structures ($d = 3-6 \mu\text{m}$) comprising $1.3 \mu\text{m}$ InAs/InGaAs quantum dots have been fabricated and studied by micro-PL and NSOM. Ground-state lasing was achieved well above room temperature (up to 380 K). Effect of inner diameter on threshold characteristics was evaluated. Spectral and power characteristics of QD stripe lasers operating in two-state lasing regime have been studied in a wide

range of operation conditions. It was demonstrated that neither self-heating nor increase of the homogeneous broadening are responsible for quenching of the ground-state lasing beyond the two-state lasing threshold. It was found that difference in electron and hole capture rates strongly affects light-current curve. Modulation p-type doping is shown to enhance the peak power of GS lasing transition.

Biography: **Alexey E. Zhukov** (Leningrad, USSR, 1968), Leningrad Electrical Engineering Institute (1992), candidate of science (Ioffe Institute, 1996), the doctor of science (Ioffe Institute, 2002), corresponding member of the Russian Academy of Sciences (2008); he is currently a pro-rector and head of lab at St. Petersburg Academic University of the RAS.



Conference 8551 · Room: 301

Monday - Wednesday 5-7 November 2012 • Proceedings of SPIE Vol. 8551

High-Power Lasers and Applications VI

Conference Chairs: **Upendra N. Singh**, NASA Langley Research Ctr. (United States); **Dianyuan Fan**, Shanghai Institute of Optics and Fine Mechanics (China); **Jianquan Yao**, Tianjin Univ. (China); **Robert F. Walter**, Schafer Corp. (United States)

Program Committee: **Willy L. Bohn**, BohnLaser Consult (Germany); **Robert L. Byer**, Stanford Univ. (United States); **ShuShen Deng**, China Daheng Group, Inc. (China); **Tomoo Fujioka**, Tokai Univ. (Japan); **Mali Gong**, Tsinghua Univ. (China); **Do-Kyeong Ko**, Gwangju Institute of Science and Technology (Korea, Republic of); **Ruxin Li**, Shanghai Institute of Optics and Fine Mechanics (China); **Zejin Liu**, National Univ. of Defense Technology (China); **DeYuan Y. Shen**, Fudan Univ. (China); **Yi Su**, Institute of Applied Electronics (China); **Shuangchun Wen**, Hunan Univ. (China); **Zuyan Xu**, Institute of Physics (China); **Tai Hyun Yoon**, Korea Univ. (Korea, Republic of); **Jirong Yu**, NASA Langley Research Ctr. (United States); **Xiaomin Zhang**, China Academy of Engineering Physics (China); **Shouhuan Zhou**, North China Research Institute of Electro-Optics (China)

Monday 5 November

Opening Ceremony and Plenary Session

Room: Convention Hall No. 1 Mon 9:00 to 12:00

9:00: **Opening Ceremony**

9:30: **New directions for microcavity physics**, Kerry J. Vahala, California Institute of Technology (United States)

10:00: **Laser spectroscopy applied to environmental and medical research**, Sune Svanberg, Lund Univ. (Sweden) and South China Normal Univ. (China)

Coffee/Tea Break Mon 10:30 to 11:00

11:00: **Scalable quantum information processing with atoms and photons**, Jianwei Pan, Univ. of Science and Technology of China (China)

11:30: **Quantum dot lasers and relevant nanoheterostructures**, Alexey E. Zhukov, Saint-Petersburg Academic Univ. (Russian Federation)

Lunch Break Mon 12:00 to 14:00

Session 1

Room: 301 Mon 14:00 to 15:00

High Power Lasers

Session Chair: **Upendra N. Singh**, NASA Langley Research Ctr. (United States)

14:00: **Theoretical and experimental investigation of Rb-Ar excimer pumped Alkali Laser characteristics**, Desheng Yue, Wenyu Li, Hongyan Wang, Zining Yang, Xiaojun Xu, National Univ. of Defense Technology (China) [8551-2]

14:20: **Gas dynamic effect in high energy fluid diode pumped alkali vapor laser**, Yao Xu, Wenyu Li, Hongyan Wang, Zining Yang, Xiaojun Xu, National Univ. of Defense Technology (China) [8551-3]

14:40: **Competition between spontaneous radiation and ionization in the process of resonance enhanced multi-photon ionization**, Guiyin Zhang, Haiping Li, Haiming Zheng, North China Electric Power Univ. (China); Hui Ji, North China Electric Power University (China) [8551-4]

Coffee/Tea Break Mon 15:00 to 15:30

Session 2

Room: 301 Mon 15:30 to 17:10

Slab Lasers I

Session Chair: **Jirong Yu**, NASA Langley Research Ctr. (United States)

15:30: **Variation of thermal lens curvature type between the convex and the concave lens for zigzag slab laser**, Xing Fu, Qiang Liu, Mali Gong, Tsinghua Univ. (China) [8551-5]

15:50: **Nonlinear imaging properties of two parallel gain-typed wirelike scatterers**, Jie Huang, Yonghua Hu, Hunan Univ. of Science and Technology (China) [8551-7]

16:10: **In-situ measurement based on prior calibration with analogist samples for laser cladding**, Jichang Liu, Hunan Univ. (China) [8551-8]

16:30: **Low threshold cholesteric liquid crystal based laser with temperature-tunable characteristics**, Yongjun Liu, Feiru Wang, Xiaoqi Liu, Harbin Engineering Univ. (China) [8551-9]

16:50: **Analysis of convective heat transfer coefficient for SG-II Prototype**, Zhiyuan Ren, Jianqiang Zhu, Zhigang Liu, Hongbiao Huang, Shanghai Institute of Optics and Fine Mechanics (China) [8551-10]

Tuesday 6 November

Session 3

Room: 301 Tue 8:20 to 10:30

Fiber Lasers

Session Chair: **Robert F. Walter**, Schafer Corp. (United States)

8:20: **Ultra-fast ytterbium fiber laser operating at low repetition rate** (*Invited Paper*), Jean-Bernard Lecourt, Simon Boivin, Yves Hernandez, Multitel A.S.B.L. (Belgium) [8551-11]

8:50: **Single mode linearly polarized high power fiber laser at 1120 nm**, Jianhua Wang, Shanghai Institute of Optics and Fine Mechanics (China) and National Univ. of Defense Technology (China); Lei Zhang, Jinmeng Hu, Yan Feng, Shanghai Institute of Optics and Fine Mechanics (China); Jinbao Chen, National Univ. of Defense Technology (China) [8551-12]

9:10: **High average/peak power all fiber pulse laser from picosecond to microsecond regime**, Xiaolin Wang, Pu Zhou, Zhiqun Gong, Hanwei Zhang, Rumao Tao, Xiaojun Xu, National Univ. of Defense Technology (China) . [8551-13]

9:30: **Yb³⁺-doped fiber laser operating at long wavelength**, Hanwei Zhang, Pu Zhou, Hu Xiao, Xiaolin Wang, Xiaojun Xu, National Univ. of Defense Technology (China) [8551-14]

9:50: **Femtosecond fiber lasers for biomedical solutions**, Jian Liu, Lihmei Yang, PolarOnyx, Inc. (United States) [8551-15]

10:10: **Properties of a double-clad erbium-doped fiber pumped by 355 nm laser system**, Junqing Zhao, Shuangchen Ruan, Shenzhen Univ. (China) [8551-16]

Coffee/Tea Break Tue 10:30 to 11:00

Session 4

Room: 301 Tue 11:00 to 12:00

Slab Lasers II

Session Chair: **Jinxue Wang**, Raytheon Co. (United States)

11:00: **Design and modeling of 10-kW level single-side-pumped slab laser amplifier chain**, Xing Fu, Qiang Liu, Mali Gong, Tsinghua Univ. (China) . [8551-17]

11:20: **LD-pumped 30 W high beam quality 1064 nm laser at a 500-Hz repetition rate**, Zhen-xu Bai, Ming-Liang Long, Gang Li, Beijing Univ. of Technology (China) [8551-18]

11:40: **Is diamond a good material for wavelength conversion at high power?**, Richard P. Mildren, Ondrej Kitzler, Aaron McKay, Hua Liu, Macquarie Univ. (Australia) [8551-20]

Lunch Break Tue 12:00 to 13:30

Session 5

Room: 301 Tue 13:30 to 14:30

Laser Applications

Session Chair: **Jianquan Yao**, Tianjin Univ. (China)

13:30: **The technologies on lidar range profile, doppler spectra and range doppler image for the target recognition**, Mingjun Wang, Xianyang Normal Univ. (China) [8551-21]

13:50: **Phase monitor in coherent beam steering system**, Dengcai Yang, Dayong Wang, Zhiyong Wang, Beijing Univ. of Technology (China) [8551-23]

14:10: **A high-power structured light vision system used for remote fast and effective obstacle detection of automated vehicle in off-road environment**, Xiao Kang, Wei Zhu, Li Tian, KeJie Li, MaoSong Zhang, Jing Jiang, Beijing Institute of Technology (China) [8551-24]

Coffee/Tea Break Tue 14:30 to 16:00

Conference 8551 · Room: 301

Poster Session

Room: Exhibition Hall 1 Tue 16:00 to 18:00

Conference attendees are invited to attend the poster session on Tuesday afternoon. Come view the posters, ask questions, and network with colleagues in your field. Authors of poster papers will be present to answer questions concerning their papers. Attendees are required to wear their conference registration badges to the poster sessions.

Poster authors, view poster presentation guidelines at <http://spie.org/x37999.xml>.

Q-switched quasi-concentric laser resonator with line-shaped end-pumping profile: power-insensitive operating point and symmetrized TEM₀₀ output, Xing Fu, Qiang Liu, Mali Gong, Tsinghua Univ. (China) [8551-6]

Modeling of distributed-side-pumped slab lasers: power scaling by adding slab units, Xing Fu, Qiang Liu, Mali Gong, Tsinghua Univ. (China) [8551-19]

The research of Adaptive Optics technology for Fourier Telescope, Changming Lu, Gao Xin, Tang Jia, Jianjun Wang, Beijing Institute of Tracking and Telecommunication Technology (China) [8551-22]

Study on laser ranging to medium-long range moving target, Zhi-Chao Wu, Xiuli Zhang, Xi'an Technological Univ. (China); Lixin Zu, Beijing Chengxin Science and Technology Ctr. (China) [8551-25]

Treatment of numerical overflow in simulating error performance of free-space optical communication, Fei Li, Anhui Institute of Optics and Fine Mechanics (China) and Univ. of Science and Technology of China (China); Zaihong Hou, Yi Wu, Anhui Institute of Optics and Fine Mechanics (China) [8551-41]

Parameters optimization of the beam clean-up system based on stochastic parallel gradient descent method, Sanhong Wang, Junfeng Cui, Taiyuan Satellite Launch Ctr. (China); Haotong Ma, Yonghui Liang, Qifeng Yu, National Univ. of Defense Technology (China) [8551-42]

Numerical analysis of thermal effects in micro-evaporator cooling module, Siqiang Fan, Peng Zhang, Yiping Liang, Teli Dai, Yu Zhang, Chongqing Normal Univ. (China) [8551-43]

High-power Q-switched Yb-doped double-cladding fiber laser, Zhenhua Yu, Yanrong Song, Beijing Univ. of Technology (China) [8551-44]

Properties of all-fiber supercontinuum generation by all-normal-dispersion dissipative soliton ytterbium fiber lasers, Li Wuyi, Jian Wu, Jintong Lin, Beijing Univ. of Posts and Telecommunications (China) [8551-45]

Oxygen partial pressure influence on the character of InGaZnO thin films grown by PLD, Lu Yi, Li Wang, Jiangbo Chen, Yulin Gan, Beijing Univ. of Technology (China) [8551-46]

Passive Q-switched Nd:YCOB laser with a single-walled carbon anotube saturable absorber, Jian Li, Yanrong Song, Zhenhua Yu, Cuicui Tian, Yanlin Li, Beijing Univ. of Technology (China); Yonggang Wang, The Hong Kong Polytechnic Univ. (Hong Kong, China) [8551-47]

The fabrication, optical properties research and application in the Q-switched Yb doped double cladding fiber laser of single-walled carbon nanotubes, Cuicui Tian, Yanrong Song, Zhenhua Yu, Jian Li, Yanlin Li, Beijing Univ. of Technology (China); Yonggang Wang, The Hong Kong Polytechnic Univ. (Hong Kong, China) [8551-48]

Temperature distribution of laser crystal in LD end-pumped Nd:YAG/LBO Blue Laser, Zhang Lei, Shijiazhuang Univ. of Economics (China) [8551-49]

Evolution of damage morphology in InSb irradiated with ultrashort laser pulses, Amit Garg, Acharya Narendra Dev College (India); Surendra K. Bansal, Univ. of Delhi (India) [8551-50]

Numerical analysis of beam quality's influence on coherent combination of multiple laser beams, Yi Tan, Xinyang Li, Institute of Optics and Electronics (China) [8551-51]

Effect of a self-injected electron bunch on the laser wakefield and electron acceleration in the bubble regime of the laser-plasma interaction, Ming-Ping Liu, Nanchang Univ. (China) [8551-52]

Narrow linewidth, wavelength stable Er/Yb co-doped fiber MOPA source operating at 1547.8nm, Hongxin Su, Xiaoming Li, Fuyun Jiao, Lijing Xu, Xu Li, Hebei Univ. (China) [8551-53]

Diode-pumped composite YVO₄/Nd:YVO₄/YVO₄ mode-locked laser with ring resonator, Guoxi Huang, Shenzhen Univ. (China) [8551-55]

Effects of passivation of nitrogen plasma on photoluminescence of GaAs substrates, Yunhua Wang, Lu Zhou, Xin Gao, Baoxue Bo, Changchun Univ. of Science and Technology (China) [8551-57]

Nano-gold colloids prepared by microwave synthesis method and Its SERS activity, Lan Wang, Fujian Normal Univ. (China) [8551-58]

STK and application in simulation of the space laser communication network, Jianing Wang, Jingyi He, Yue Yang, Changchun Univ. of Science and Technology (China) [8551-59]

Characteristic research of the waveguide by nanosecond laser pulses on LiNbO₃, Zigang Zhou, Southwest Univ. of Science and Technology (China) [8551-60]

An equivalent method to analyze the electrical effect induced by laser plasma, Yunjing Ji, Chunyong Wang, Bao-Min Bian, Nanjing Univ. of Science and Technology (China) [8551-62]

Wednesday 7 November

Session 6

Room: 301 Wed 8:40 to 10:20

Ultrafast Lasers

Session Chair: **Dianyuan Fan**, Shanghai Institute of Optics and Fine Mechanics (China)

8:40: Mode-locking characteristics of all-solid-state mode-locked laser with graphene saturable absorber, Jieyu Wang, Li Wang, Beijing Univ. of Technology (China) [8551-26]

9:00: Nonlinear graphene photonics: saturable absorption for ultra-fast laser photonics and large Kerr nonlinearity for graphene based Kerr photonics, Han Zhang, Hunan Univ. (China) [8551-27]

9:20: Experimental and simulation research of passive mode-locking fiber laser based on a single-walled carbon nanotube saturable absorber, Pan Zhu, Mei Sang, Ke Liu, Xiaolong Wang, Tianxin Yang, Tianjin Univ. (China) [8551-28]

9:40: Coherent beam combination of seven high power fiber amplifiers with an all-optical feedback loop, Houkang Liu, Bing He, Jun Zhou, Chi Liu, Liyun Hao, Shoujun Dai, Yunrong Qi, Xiaolong Chen, Shanghai Institute of Optics and Fine Mechanics (China) [8551-30]

10:00: Phase and spectrum control requirements of high intensity laser beam combining, Yanqi Gao, Shanghai Institute of Laser Plasma (China) [8551-31]

Coffee/Tea Break Wed 10:20 to 10:50

Session 7

Room: 301 Wed 10:50 to 11:50

Diode Pumped Lasers

10:50: Fiber Coupled High Power Multi-mode Diode Pump Lasers, Tao Wang, Oclaro Technology (Shenzhen) Co., Ltd (China) [8551-32]

11:10: A ridge waveguide quantum well AlGaAs/GaAs laser design, Marziyeh Nazari, Islamic Azad Univ. (Iran, Islamic Republic of); Mohammad Mahdi Oskoie Tabrizi, Sharif Univ. of Technology (Iran, Islamic Republic of) [8551-33]

11:30: Linewidth-tunable laser diode with double volume Bragg gratings for rubidium laser pumping, Zhiyong Li, Institute of Electronics (China) and Graduate Univ. of Chinese Academy of Sciences (China); Rongqing Tan, Institute of Electronics (China); Cheng Xu, Lin Li, Wei Huang, Institute of Electronics (China) and Graduate Univ. of Chinese Academy of Sciences (China) [8551-35]

Lunch Break Wed 11:50 to 13:20

Session 8

Room: 301 Wed 13:20 to 14:40

Novel Lasers

13:20: High-average-power eye-safe diamond Raman laser, Aaron M. McKay, Ondrej Kitzler, Hua Liu, David Fell, Richard P. Mildren, Macquarie Univ. (Australia) [8551-36]

13:40: Solar pumped laser with the grooved Nd: YAG , Dan Fang, Changchun Univ. of Science and Technology (China) [8551-37]

14:00: LD dual-end-pumped CW Tm:YLF laser, Xinyu Chen, Changchun Univ. of Science and Technology (China) [8551-39]

14:20: High-power single-frequency Nd:YVO₄ green laser by self-compensation of astigmatism, Yaohui Zheng, Shanxi Univ. (China) [8551-40]

Semiconductor Lasers and Applications V

Conference Chairs: **Ning Hua Zhu**, Institute of Semiconductors (China); **Jinmin Li**, Institute of Semiconductors (China); **Frank Hudson Peters**, Tyndall National Institute (Ireland); **Changyuan Yu**, National Univ. of Singapore (Singapore)

Program Committee: **Minghua Chen**, Tsinghua Univ. (China); **Xiangfei Chen**, Nanjing Univ. (China); **Nan Chi**, Fudan Univ. (China); **Brian Corbett**, Tyndall National Institute (Ireland); **Jianjun Gao**, East China Normal Univ. (China); **Xia Guo**, Beijing Univ. of Technology (China); **Jian-Jun He**, Zhejiang Univ. (China); **Sailing He**, Joint Research Ctr. of Photonics (China); **Werner H. Hofmann**, Technische Univ. Berlin (Germany); **Weisheng Hu**, Shanghai Jiao Tong Univ. (China); **Yongqing Huang**, Beijing Univ. of Posts and Telecommunications (China); **Yongzhen Huang**, Beijing Univ. of Posts and Telecommunications (China); **Shan Jiang**, Accelink Technologies Co., Ltd. (China); **Ming Li**, Univ. of Ottawa (Canada); **Xianjie Li**, China Electronics Technology Group Corp. (China); **Jianguo Liu**, Institute of Semiconductors (China); **Ning Liu**, Huawei Technologies Co., Ltd. (China); **Park Liu**, Shagrow Telecom Co., Ltd. (China); **Wen Liu**, Huazhong Univ. of Science and Technology (China); **Yong Liu**, Univ. of Electronic Science and Technology of China (China); **Yi Luo**, Tsinghua Univ. (China); **Xiaoyu Ma**, Institute of Optics and Electronics (China); **Shilong Pan**, Nanjing Univ. of Aeronautics and Astronautics (China); **Edwin Yue-Bun Pun**, City Univ. of Hong Kong (Hong Kong, China); **Hongbo Sun**, Jilin Univ. (China); **Lijun Wang**, Changchun Institute of Optics, Fine Mechanics and Physics (China); **Shawn S. Wang**, Integrated Automation Systems (United States); **Guang-Qiong Xia**, Southwest Univ. (China); **Kun Xu**, Beijing Univ. of Posts and Telecommunications (China); **Zhaowen Xu**, Institute for Infocomm Research (Singapore); **Lian Shan Yan**, Southwest Jiaotong Univ. (China); **Jinlong Yu**, Tianjin Univ. (China); **Siyuan Yu**, Univ. of Bristol (United Kingdom); **Li Zeng**, Huawei Technologies Co., Ltd. (China); **Guo-Yi Zhang**, Peking Univ. (China); **Xinliang Zhang**, Huazhong Univ. of Science and Technology (China); **Zhiping Zhou**, Peking Univ. (China); **Hongliang Zhu**, Institute of Semiconductors (China)

Monday 5 November

Opening Ceremony and Plenary Session

Room: Convention Hall No. 1 Mon 9:00 to 12:00

9:00: **Opening Ceremony**

9:30: **New directions for microcavity physics**, Kerry J. Vahala, California Institute of Technology (United States)

10:00: **Laser spectroscopy applied to environmental and medical research**, Sune Svanberg, Lund Univ. (Sweden) and South China Normal Univ. (China)

Coffee/Tea Break Mon 10:30 to 11:00

11:00: **Scalable quantum information processing with atoms and photons**, Jianwei Pan, Univ. of Science and Technology of China (China)

11:30: **Quantum dot lasers and relevant nanoheterostructures**, Alexey E. Zhukov, Saint-Petersburg Academic Univ. (Russian Federation)

Lunch Break Mon 12:00 to 14:00

Session 1

Room: 311C Mon 14:00 to 15:00

Characterization Technologies for Laser Diodes I

Session Chair: **Werner H. Hofmann**, Technische Univ. Berlin (Germany)

14:00: **Ultrafast nonlinear dynamics in semiconductor optical amplifiers for optical signal processing** (*Invited Paper*), Yong Liu, Ligong Chen, Xiu Zheng, Shangjian Zhang, Rongguo Lu, Univ. of Electronic Science and Technology of China (China) [8552-2]

14:30: **An open-path semiconductor laser transmissometer for smoke opacity measuring** (*Invited Paper*), Peng Shi, Ke Du, Institute of Urban Environment (China) [8552-4]

Coffee/Tea Break Mon 15:00 to 15:30

Session 2

Room: 311C Mon 15:30 to 17:30

Characterization Technologies for Laser Diodes II

Session Chair: **Yong Liu**, Univ. of Electronic Science and Technology of China (China)

15:30: **VCSELs for exascale computing, computer farms, and green photonics** (*Invited Paper*), Werner H. Hofmann, Philip Wolf, Technische Univ. Berlin (Germany); Wei Li, Technische Univ. Berlin (Germany) and Institute of Semiconductors (China); Philip Moser, Gunter Larisch, Technische Univ. Berlin (Germany); James A. Lott, VI Systems GmbH (Germany); Dieter Bimberg, Technische Univ. Berlin (Germany) and King Abdulaziz Univ. (Saudi Arabia) [8552-5]

16:00: **Retrieving alpha factor of semiconductor lasers from a self-mixing interference waveform** (*Invited Paper*), Yan Gao, Yanguang Yu, Jiangtao Xi, Univ. of Wollongong (Australia) [8552-6]

16:30: **High-temperature operating 795-nm VCSELs for 87Rb chip-scale atomic clock**, Yongqiang Ning, Changchun Institute of Optics, Fine Mechanics and Physics (China) [8552-7]

16:50: **Cavity optimization of 1.3 micron InAs/InGaAs quantum dot passively mode-locked lasers**, Tianhong Xu, Paolo Bardella, Ivo Montrosset, Politecnico di Torino (Italy) [8552-8]

17:10: **The characteristics of spectral in vertical-cavity surfacing-emitting lasers based on defect layer structure**, Bao Lu Guan, Beijing Univ. of Technology (China) [8552-9]

Tuesday 6 November

Session 3

Room: 311C Tue 8:00 to 10:30

Measurement, Testing, and Packaging for Semiconductor Laser Diodes

Session Chair: **Ninghua Zhu**, Institute of Semiconductors (China)

8:00: **Design and optimization of the microwave structures for multi-channel PICs' packaging using flip-chip method and LTCC substrate** (*Invited Paper*), Wei Han, Frank Hudson Peters, Tyndall National Institute (Ireland) [8552-10]

8:30: **Holding beam injection for improving self-induced polarization rotation in a semiconductor optical amplifier** (*Invited Paper*), Shangjian Zhang, Yali Zhang, Rongguo Lu, Shuang Liu, Yong Liu, Univ. of Electronic Science and Technology of China (China) [8552-11]

9:00: **Single facet slotted Fabry-Perot laser and its application in photonic integrated circuits** (*Invited Paper*), Hua Yang, Tyndall National Institute (Ireland) [8552-12]

9:30: **Opto-electronic hybrid integrated platform for high-speed applications**, Wei Han, Tyndall National Institute (Ireland) [8552-13]

9:50: **High power narrow far-field broad-stripe semiconductor lasers with second-order metal grating feedback**, Li Qin, Yongyi Chen, Peng Jia, Yongqiang Ning, Lijun Wang, Changchun Institute of Optics, Fine Mechanics and Physics (China) [8552-14]

10:10: **InGaAsP/InP DFB laser array monolithically integrated with MMI combiner and SOA**, Li Ma, Institute of Semiconductors (China) and Tsinghua Univ. (China); Hongliang Zhu, Institute of Semiconductors (China); Minghua Chen, Tsinghua Univ. (China); Can Zhang, Baojun Wang, Institute of Semiconductors (China) [8552-15]

Coffee/Tea Break Tue 10:30 to 11:00

Session 4

Room: 311C Tue 11:00 to 12:20

Applications of Semiconductor Lasers I

Session Chair: **Jianguo Liu**, Institute of Semiconductors (China)

11:00: **Time delay signatures of chaotic output in 1550nm VCSELs with variable-polarization double optical feedback** (*Invited Paper*), Ping Xiao, Zheng-Mao Wu, Jia-Gui Wu, Long Jiang, Guang-Qiong Xia, Southwest Univ. (China) [8552-16]

11:30: **Photonics-assistant spectra shaping of ultra-wideband signals for dynamic spectrum access in cognitive network** (*Invited Paper*), Jianyu Zheng, Ninghua Zhu, Lixian Wang, Jianguo Liu, Hui Wang, Yuanxin Du, Institute of Semiconductors (China) [8552-17]

12:00: **Design of laser echo data acquisition system based on USB2.0**, Fuzhou Shang, Yong Song, Qun Hao, Wenlong Zhang, He Sun, Beijing Institute of Technology (China) [8552-18]

Lunch Break Tue 12:20 to 13:40

Session 5

Room: 311C Tue 13:40 to 15:40

Applications of Semiconductor Lasers II

Session Chair: **Hua Yang**, Tyndall National Institute (Ireland)

13:40: **The modeling of comb spectrum stability in quantum dot lasers** (*Invited Paper*), Artem V. Savelyev, Mikhail V. Maximov, Alexey E. Zhukov, Saint Petersburg Academic Univ. (Russian Federation) [8552-19]

14:10: **40-Gbps random bit generation by oversampling chaos from an injected semiconductor laser** (*Invited Paper*), Xiao-Zhou Li, Sze-Chun Chan, City Univ. of Hong Kong (Hong Kong, China) [8552-20]

14:40: **Raman spectroscopy system with hollow fiber probes**, Binghong Liu, Yi-Wei Shi, Fudan Univ. (China) [8552-21]

15:00: **All-optical sampling towards high-speed optical analog-to-digital conversion**, Shangjian Zhang, Yali Zhang, Rongguo Lu, Shuang Liu, Heping Li, Yong Liu, Univ. of Electronic Science and Technology of China (China) [8552-22]

15:20: **0.5Gbits/s message bidirectional encryption and decryption based on two synchronized chaotic semiconductor lasers**, Jia-Gui Wu, Zheng-Mao Wu, Tao Deng, Xi Tang, Li Fan, Yi-Yuan Xie, Guang-Qiong Xia, Southwest Univ. (China) [8552-23]

Coffee/Tea Break Tue 15:40 to 16:00

Poster Session

Room: Exhibition Hall 1 Tue 16:00 to 18:00

Conference attendees are invited to attend the poster session on Tuesday afternoon. Come view the posters, ask questions, and network with colleagues in your field. Authors of poster papers will be present to answer questions concerning their papers. Attendees are required to wear their conference registration badges to the poster sessions.

Poster authors, view poster presentation guidelines at <http://spie.org/x37999.xml>.

The influence of sampling duty cycle fabrication error in an SBG semiconductor laser on its lasing wavelength, Yating Zhou, Changzhou Institute of Technology (China) and Nanjing Univ. (China); Weichun Li, Rui Liu, Linlin Lu, Yuechun Shi, Xiangfei Chen, Nanjing Univ. (China) [8552-24]

Thermal effects of pulsed pumping in semiconductor disk lasers, Peng Zhang, Teli Dai, Yiping Liang, Siqiang Fan, Yu Zhang, Chongqing Normal Univ. (China) [8552-25]

A multiple excitation technique for fluorescence rejection in Raman spectroscopy base on external cavity diode laser, Hongwu Zhou, Zhijian Cai, Jianhong Wu, Soochow Univ. (China) [8552-27]

Low threshold 980-nm tunable vertical-cavity surface-emitting lasers, Shi Guozhu, Baolu Guan, Beijing Univ. of Technology (China) [8552-28]

Wavelength tunable VCSELs based on voltage-dependent birefringence of liquid crystal, Wang Qiang, Baolu Guan, Beijing Univ. of Technology (China) [8552-29]

A novel four-section DBR tunable laser with dual-wavelength lasing, Liqiang Yu, Lingjuan Zhao, Dan Lu, Hongliang Zhu, Jiaqing Pan, Institute of Semiconductors (China); Yan Li, State Key Lab. of Inf. Photonics & Opt. Commun., Beijing Univ. of Posts & Telecommun. (China); Wei Wang, Institute of Semiconductors (China) [8552-31]

Numerical simulation on output performance of continuous-wave Raman silicon lasers, Hongxin Su, Lijing Xu, Xiaoming Li, Fuyun Jiao, Xu Li, Hebei Univ. (China) [8552-33]

The active spontaneous emission in EDF with small pulse pump, Wang Fu, Beijing Jiaotong Univ. (China) [8552-34]

A high power laser diode driver and collimating optical system design for laser 3-D imaging, Wenlong Zhang, Qun Hao, Yong Song, Fuzhou Shang, He Sun, Tengfei Li, Beijing Institute of Technology (China) [8552-35]

A balanced-detector optical heterodyne detection for local-oscillator excess-noise suppression, Jie Yang, Zhaohui Hu, Yuchi Zhang, BeiHang Univ. (China) [8552-36]

Speckle characteristics of a broad-area laser diode, Shengtao Zhang, North Univ. of China (China); Xuyuan Chen, Vestfold Univ. College (Norway); Pengfei Zhao, Wenhong Gao, Yunbo Shi, North Univ. of China (China) [8552-37]

Research on the performance of optical communication system based on PoISK with balance detection, Dan Liu, Zhi Liu, Puyao Wang, Xin Zhou, Changchun Univ. of Science and Technology (China) [8552-38]

Three-dimensional finite element modelling of conductive silver ink tracks thermally cured on flexible substrates by repeating irradiations of Nd:YAG laser at the wavelength of 532 nm, Liwei Fu, Shuo Shang, Eamonn Fearon, Stuart Edwardson, Geoff Dearden, Kenneth Watkins, Univ. of Liverpool (United Kingdom) [8552-39]

Adaptive optics system based on magnetic fluid spatial light modulator applied in laser communication, Xiaolong Ni, Changchun Univ. of Science and Technology (China) [8552-40]

Study on the optical antenna for laser communication network, Fu Qiang, Changchun Univ. of Science and Technology (China) [8552-41]

Performance comparison study of modulation in laser communication system, Jianhua Liu, Fu Qiang, Changchun Univ. of Science and Technology (China) [8552-42]

Conference 8553 · Room: 305C and 305D

Monday - Wednesday 5-7 November 2012 • Proceedings of SPIE Vol. 8553

Optics in Health Care and Biomedical Optics V

Conference Chairs: **Qingming Luo**, Huazhong Univ. of Science and Technology (China); **Ying Gu**, Chinese PLA General Hospital (China); **Xingde D. Li**, Johns Hopkins Univ. (United States)

Program Committee: **Jing Bai**, Tsinghua Univ. (China); **Stephen A. Boppert M.D.**, Univ. of Illinois at Urbana-Champaign (United States); **Wei R. Chen**, Univ. of Central Oklahoma (United States); **Yu Chen**, Univ. of Maryland, College Park (United States); **Linhong Deng**, Chongqing Univ. (China); **Zhihua Ding**, Zhejiang Univ. (China); **Qiyong Gong**, West China Hospital of Sichuan Univ., West China School of Medicine (China); **Hui Li**, Fujian Normal Univ. (China); **Hong Liu**, The Univ. of Oklahoma (United States); **Hui Ma**, Tsinghua Univ. (China); **Atsushi Maki**, Hitachi, Ltd. (Japan); **Yingtian Pan**, Stony Brook Univ. (United States); **Paras N. Prasad**, Univ. at Buffalo (United States); **Yuwen Qin**, National Natural Science Foundation (United States); **Qiushi Ren**, Peking Univ. (China); **Jie Tian**, Institute of Automation (China); **Valery V. Tuchin**, N.G. Chernyshevsky Saratov State Univ. (Russian Federation); **Lihong V. Wang**, Washington Univ. in St. Louis (United States); **Ruikang K. Wang**, Univ. of Washington (United States); **Xun-Bin Wei**, Shanghai Jiao Tong Univ. (China); **Xujie Xia**, Affiliated First People's Hospital, Shanghai Jiao Tong Univ. (China); **Da Xing**, South China Normal Univ. (China); **Kexin Xu**, Tianjin Univ. (China); **Yudong Zhang**, Institute of Optics and Electronics (China); **Zhenxi Zhang**, Xi'an Jiaotong Univ. (China); **Dan Zhu**, Huazhong Univ. of Science and Technology (China)

Monday 5 November

<p style="text-align: center;">Opening Ceremony and Plenary Session</p> <p>Room: Convention Hall No. 1 Mon 9:00 to 12:00</p> <p>9:00: Opening Ceremony</p> <p>9:30: New directions for microcavity physics, Kerry J. Vahala, California Institute of Technology (United States)</p> <p>10:00: Laser spectroscopy applied to environmental and medical research, Sune Svanberg, Lund Univ. (Sweden) and South China Normal Univ. (China)</p> <p>Coffee/Tea Break Mon 10:30 to 11:00</p> <p>11:00: Scalable quantum information processing with atoms and photons, Jianwei Pan, Univ. of Science and Technology of China (China)</p> <p>11:30: Quantum dot lasers and relevant nanoheterostructures, Alexey E. Zhukov, Saint-Petersburg Academic Univ. (Russian Federation)</p>
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Lunch Break Mon 12:00 to 13:30

Sessions 1-2 run concurrently with sessions 3-4

Session 1

Room: 305C Mon 13:30 to 15:30

Advanced Biomedical Optical Techniques

Session Chair: **Xingde Li**, Johns Hopkins Univ. (United States)

13:30: **Optical imaging for mouse brain connectivity** (*Invited Paper*), Qingming Luo, Britton Chance Ctr. for Biomedical Photonics (China) [8553-1]

14:00: **Imaging neurons with inertia-free beam steering of the femtosecond laser pulse** (*Invited Paper*), Shaoqun Zeng, Britton Chance Ctr. for Biomedical Photonics (China) [8553-2]

14:30: **Integrated on-chip lens applied to microfluidic chips** (*Invited Paper*), Qin Li, Yingying Zhao, Xiaoming Hu, Dongfang Yang, Beijing Institute of Technology (China) [8553-3]

15:00: **Motion compensation of optical mapping signals from beating rat heart slices** (*Invited Paper*), B. Stender, Univ. zu Lübeck (Germany); M. Brandenburger, Fraunhofer Research Institution for Marine Biotechnology EMB (Germany); B. Wang, Z. X. Zhang, Xi'an Jiaotong Univ. (China); Alexander Schlaefer, Univ. zu Lübeck (Germany) [8553-4]

Coffee/Tea Break Mon 15:30 to 16:00

Session 3

Room: 305D Mon 13:30 to 15:00

Photonic Therapeutics

Session Chair: **Ying Gu**, Chinese PLA General Hospital (China)

13:30: **Interstitial laser irradiation in photoimmunotherapy** (*Invited Paper*), Wei R. Chen, Univ. of Central Oklahoma (United States); Xiaosong Li, First Affiliated Hospital, Chinese PLA General Hospital (China); Jessica Goddard, Univ. of Central Oklahoma (United States); Roman Wolf D.V.M., Eric Howard, Univ. of Oklahoma Health Sciences Ctr. (United States) [8553-11]

14:00: **Indirect photobiomodulation in functional networks** (*Invited Paper*), Timon Cheng-Yi Liu M.D., South China Normal Univ (China); En-Xiu Wei, Xiang-Bo Yang, South China Normal Univ. (China) [8553-12]

14:30: **Blue light rescues mice from fatal pseudomonas aeruginosa burn infections: efficacy and mechanism** (*Invited Paper*), Tianhong Dai, Massachusetts General Hospital (United States) [8553-13]

Coffee/Tea Break Mon 15:00 to 15:30

Sessions 1-2 run concurrently with sessions 3-4

Session 2

Room: 305C Mon 16:00 to 18:20

Innovative Optical Imaging Methods I

Session Chair: **Valery V. Tuchin**, N.G. Chernyshevsky Saratov State Univ. (Russian Federation)

- 16:00: **Multifunctional activatable microbubbles for multimodal imaging and image-guided therapy** (*Invited Paper*), Ronald X. Xu, The Ohio State Univ. (United States) and Univ. of Science and Technology of China (China) and Chongqing Medical Univ. (China) [8553-5]
- 16:30: **Scanning optical microscope for samples introducing spatially varying aberrations into the illumination beam** (*Invited Paper*), Bosanta R. Boruah, Abhijit Das, Indian Institute of Technology Guwahati (India) [8553-6]
- 17:00: **Fluorescence holography with two spheric waves produced by a spatial light modulator**, Shaoqun Zeng, Britton Chance Ctr. for Biomedical Photonics (China); Xiaomin Lai, Huazhong Univ. of Science and Technology (China) [8553-7]
- 17:20: **Parallel localization of multiple emitters for fast localization microscopy**, Yina Wang, Wuhan National Lab. for Optoelectronics (China); Zhenli Huang, Huazhong Univ. of Science and Technology (China) [8553-8]
- 17:40: **Coherent fiber supercontinuum laser for nonlinear biomedical imaging**, Haohua Tu, Yuan Liu, Univ. of Illinois at Urbana-Champaign (United States); Xiaomin Liu, Jesper Lægsgaard, Dmitry Turchinovich, Technical Univ. of Denmark (Denmark); Stephen Boppart, Univ. of Illinois at Urbana-Champaign (United States) [8552-9]
- 18:00: **Wide field-of-view microscopy with Talbot pattern illumination**, Jigang Wu, Guangshuo Liu, Shanghai Jiao Tong Univ. (China) [8553-10]

Session 4

Room: 305D Mon 15:30 to 17:40

Photodynamic Therapy

Session Chair: **Wei R. Chen**, Univ. of Central Oklahoma (United States)

- 15:30: **Recent advances on photodynamic therapy dosimetry** (*Invited Paper*), Buhong Li, Fujian Normal Univ. (China) [8553-15]
- 16:00: **Efficacy of gallium phthalocyanine as a photosensitizing agent in photodynamic therapy for the treatment of cancer**, Kaminee Maduray, Durban Univ. of Technology (South Africa) [8553-16]
- 16:20: **Efficient photodynamic therapy against *Staphylococcus aureus* using [Ru(bpy)₂(dppn)]²⁺, a novel cationic photosensitizer**, Yucheng Wang, Nankai Univ. (China) and Chinese PLA General Hospital (China); Ying Wang M.D., Ying Gu, Chinese PLA General Hospital (China) [8553-17]
- 16:40: **Mechanistic study of apoptosis induced by low-irradiance light delivery photodynamic therapy**, You H. Zhao, Ren Jie, Ying Gu, Chinese PLA General Hospital (China) [8553-18]
- 17:00: **Water-soluble benzylidene cyclobutanone dyes for two-photon excited photodynamic therapy**, Qianli Zou, Technical Institute of Physics and Chemistry (China) and Graduate Univ. of the Chinese Academy of Sciences (China); Hongyou Zhao, Chinese PLA General Hospital (China); Yuxia Zhao, Technical Institute of Physics and Chemistry (China); Ying Wang M.D., Ying Gu, Chinese PLA General Hospital (China); Feipeng Wu, Technical Institute of Physics and Chemistry (China) [8553-19]
- 17:20: **Monitoring microcirculation flow rate changes of port wine stains after photodynamic therapy by laser speckle imaging**, Jie Ren, You H. Zhao, Ying Gu, Chinese PLA General Hospital (China) [8553-20]

Tuesday 6 November

Sessions 5-6-7 run concurrently with sessions 8-9-10

Session 5

Room: 305C Tue 8:00 to 10:00

Innovative Optical Imaging Methods II

Session Chair: **Qingming Luo**, Huazhong Univ. of Science and Technology (China)

- 8:00: **Tissue optical clearing: enhanced imaging and therapy** (*Invited Paper*), Valery V. Tuchin, N.G. Chernyshevsky Saratov State Univ. (Russian Federation) and Univ. of Oulu (Finland) and Russian Academy of Sciences (Russian Federation) [8553-21]
- 8:30: **Advances in optical clearing of tissue in vivo** (*Invited Paper*), Dan Zhu, Britton Chance Ctr. for Biomedical Photonics (China) [8553-22]
- 9:00: **Autofluorescence in single molecule fluorescence imaging**, Yanqiao Huang, Austin Tomaney, Paul Lundquist, Pacific Biosciences (United States) [8553-23]
- 9:20: **Design of an affordable fluorescence confocal laser scanning microscope for medical diagnostics**, Christin Bechtel, Technische Univ. Dresden (Germany); Jens Knobbe, Heinrich Grüger, Hubert Lakner, Fraunhofer-Institut für Photonische Mikrosysteme (Germany); Günter Huber, Univ. Hamburg (Germany) [8553-24]
- 9:40: **Multiview hyperspectral topography of tissue structural and functional characteristics**, Shiwu Zhang, Univ. of Science and Technology of China (China) and The Ohio State Univ. (United States); Peng Liu, Univ. of Science and Technology of China (China); Jiwei Huang, The Ohio State Univ. (United States); Ronald X. Xu, The Ohio State Univ. (United States) and Univ. of Science and Technology of China (China) [8553-25]
- Coffee/Tea Break Tue 10:00 to 10:30

Session 8

Room: 305D Tue 8:00 to 9:50

Photonic Diagnostics I

Session Chair: **Jianxin Chen**, Fujian Normal Univ. (China)

- 8:00: **Studying the role of macrophages in circulating prostate cancer cells by in vivo flow cytometry** (*Invited Paper*), Xunbin Wei, Shanghai Jiao Tong Univ. (China) [8553-33]
- 8:30: **Monitoring heart and respiratory rates at radial artery based on PPG**, Cheng Wang, Univ. of Shanghai for Science and Technology (China) [8553-34]
- 8:50: **Noninvasive monitoring traumatic brain injury based on an annular transducer array**, Diwu Yang, Hunan Univ. of Technology (China) [8553-35]
- 9:10: **Simulating the demyelination of a nerve fiber by action potential encoded second harmonic generation**, Hong-Pin D. Yang, Zhihui Luo, Xinguang Chen, Yimei Huang, Shusen Xie, Fujian Normal Univ. (China) [8553-36]
- 9:30: **The diagnosis of CTCL by color image enhancement technique**, Shih-Jie Dai, Hsiang-Yuan Tan, Ta-Wei Chien, National Chung Cheng Univ. (Taiwan, China); Yu-Ping Hsiao, Chung Shan Medical Univ. (Taiwan, China); Hsiang-Chen Wang, National Chung Cheng Univ. (Taiwan, China) [8553-37]
- Coffee/Tea Break Tue 9:50 to 10:20

Sessions 5-6-7 run concurrently with sessions 8-9-10
Session 6
Room: 305C **Tue 10:30 to 11:50**
Optical Coherence Tomography I

 Session Chair: **Kirill V. Larin**, Univ. of Houston (United States)

 10:30: **Recent advances in optical coherence tomography** (*Invited Paper*), Zhihua Ding, Chuan Wang, Yi Shen, Tong Wu, Liangming Huang, Lan Wu, Chixin Du, Zhejiang Univ. (China) [8553-26]

 11:00: **Intra-operative OCT devices for clinical translation** (*Invited Paper*), Yu Chen, Chia-Pin Liang, Jaydev Desai, Univ. of Maryland, College Park (United States); Cha-Min Tang M.D., Rao L. Gullapalli, Univ. of Maryland School of Medicine (United States) [8553-27]

 11:30: **Phantom testing of a novel endoscopic OCT Probe: a prelude to clinical in-vivo laryngeal Use**, Taran Tatla, Jing-Yin Pang, Northwick Park Hospital (United Kingdom); Ramona C. Cernat, George M. Dobre, Paul J. Tadrous, Adrian Bradu, Univ. of Kent (United Kingdom); Grigory V. Gelikonov, Valentin M. Gelikonov, Institute of Applied Physics (Russian Federation); Adrian Podoleanu, Univ. of Kent (United Kingdom) [8553-28]

Lunch Break Tue 11:50 to 13:50

Session 7
Room: 305C **Tue 13:50 to 15:00**
Optical Coherence Tomography II

 Session Chair: **Yu Chen**, Univ. of Maryland, College Park (United States)

 13:50: **Anatomic correlate to the hyper-reflective inner/outer segment band in retinal optical coherence tomography** (*Invited Paper*), Xincheng Yao, The Univ. of Alabama at Birmingham (United States) [8553-30]

 14:20: **Imaging of coronary arteries and respiratory airways ex vivo using micro-optical coherence tomography (μ OCT)**, Linbo Liu, Harvard Medical School (United States) and Massachusetts General Hospital (United States); Joseph A Gardecki, Brett E. Bouma, Guillermo J. Tearney, Massachusetts General Hospital (United States) [8553-31]

 14:40: **Integrating photoacoustic ophthalmoscopy with optical coherence tomography, fluorescein angiography, and autofluorescence for in vivo retinal imaging**, Wei Song, Harbin Institute of Technology (China) and Northwestern Univ. (United States); Rui Zhang, Harbin Institute of Technology (China); Hao F Zhang, Northwestern Univ. (United States); Qing Wei, Northwestern University (United States) and Northwestern Univ. (United States); Wenwu Cao, Harbin Institute of Technology (China) and The Pennsylvania State Univ. (United States) [8553-32]

Coffee/Tea Break Tue 15:00 to 16:00

Session 9
Room: 305D **Tue 10:20 to 11:50**
Photonic Diagnostics II

 Session Chair: **Xunbin Wei**, Shanghai Jiao Tong Univ. (China)

 10:20: **Identification of non-neoplastic and neoplastic gastric polyps using multiphoton microscopy** (*Invited Paper*), Jianxin Chen, Shanghai Jiang, Fujian Normal Univ. (China); Deyong Kang, Meifang Xu, Fujian Medical Univ. (China) [8553-38]

 10:50: **Collagen fiber spatial orientation mapping using polarization-sensitive SHG microscopy**, Vladimir A. Hovhannisyan, National Taiwan Univ. (Taiwan, China); Po-Sheng Hu, National Taiwan Univ (Taiwan, China); Chen-Yuan Dong, National Taiwan Univ. (Taiwan, China) [8553-39]

 11:10: **Measuring intracellular calcium dynamics of HeLa cells exposed to nitric oxide by fluorescence microplate reader**, Yimei Huang, Jiangxu Chen, Hongqin Yang, Liqin Zheng, Yuhua Wang, Hui Li, Shusen Xie, Fujian Normal Univ. (China) [8553-40]

 11:30: **Morphological and metabolic changes of cultured DRG neurons induced by adenosine using confocal microscopy[confocal laser scanning microscopy] imaging**, Liqin Zheng, Jiangxu Chen, Yuhua Wang, Yimei Huang, Hongqin Yang, Yanding Zhang, Shusen Xie, Fujian Normal Univ. (China) [8553-41]

Lunch Break Tue 11:50 to 13:20

Session 10
Room: 305D **Tue 13:20 to 15:00**
Photonic Diagnostics III

 Session Chair: **Buhong Li**, Fujian Normal Univ. (China)

 13:20: **Novel optical detection of bladder cancer cells**, Jhe-Ming Yang, Tsung-Chih Lin, Ching-Te Huang, Chun-Ping Jen, Hsiang-Chen Wang, National Chung Cheng Univ. (Taiwan, China) [8553-42]

 13:40: **Optical methods for knee osteoarthritis detection**, Yanping Chen, Chunbin Li, Xiong Ma, Xiamen Univ. (China) [8553-43]

 14:00: **Noninvasive screening for diabetes using skin fluorescence**, Yikun Wang, Anhui Institute of Optics and Fine Mechanics (China); Shandong Ye, Chengsong Ye, Anhui Medical Univ. (China); Yuanzhi Zhang, Fei Li, Anhui Institute of Optics and Fine Mechanics (China); Gong Zhang, Univ. of Manitoba (Canada); Ling Zhu, Yong Liu, Anhui Institute of Optics and Fine Mechanics (China) [8553-44]

 14:20: **Nonlinear optical imaging characteristics of colonic adenocarcinoma using multiphoton microscopy**, Nenrong Liu, Rong Chen, Jianxin Chen, Fujian Normal Univ. (China) [8553-45]

 14:40: **Molecular application of spectral photo-acoustic imaging in pancreatic cancer pathology**, Minalini Lakshman, Clinton W. Hupple, VisualSonics Inc. (Canada); Ines Lohse, Ontario Cancer Institute (Canada) and Campbell Family Cancer Research Institute (Canada); David W. Hedley, Ontario Cancer Institute (Canada) and Campbell Family Cancer Research Institute (Canada) and Univ. of Toronto (Canada); Andrew Needles, Catherine Theodoropoulos, VisualSonics Inc. (Canada) [8553-46]

Coffee/Tea Break Tue 15:00 to 16:00

Poster Session

Room: Exhibition Hall 1. Tue 16:00 to 18:00

Conference attendees are invited to attend the poster session on Tuesday afternoon. Come view the posters, ask questions, and network with colleagues in your field. Authors of poster papers will be present to answer questions concerning their papers. Attendees are required to wear their conference registration badges to the poster sessions.

Poster authors, view poster presentation guidelines at <http://spie.org/x37999.xml>.

A simulation method of polarization-sensitive optical coherence tomography based on a polarization-sensitive Monte Carlo program and a sphere cylinder birefringence model, Dongsheng Chen, Nan Zeng, Celong Liu, Hui Ma, Graduate School at Shenzhen, Tsinghua Univ. (China) [8553-63]

Temperature changes in the pulp chamber during cavity preparation with Er:YAG laser, Xianzeng Zhang, Shusen Xie, Fujian Normal Univ. (China) [8553-73]

Second harmonic generation imaging of skin wound healing and scarring in a rabbit ear model, Yiyan Tang, Affiliated First Hospital Fujian Medical Univ. (China); Xiaojin Zhu, Fujian Normal Univ. (China); Shuyuan Xiong, Fujian Medical Univ. (China); Jianxin Chen, Fujian Normal Univ. (China) [8553-79]

Study of human plasma protein fraction by combining membrane electrophoresis with surface-enhanced Raman spectroscopy, Jing Wang, Juqiang Lin, Zufang Huang, Fujian Normal Univ. (China); Yonghong Shao, Shenzhen Univ. (China); Peng Lu, Wei Shi, Jinyong Lin, Rong Chen, Fujian Normal Univ. (China) [8553-80]

Detection of recombinant membrane receptor protein expression in living transgenic HEK293 cells using Raman spectroscopy, Juqiang Lin, Jing Wang, Zufang Huang, Wei Shi, Jinyong Lin, Peng Lu, Rong Chen, Fujian Normal Univ. (China) [8553-81]

Surface-enhanced Raman spectroscopy study of radix astragali based on soxhlet extractor, Peng Lu, Juqiang Lin, Nengrong Liu, Fujian Normal Univ. (China); Yonghong Shao, Shenzhen Univ. (China); Jing Wang, Wei Shi, Jinyong Lin, Rong Chen, Fujian Normal Univ. (China) [8553-82]

Photo-induced electron transfer between dendritic zinc(II) phthalocyanine bearing carboxylic terminal groups and methyl viologen, Yuhua Wang, Jiangxu Chen, Lishan Huang, Shusen Xie, Hongqin Yang, Yiru Peng, Fujian Normal Univ. (China) [8553-83]

Cutaneous pain and threshold induced by 1.32μm laser stimulus with different pulses duration, Jiarui Wang, Zai-fu Yang, Beijing Institute of Radiation Medicine (China); Guang yuan Yu, Chinese PLA General Hospital (China) [8553-84]

Error analysis of image acquisition by moving objective lens, Hongxia Xie, Hua Chen, Guangxi Univ. (China); Yi Cai, Fengjuan Yang, Guangxi University (China) [8553-86]

Reverse propagation properties of light wave in tapered micro-nano fiber for cell endoscopy, Deshan Zhou, Jingang Zhong, Jinan Univ. (China) [8553-87]

Diiblock copolymer micelle deliver substituted aluminum phthalocyanine for enhancement intracellular photodynamic, Zhe Chen, Fujian Normal Univ. (China) [8553-88]

Polyion complex micelles incorporating poly (aryl benzyl ether) dendritic phthalocyanine: effective photosensitizers for enhanced photodynamic therapy, Kuizhi Chen, Sining Zhen, Ming Yu, Yiru Peng, Fujian Normal Univ. (China) [8553-89]

Ultra-long scan depth optical coherence tomography for imaging the anterior segment of human eye, Dexi Zhu, Meixiao Shen, Ming Li, Wenzhou Medical College (China) [8553-90]

A high-density localization of active molecules for super-resolution microscopy, Xin Liu, Qimei Liao, Gang Li, Junyan Rong, Hongbing Lu, Fourth Military Medical Univ. (China) [8553-91]

Observation of water diffusion in human skin with optical coherence tomography, Feng-Yu Chang, Chih-He Yang, Kung-Min Lin, Chang Gung Univ. (Taiwan, China); Chih-Hsun Yang M.D., Chang Gung Memorial Hospital (Taiwan, China); Yuan Ouyang, Meng-Tsan Tsai, Chang Gung Univ. (Taiwan, China) [8553-92]

Quadratic triangular element for diffuse optical tomography, Xuanxuan Zhang, Yong Deng, Jun Xu, Zhaoyang Luo, Hui Gong, Qingming Luo, Huazhong Univ. of Science and Technology (China) [8553-93]

Fractional laser microablation as an enhancer for skin optical clearing, Ekaterina A. Kolesnikova, Darya Tuchina, Elina A. Genina, Leonid E. Dolotov, Alexey N. Bashkatov, N.G. Chernyshevsky Saratov State Univ. (Russian Federation); Valery V. Tuchin, N.G. Chernyshevsky Saratov State Univ. (Russian Federation) and Institute of Precise Mechanics and Control (Russian Federation) and Univ. of Oulu (Finland) [8553-94]

Three dimensional manipulations of cells using holographic optical tweezers, Tao Tao, Jing Li, Yang Lin, Univ. of Science and Technology of China (China) [8553-95]

Photoacoustic measurement for glucose solution concentration based on tunable pulsed laser induced ultrasound, Zhong Ren, Guodong Liu, Zhen Huang, Dengji Zhao, Jiangxi Science and Technology Normal University (China) [8553-96]

Preliminary study on the estimation of epidermal melanin content using diffuse reflectance spectra, Ying Wang M.D., Chinese PLA General Hospital (China); Xiaohua Liao, Fujian Metrology Institute (China); Ying Gu, Chinese PLA General Hospital (China); Rong Chen, Fujian Normal Univ. (China) [8553-97]

Expansion of scattered phase matrix based on Zernike polynomials, Haishui Ye, Zhishan Gao, Qianwen Wang, Kexin Bao, Xiaowei Yang, Nanjing Univ. of Science and Technology (China) [8553-98]

Optical-resolution photoacoustic microscopy for imaging blood vessels in vivo, Yi Yuan, South China Normal Univ. (China) [8553-99]

Optical characters of prostate using nonlinear optical microscopy, Shulian Wu, Hui Li, Xiaoman Zhang, Fujian Normal Univ. (China) [8553-100]

Crystalline lens surgery: cutting quality and safety evaluation of femtosecond laser pulses, Jiaying Zhang M.D., Chinese PLA General Hospital (China); Rui Wang, Institute of Physics (China); Bin Chen, Hongyou Zhao, Ying Gu, Chinese PLA General Hospital (China) [8553-101]

Effect of apertures in ultrasound-modulated optical tomography with photomultiplier tube, Lili Zhu, Shubing Ran, Zhiyuan Lin, Hui Li, Fujian Normal Univ. (China) [8553-102]

The tapered-tip single fiber optical tweezers and its multi-trapping, Xiaolei Guo, Zhihai Liu, Harbin Engineering Univ. (China) [8553-103]

Retrieval of atmospheric visibility from multi-axis differential optical absorption spectroscopy, Haijin Zhou, Univ. of Science and Technology of China (China); Wenqing Liu, Fuqi Si, Anhui Institute of Optics and Fine Mechanics (China) [8553-105]

Efficient simulation of backscattered optical intensity on turbid medium with focused incident light beam, Lin Lin, Guangdong Medical College (China); Mei Zhang, Huazhu Liu, Dongguan University of Technology (China) [8553-106]

In vivo detection of hemoglobin oxygen saturation and carboxyhemoglobin saturation with photoacoustic microscopy, Zhongjiang Chen, Yang Sihua, Da Xing, South China Normal Univ. (China) [8553-107]

Photoacoustic imaging of prostate cancer using cylinder diffuse radiation, Wenming Xie, Hui Li, Li Li, Fujian Normal Univ. (China) [8553-108]

Realization of the ergonomics design and automatic control of the fundus cameras, Chilian Zeng, Zexin Xiao, Shichao Deng, Xinye Yu, Guilin Univ. of Electronic Technology (China) [8553-109]

Laser speckle contrast imaging for early acute myocardial ischemia of rat, Biyang Yu, Hui Li, Fujian Normal Univ. (China); Haiyu Chen, Fujian Medical Univ. (China); Shusen Xie, Fujian Normal Univ. (China) [8553-110]

Study the effect of temperature on optical properties of biological tissue-simulating phantom based on OCT, Youwu He, Hui Li, Fujian Normal Univ. (China) [8553-111]

Miniature interferometer for refractive index measurement in microfluidic chip, Minghui Chen, Univ. of Shanghai for Science and Technology (China); Martial H. Geiser, Frederic Truffer, Univ. of Applied Sciences Western Switzerland (Switzerland); Chengli Song, Univ. of Shanghai for Science and Technology (China) [8553-112]

Study for noninvasive determination of optical properties of bio-tissue using spatially resolved diffuse reflectance, Dongqing Peng, Fujian Normal Univ. (China) and Jimei Univ. (China); Hui Li, Fujian Normal Univ. (China) [8553-113]

Development of an in situ magnetic beads based RT-PCR method for electrochemiluminescent detection of rotavirus, Fangfang Zhan, Xiaoming Zhou, South China Normal Univ. (China) [8553-114]

ERK-dependent activation of Sp1 is required for low-power laser irradiation-induced vascular endothelial cell proliferation, Jie Feng, Da Xing, South China Normal Univ. (China) [8553-115]

Iterative reconstruction for bioluminescence tomography with total variation regularization, Wenma Jin, Peking Univ. (China); Yonghong He, Beijing Aerospace Control Ctr. (China) [8553-117]

Imaging the morphological change of tissue structure during the early phase of esophageal tumor progression using multiphoton microscopy, Jian Xu, Fujian Normal Univ. (China); Deyong Kang, Meifang Xu, Fujian Medical Univ. (China); Jianxin Chen, Fujian Normal Univ. (China) [8553-118]

Low-power laser irradiation protects mitochondrial function and inhibits MPP+ -induced neuron loss through the activation of PGC-1 α , Juan Wang, Shengnan Wu, Da Xing, South China Normal Univ. (China) [8553-119]

Amplification-free detection of miRNA via an ECL chips system, Weipeng Liu, Xiaoming Zhou, South China Normal Univ. (China) [8553-120]

Label-free and sensitive fluorescence detection of nucleic acid, based on combination of a graphene oxid /SYBR green I dye platform and polymerase assisted signal amplification, Xiao Zhu, Da Xing, Xiaoming Zhou, South China Normal Univ. (China) [8553-121]

Histopathologic change of rabbit retinal injury induced by continuous 1.319 μ m laser, Jiarui Wang, Zaifu Yang, Academy of Military Medical Sciences (China) [8553-122]

Photoacoustic spectroscopic differences between normal and malignant thyroid tissues, Li Li, Wengming Xie, Fujian Normal Univ. (China); Shuqi Chen, Fujian Medical Univ. (China); Hui Li, Fujian Normal Univ. (China). [8553-123]

Ex-vivo endoscopic laryngeal cancer imaging using two forward-looking fiber optic scanning endoscope probes, Ramona C. Cernat, Univ. of Kent (United Kingdom); Taran Tatla, Jingyin Pang, Paul J. Tadrous, Northwick Park Hospital (United Kingdom); Grigory V. Gelikonov, Valentin M. Gelikonov, Institute of Applied Physics (Russian Federation); Yuying Y. Zhang, Johns Hopkins Univ. (United States); Adrian Bradu, Univ. of Kent (United Kingdom); Xingde Li, Johns Hopkins Univ. (United States); Adrian Podoleanu, Univ. of Kent (United Kingdom) [8553-124]

Glucose and temperature sensitive luminescence ZnCdS nanoparticles, Elena K. Volkova, Vyacheslav I. Kochubey, Julia G. Konyukhova, N.G. Chernyshevsky Saratov State Univ. (Russian Federation) [8553-125]

Characterization of muscle drawing and injury by polarization-sensitive optical coherence tomography, Dongsheng Chen, Nan Zeng, Celong Liu, Hui Ma, Graduate School at Shenzhen, Tsinghua Univ (China) [8553-126]

Analysis on the characteristics of glucose solution based on Terahertz time domain spectroscopy system, Zhao-feng Jiang, Wei Liu, Capital Normal Univ. (China) [8553-127]

Wednesday 7 November

Sessions 11-12 run concurrently with sessions 15-16

Session 11

Room: 305C Wed 8:40 to 10:10

Innovative Microscopy Imaging Method

Session Chair: **Shaoqun Zeng**, Britton Chance Ctr. for Biomedical Photonics (China)

8:40: **Dynamics of two-photon two-color transitions in fluorophores excited by femtosecond laser pulses** (*Invited Paper*), Oleg S. Vasyutinskii, Peter S. Shternin, Andrey G. Smolin, Ioffe Physico-Technical Institute (Russian Federation); Karl-Heinz Gericke, Stefan Denicke, Sebastian Herbrich, Technische Univ. Braunschweig (Germany) [8553-47]

9:10: **Dual color CW STED nanoscopy with a Ti:Sapphire oscillator**, Yujia Liu, Shanghai Jiao Tong Univ. (China); Eric Alonas, Philip J. Santangelo, Georgia Institute of Technology (United States) and Emory Univ. (United States); Dayong Jin, James A. Piper, Macquarie Univ. (Australia); Qiushi Ren, Peng Xi, Peking Univ. (China) [8553-49]

9:30: **LOSOM: Phase relief imaging can be achieved with confocal system**, Tong Peng, Hao Xie, Yichen Ding, Peking Univ. (China); Weichao Wang, Shanghai Jiao Tong Univ. (China); Zhiming Li, Wenzhou Medical College (China); Dayong Jin, Macquarie Univ. (Australia); Yuanhe Tang, Xi'an Univ. of Technology (China); Qiushi Ren, Peng Xi, Peking Univ. (China) [8553-50]

9:50: **Design of control system of a real-time confocal scanning laser microscope**, Yaohuan Zhao, Peking Univ. (China); Xusan Yang, Xi'an Univ. of Technology (China); Tingting Wang, Peking Univ. (China); Haojie Li, Xi'an Univ. of Technology (China); Peng Xi, Peking Univ. (China) [8553-52]

Coffee/Tea Break Wed 10:10 to 10:40

Session 15

Room: 305D Wed 8:00 to 10:00

Spectroscopy for Biomedical Application

Session Chair: **Dan Zhu**, Huazhong Univ. of Science and Technology (China)

8:00: **Fast reconstruction of Raman spectra from narrow-band measurements based on Wiener estimation**, Shuo Chen, Yihong Ong, Quan Liu, Nanyang Technological Univ. (Singapore) [8553-67]

8:20: **Evaluation of human dentine demineralization of yellow race by Raman spectra**, Zhenlin Zhan, Fujian Normal Univ. (China); Wenqing Guo, Haishan Liu, Xianzeng Zhang, Shusen Xie, Fujian Normal Univ (China) [8553-68]

8:40: **Assessment of skin flap viability using visible diffuse reflectance spectroscopy and autofluorescence spectroscopy**, Caigang Zhu, Shuo Chen, Quan Liu, Nanyang Technological Univ. (Singapore) [8553-69]

9:00: **Characterization and differentiation normal and abnormal semen samples using micro-Raman spectroscopy**, Zufang Huang, Xiwen Chen, Yongzeng Li, Shangyuan Feng, Rong Chen, Fujian Normal Univ. (China) [8553-70]

9:20: **Brain cancer probed by native fluorescence and Stokes shift spectroscopy**, Yan Zhou M.D., The General Hospital of the Air Force, PLA (China); Cheng-Hui Liu, The City College of New York CUNY (United States); Yong He, Beijing Normal Univ. (China); Yi Sun, The City College of New York (United States); Yang Pu, The City College of New York CUNY (United States); Qingbo Li, Wei Wang, BeiHang Univ. (China); Robert R. Alfano, The City College of New York CUNY (United States) [8553-71]

9:40: **Wide bandwidth absorption/scattering spectroscopy for biomedical and industrial applications**, Dmitry Khoptyar, Lund Univ. (Sweden); Otto H. A. Nielsen, Technical Univ. of Denmark (Denmark); Arman Ahamed Subash, Lund Univ. (Sweden); Muhammad Saleem, National Institute of Lasers and Optronics (Pakistan); Stefan Andersson-Engels, Lund Univ. (Sweden) [8553-72]

Coffee/Tea Break Wed 10:00 to 10:30

Conference 8553 · Room: 305C and 305D

Sessions 11-12 run concurrently with sessions 15-16

Session 12

Room: 305CWed 10:40 to 12:00

Multimodal Imaging

Session Chair: **Qin Li**, Beijing Institute of Technology (China)

10:40: **Photo-acoustic excitation and detection of ultrasonic guided waves in bone samples covered by a soft coating layer**, Zuomin Zhao, Univ. of Oulu (Finland); Petro Moilanen, Univ. of Jyväskylä (Finland); Pasi Karppinen, Timo Karpainen, Edward Hægström, Univ. of Helsinki (Finland); Jussi Timonen, Univ. of Jyväskylä (Finland); Risto Myllylä, Univ. of Oulu (Finland) [8553-53]

11:00: **ICG-loaded microbubbles for multimodal biliary imaging in cholecystectomy**, Kinshuk Mitra, The Ohio State Univ. (United States); Shufang Chang, Chongqing Medical Univ. (China); Scott Melvin M.D., The Ohio State Univ. (United States); Ronald X. Xu, The Ohio State Univ. (United States) and Univ. of Science and Technology of China (China) [8553-54]

11:20: **Multimodal imaging of ischemic wounds**, Shiwu Zhang, Univ. of Science and Technology of China (China) and The Ohio State Univ. (United States); Surya C. Gnyawali, Jiwei Huang, The Ohio State Univ. (United States); Wenqi Ren, Univ. of Science and Technology of China (China); Gayle Gordillo M.D., Chandan Sen, The Ohio State Univ. (United States); Ronald X. Xu, The Ohio State Univ. (United States) and Univ. of Science and Technology of China (China) [8553-55]

11:40: **Microfabrication of multifunctional microcapsules for multimodal imaging and image-guided therapy**, Ting Si, Univ. of Science and Technology of China (China); Leilei Zhang, The Ohio State Univ. (United States); Guangbin Li, Univ. of Science and Technology of China (China); Ronald X. Xu, The Ohio State Univ. (United States) [8553-56]

Lunch Break Wed 12:00 to 13:30

Session 16

Room: 305DWed 10:30 to 11:30

Laser-Tissue Interaction

Session Chair: **Tianhong Dai**, Massachusetts General Hospital (United States)

10:30: **Rabbit electroretinograms evoked by 632.8nm laser flash stimuli**, Zai-Fu Yang, Bo-Lin Guan, Jiarui Wang, Beijing Institute of Radiation Medicine (China); Hongxia Chen, Chinese PLA General Hospital (China); Xiaona Zhang, Wen-Yuan Zhang, Jinggeng Yang, Beijing Institute of Radiation Medicine (China) [8553-74]

10:50: **The threshold of vapor channel formation in water induced by pulsed CO₂ laser**, Wengqing Guo, Xianzeng Zhang, Zhenlin Zhan, Shusen Xie, Fujian Normal Univ. (China) [8553-75]

11:10: **Mechanisms of interaction between very high-frequency photoacoustic waves and the skin**, Gonçalo Sá, Carlos Serpa, Luis G. Arnaut, Univ. de Coimbra (Portugal) [8553-76]

Lunch Break Wed 11:30 to 13:30

Session 13

Room: 305CWed 13:30 to 15:00

Optics Imaging Algorithms and Analysis I

Session Chair: **Xincheng Yao**, The Univ. of Alabama at Birmingham (United States)

13:30: **Electromagnetic scattering from biological tissue**, Zhisong Tong, Olga Korotkova, Univ. of Miami (United States) [8553-57]

13:50: **Optical-tracker-based 3D reconstruction for endoscopic environment**, Bo Yang, Ya Zhou, Xiaoming Hu, Qiaona Xing, Junqin Lin, Beijing Institute of Technology (China) [8553-58]

14:10: **Quantification of the scattering and absorption coefficients of two-layered tissue models with hyperspectral imaging and Monte Carlo modeling**, Kung-Bin Sung, Hsiang-Chen Pi, Hsi-Hsun Chen, Kuang-Wei Shih, Yu-Hui Su, Herbert Hsieh, National Taiwan Univ. (Taiwan, China) [8553-59]

14:30: **Photoacoustic imaging: a potential new tool for arthritis (Invited Paper)**, Xueding Wang, Univ. of Michigan Health System (United States) [8553-128]

Coffee/Tea Break Wed 15:00 to 15:30

Session 14

Room: 305CWed 15:30 to 17:20

Optics Imaging Algorithms and Analysis II

Session Chair: **Zhihua Ding**, Zhejiang Univ. (China)

15:30: **Enabling technologies towards noninvasive "optical biopsy" at subcellular and molecular level (Invited Paper)**, Xingde Li, Wenxuan Liang, Johns Hopkins Univ. (United States); Meredith Akins, The Univ. of Texas Southwestern Medical Ctr. at Dallas (United States); Jiefeng Xi, Yongping Chen, Qi Mao, Kristine Glunde, Johns Hopkins Univ. (United States); Ming-Jun Li, Corning Incorporated (United States); Katherine Luby-Phelps, Mala Mahendroo, The Univ. of Texas Southwestern Medical Ctr. at Dallas (United States); Zaver Bhujwalla, Johns Hopkins Univ. (United States) [8553-61]

16:00: **Sophisticated model of the human eye for the matching and the analysis of vision power variations between the cataract intraocular lens and corneal after refractive surgery**, Chung-Jen Ou, Hsiuping Institute of Technology (Taiwan, China); Han-Yin Sun, Chung Shan Medical Univ. (Taiwan, China) [8553-62]

16:20: **Investigating the backscattering characteristics of individual normal and cancerous cells based on experimentally determined three-dimensional refractive index distributions**, Jing-Wei Su, Wei-Chen Hsu, Chih-Chiang Chang, Kung-Bin Sung, National Taiwan Univ. (Taiwan, China) [8553-64]

16:40: **Cost-effective approaches for high-resolution bioimaging by time-stretched confocal microscopy at 1µm**, Terence T. W. Wong, Yi Qiu, Andy K. S. Lau, JingJiang Xu, Antony C. S. Chan, Kenneth K. Wong, Kevin K. Tsia, The Univ. of Hong Kong (Hong Kong, China) [8553-65]

17:00: **Hilbert transform imaging in phase object detection**, Shouyu Wang, Liang Xue, Jiancheng Lai, Yang Song, Zhenhua Li, Nanjing Univ. of Science and Technology (China) [8553-66]

Conference 8554 · Room: 302

Monday - Wednesday 5-7 November 2012 • Proceedings of SPIE Vol. 8554

Quantum and Nonlinear Optics II

Conference Chairs: **Qihuang Gong**, Peking Univ. (China); **Guang-Can Guo**, Univ. of Science and Technology of China (China); **Yuen-Ron Shen**, Univ. of California, Berkeley (United States)

Program Committee: **Yiping Cui**, Southeast Univ. (China); **Luming Duan**, California Institute of Technology (United States); **Byoung Seung Ham**, Inha Univ. (Korea, Republic of); **Osamu Hirota**, Tamagawa Univ. (Japan); **Xiaoyong Hu**, Peking Univ. (China); **Francois Kajzar**, Polytechnical Univ. of Bucharest (Romania); **Ursula Keller**, ETH Zurich (Switzerland); **Dai-Sik Kim**, Seoul National Univ. (Korea, Republic of); **Songhao Liu**, South China Normal Univ. (China); **Jianwei Pan**, Univ. of Science and Technology of China (China); **Kunchi Peng**, Shanxi Univ. (China); **Jingjun Xu**, Nankai Univ. (China); **Zuyan Xu**, Institute of Physics (China); **Toyohiko Yatagai**, Utsunomiya Univ. (Japan); **Victor N. Zadkov**, Lomonosov Moscow State Univ. (Russian Federation); **Weiping Zhang**, East China Normal Univ. (China)

Monday 5 November

Opening Ceremony and Plenary Session

Room: Convention Hall No. 1 Mon 9:00 to 12:00

9:00: **Opening Ceremony**

9:30: **New directions for microcavity physics**, Kerry J. Vahala, California Institute of Technology (United States)

10:00: **Laser spectroscopy applied to environmental and medical research**, Sune Svanberg, Lund Univ. (Sweden) and South China Normal Univ. (China)

Coffee/Tea Break Mon 10:30 to 11:00

11:00: **Scalable quantum information processing with atoms and photons**, Jianwei Pan, Univ. of Science and Technology of China (China)

11:30: **Quantum dot lasers and relevant nanoheterostructures**, Alexey E. Zhukov, Saint-Petersburg Academic Univ. (Russian Federation)

Lunch Break Mon 12:00 to 13:30

Session 1

Room: 302 Mon 13:30 to 15:00

Quantum Optics and Bose-Einstein Condensation I

Session Chair: **Qiongyi He**, Peking Univ. (China)

13:30: **Balanced-heterodyne detection of optical squeezing** (*Invited Paper*), Sheng Feng, Chenggang Shao, Huazhong Univ. of Science and Technology (China) [8554-2]

14:00: **Quantum election based on distributed scheme**, Rui-Rui Zhou, Li Yang, Institute of Information Engineering of Chinese Academy of Sciences (China) [8554-3]

14:20: **A quantum enhanced lidar with polarized photons**, Xiaofei Wang, Bing Zhu, Univ. of Science and Technology of China (China) [8554-4]

14:40: **Measurement of transition frequencies and magnetic field amplitudes via beating signals in an asymmetric procedure of light storage and retrieval**, Qianqian Bao, Bo Fang, Junyan Gao, Jilin Univ. (China) [8554-5]

Coffee/Tea Break Mon 15:00 to 15:30

Session 2

Room: 302 Mon 15:30 to 16:30

Quantum Optics and Bose-Einstein Condensation II

Session Chair: **Sheng Feng**, Huazhong Univ. of Science and Technology (China)

15:30: **Confined indirect excitons in one and two dimensional magnetic lattices: Bose-Hubbard model and beyond**, Ahmed M. Abdelrahman, Byoung Seung Ham, Inha Univ. (Korea, Republic of) [8554-6]

15:50: **Towards coherent manipulation of the ground states of single cesium atom confined in a microscopic far-off-resonance optical dipole trap**, Wenting Diao, Jun He, Bei Liu, Tiancai Zhang, Junmin Wang, Shanxi Univ. (China) [8554-7]

16:10: **Strong coupling of single cesium atoms with TEM₀₀ and TEM₁₀ modes of a high-finesse optical microcavity and applications**, Junmin Wang, Pengfei Zhang, Gang Li, Tiancai Zhang, Shanxi Univ. (China) [8554-8]

Tuesday 6 November

Session 3

Room: 302 Tue 8:30 to 10:00

Quantum Entanglement

Session Chair: **Weiping Zhang**, East China Normal Univ. (China)

8:30: **Einstein-Podolsky-Rosen entanglement and steering in two-well BEC ground states** (*Invited Paper*), Qiongyi He, Peking Univ. (China) and Swinburne Univ. of Technology (Australia); Peter D. Drummond, Swinburne Univ. of Technology (Australia); Murray Olsen, The Univ. of Queensland (Australia); Margaret Reid, Swinburne Univ. of Technology (Australia) [8554-9]

9:00: **Theory of quantum entanglement based on surface phonon polaritons in condensed matter systems**, Yang Ming, Zijian Wu, Xikui Hu, Fei Xu, Yanqing Lu, Nanjing Univ. (China) [8554-10]

9:20: **Generation of frequency de-correlated photon pairs by using photonic crystal fiber**, Liang Cui, Ningbo Zhao, Kang Gao, Xiaoying Li, Tianjin Univ. (China) [8554-11]

9:40: **Entanglement storage with self-assembled quantum dot devices**, Qin Wang, Nanjing Univ. of Posts and Telecommunications (China); Yongsheng Zhang, Univ. of Science and Technology of China (China) [8554-12]

Coffee/Tea Break Tue 10:00 to 10:30

Session 4

Room: 302 Tue 10:30 to 12:00

Quantum Information

Session Chair: **Qiongyi He**, Peking Univ. (China)

10:30: **Quantum light sources based on third-order nonlinear waveguides** (*Invited Paper*), Wei Zhang, Qiang Zhou, Yidong Huang, Jiangde Peng, Tsinghua Univ. (China) [8554-13]

11:00: **Hong-Ou-Mandel interference experiment of two independent heralded single photon sources in an optical fiber with birefringence**, Tianyi Ma, Qiang Zhou, Wei Zhang, Yidong Huang, Mingquan Lu, Zhenming Feng, Tsinghua Univ. (China) [8554-14]

11:20: **Indistinguishability and semantic security for quantum encryption scheme**, Xiang Chong, Li Yang, Institute of Information Engineering of Chinese Academy of Sciences (China) [8554-15]

11:40: **Properties of high quality heralded single photon source based on fibers at 1.5 μm** , Qiang Zhou, Wei Zhang, Yidong Huang, Jiangde Peng, Tsinghua Univ. (China) [8554-16]

Lunch Break Tue 12:00 to 13:30

Conference 8554 · Room: 302

Session 5

Room: 302 Tue 13:30 to 15:20

Nonlinear Optical Effect and Phenomena I

Session Chair: **Fang Bo**, Nankai Univ. (China)

13:30: **Feedforward control of high-power optical frequency comb** (*Invited Paper*), Heping Zeng, Ming Yan, Wenxue Li, East China Normal Univ. (China) [8554-17]

14:00: **Propagation-induced transition from slow to fast light based on coherent population oscillation in a cascaded Erbium-doped fiber structure**, Weikun Yu, Shuguang Lu, Lingling Gu, Jin Zhou, Ming Feng, Yigang Li, Nankai Univ. (China) [8554-18]

14:20: **Transverse localization of light in weakly modulated photonic lattices based on two-photon photorefractive effect**, Zhengguo Xiao, Xiudong Sun, Chunfeng Hou, Harbin Institute of Technology (China) [8554-19]

14:40: **Double-probe phase grating**, ZhiHong Xiao, Suzhou Institute of Nano-Tech and Nano-Bionics (China) [8554-20]

15:00: **Two photon absorption related femtosecond filament in methanol solution of Tb (III) complex**, MingYuan Xie, YiMin Zhu, YangYi Yang, Fuli Zhao, Sun Yat-Sen Univ. (China); Zhizhan Xu, Shanghai Institute of Optics and Fine Mechanics (China) [8554-21]

Coffee/Tea Break Tue 15:20 to 16:00

Poster Session

Room: Exhibition Hall 1 Tue 16:00 to 18:00

Conference attendees are invited to attend the poster session on Tuesday afternoon. Come view the posters, ask questions, and network with colleagues in your field. Authors of poster papers will be present to answer questions concerning their papers. Attendees are required to wear their conference registration badges to the poster sessions.

Poster authors, view poster presentation guidelines at <http://spie.org/x37999.xml>.

The new scheme to generate Airy-Bessel wave packets, Zhijun Ren, Zhejiang Normal Univ. (China) [8554-28]

Photo-ionization probability of 3+1 resonance enhanced multi-photon process, Guiyin Zhang, North China Electric Power Univ. (China); Mengjun Li, Yidong Jin, North China Electric Power Univ. (United States) [8554-42]

Conversion efficiency analysis of second harmonic generation of the novel nonlinear crystal $\text{RbBe}_2\text{BO}_3\text{F}_2$, Rui Sun, Li Wang, Chuanchen Bao, Beijing Univ. of Technology (China) [8554-43]

Properties analysis of novel nonlinear crystal: $\text{CsBe}_2\text{BO}_3\text{F}_2$ by frequency doubling, Chuanchen Bao, Li Wang, Rui Sun, Beijing Univ. of Technology (China) [8554-44]

Controlling spatiotemporal chaos of photorefractive ring oscillator with constant bias, XiaoXiao Chen, XiuQin Feng, ZhiHai Yao, Changchun Univ. of Science and Technology (China) [8554-45]

Chaotic Characteristic in the BEC system of a 1-D tilted optical superlattice potential with attractive interaction, Zhiying Zhang, Xiuqin Feng, Zhihai Yao, Zuolin Tian, Changchun Univ. of Science and Technology (China) [8554-47]

Chaos synchronization and communication in unidirectionally coupled VCSELs with fiber channel, Linfu Li, Guizhou Minzu Univ. (China); Jianjun Chen, Xinjiang Medical Univ. (China) [8554-48]

Spatial soliton tunneling in longitudinally modulated optical lattices, Qingnan Chen, Yali Qin, Hongliang Ren, Jia Li, Zhejiang Univ. of Technology (China) [8554-49]

Ghost interference with pseudo-thermal light, Yin P. Yao, Ren Gang Wan, Shi Wei Zhang, Tong-Yi Zhang, Xi'an Institute of Optics and Precision Mechanics (China) [8554-50]

The effect of pump focusing on the performance of ghost imaging with entangled resource, Ming-Yang Zheng, Lian Chen, Xin-Dong Cai, Feng Li, Ge Jin, Univ. of Science and Technology of China (China) [8554-52]

Two kinds of high-contrast optical filters for the detection of Stokes and anti-Stokes photons from cesium ensemble, Tingting Liu, Qiangbing Liang, Jun He, Tiancai Zhang, Junmin Wang, Shanxi Univ. (China) [8554-53]

Optimization of the experimental parameters of cesium CPT system, Zhi Liu, Jieying Wang, Wenting Diao, Jun He, Tiancai Zhang, Junmin Wang, Shanxi Univ. (China) [8554-54]

Study of the threshold coupling strength for mutually pumped phase conjugator, Lin Ma, Jiang Zhi Guo, Liu Ji Fang, Xidian Univ. (China) [8554-55]

Multistability of nanomechanical mirror in atom-assisted optomechanical cavity, Changbao Fu, Jilin Univ. (China) [8554-56]

All-optical switching characteristics analysis in an optimized nonlinear Bragg grating with a π phase shift, Jianjun Chen, Xinjiang Medical Univ. (China); Linfu Li, Guizhou Univ. (China); Murat Hamit, Yanting Hu, Xinjiang Medical Univ. (China) [8554-57]

High repetition rate tunable mid-infrared optical parametric oscillator based on MgO:PPLN, Yongji Yu, Xinyu Chen, Chao Wang, Chunting Wu, Guangyong Jin, Changchun Univ. of Science and Technology (China) [8554-58]

Electromagnetically induced absorption in lambda-type three-level system driven by bichromatic coupling field, Zhanfei Yan, Lijun Yang, Lijin Ma, Xiaomin Feng, Shuqing Guo, Hebei Univ. (China) [8554-59]

Cerenkov radiations in nonlinear photonic crystal and waveguide, Changdong Chen, Xiaopeng Hu, Jiong Zhou, Nanjing Univ. (China) [8554-60]

The three-photon resonant nondegenerate six-wave mixing via quantum interference, Juan Sun, Jiang Sun, Ying Wang, Hongxin Su, Jinfeng Cao, Hebei Univ. (China) [8554-61]

Probe correlation and energy gap of Bloch bands in one dimensional optical lattice by matter wave amplification, Xuguang Yue, Xiaoji Zhou, Xuzong Chen, Peking Univ. (China) [8554-62]

Manipulating the momentum state of Bose-Einstein condensate by standing wave pulses, Yueyang Zhai, Xiaoji Zhou, Xuzong Chen, Peking Univ. (China) [8554-63]

Transient behaviour of EIT and EIA in an optical-radio two-photon coupling configuration, Xiaoli Li, Zicai Yang, Hebei Univ. (China) [8554-64]

Resonant optical nonlinearity of Nb-doped silica fiber measured with LPFG interferometer, Litao Wang, Shanghai Univ. (China); Na Chen, Zhenyi Chen, Tingyun Wang, Shanghai Univ. (China) [8554-65]

Wednesday 7 November

Session 6

Room: 302 Wed 8:30 to 10:00

Nonlinear Optical Effect and Phenomena II

Session Chair: **Heping Zeng**, East China Normal Univ. (China)

8:30: **Relative delay enhancement of light pulse propagating in nonlinear medium via cavity resonance effect** (*Invited Paper*), Fang Bo, Jie Wang, Guoquan Zhang, Jingjun Xu, Nankai Univ. (China) [8554-22]

9:00: **Optical frequency comb generation through quasi-phase matched quadratic frequency conversion in a micro-ring resonator**, Zijian Wu, Nanjing Univ. (China); Yang Ming, Nanjing University (China) and Nanjing Univ. (China); Fei Xu, Yan-qing Lu, Nanjing Univ. (China) and Nanjing University (China) [8554-23]

9:20: **Soliton spectral tunneling effect in multi-cladding single mode fibers with three zero-dispersion wavelenghts**, Jungao Hu, Xianglong Zeng, Shaofei Wang, Qianwu Zhang, Tingyun Wang, Shanghai Univ. (China) [8554-24]

9:40: **The chaotic dynamics of ultra-long erbium-doped fiber ring laser**, Juan Zhang, Lingzhen Yang, Najun Xu, Xiangyuan Zhang, Taiyuan Univ. of Technology (China) [8554-25]

Coffee/Tea Break Wed 10:00 to 10:30

Session 7

Room: 302 Wed 10:30 to 11:30

Nonlinear Optical Effect and Phenomena III

Session Chair: **Wei Ding**, Institute of Physics (China)

10:30: **Study on parametric amplification effect in fiber**, Xiuping Sun, Changchun Univ. of Science and Technology (China) [8554-26]

10:50: **SPM and XPM effects on properties of chaos optical fiber fence system based on semiconductor fiber ring laser**, Chen Liu, Nian Fang, Lutang Wang, Zhaoming Huang, Shanghai Univ. (China) [8554-27]

11:10: **The self-bending and interactions of (1+1) dimension spatial solitons in photorefractive crystal**, Yali Qin, Jia Li, Hongliang Ren, Hao Wen, Zhejiang Univ. of Technology (China) [8554-29]

Lunch Break Wed 11:30 to 13:20

Session 8

Room: 302 Wed 13:20 to 15:10

Applications of Nonlinear Optics I

Session Chair: **Feng He**, Shanghai Jiao Tong Univ. (China)

13:20: **Ultrafast molecular symmetry breaking dynamics probed by coherent two-dimensional infrared spectroscopy** (*Invited Paper*), Jianping Wang, Institute of Chemistry (China) [8554-30]

13:50: **Linear and nonlinear optical properties of liquid solutions of Rhodamine B dye and Au nanoparticles**, Fereshteh Hajiesmaeilbaigi, Yasaman Golian, Asma Motamedi, Univ. of Tehran (Iran, Islamic Republic of); Eftekhari Bostandoust Nik, Sharif Univ. of Technology (Iran, Islamic Republic of) [8554-31]

14:10: **A nearly-zero ultra-flattened dispersion polarization-maintaining photonic crystal fiber for nonlinear applications**, Yani Zhang, Univ. of Glamorgan (United Kingdom); Dun Qiao, Northwest Univ. (China) [8554-32]

14:30: **Efficient generation of mid-infrared photons at 3.16 μm by coherent frequency downconversion**, E. Wu, Kun Huang, Qian Zhou, Xiaorong Gu, Haifeng Pan, Heping Zeng, East China Normal Univ. (China) [8554-33]

14:50: **Large nonlinearity enhancement of Ag/MEH-PPV nanocomposite by surface plasmon resonance at 1,550 nm**, Cuicui Lu, Xiaoyong Hu, Qihuang Gong, Peking Univ. (China) [8554-34]

Coffee/Tea Break Wed 15:10 to 15:40

Session 9

Room: 302 Wed 15:40 to 17:50

Applications of Nonlinear Optics II

Session Chair: **Jianping Wang**, Institute of Chemistry (China)

15:40: **Control of electron localization in the dissociation of H_2^+ using orthogonally polarized two-color sequential laser pulses** (*Invited Paper*), Feng He, Shanghai Jiao Tong Univ. (China) [8554-35]

16:10: **Linear and nonlinear localized modes in the width-disordered one-dimensional waveguide arrays**, Lei Xu, Yi Yin, Fang Bo, Jingjun Xu, Guoquan Zhang, Nankai Univ. (China) [8554-36]

16:30: **Evanescent coupling assisted four-wave mixing in a silicon-on-insulator directional coupler**, Wei Ding, Institute of Physics (China); Owain Staines, Gareth Hobbs, Andrey Gorbach, Charles de Nobrega, William J. Wadsworth, Jonathan C. Knight, Dmitry V. Skryabin, Univ. of Bath (United Kingdom); Michael J. Strain, Marc Sorel, Richard M. De La Rue, Univ. of Glasgow (United Kingdom) [8554-37]

16:50: **Role reversal in a Bose-condensed optomechanical system**, Keye Zhang, East China Normal Univ. (China); Pierre Meystre, College of Optical Sciences, The Univ. of Arizona (United States); Weiping Zhang, East China Normal Univ. (China) [8554-38]

17:10: **An all fiber source of pulsed twin beams in the telecom band**, Xueshi Guo, Nannan Liu, Xiaoying Li, Liang Cui, Tianjin Univ. (China) [8554-39]

17:30: **All optical format conversion from 16QAM to QPSK based on four-wave mixing in semiconductor optical amplifier**, Yueying Zhan, Min Zhang, Mingtao Liu, Xue Chen, Beijing Univ. of Posts and Telecommunications (China) [8554-40]

Optoelectronic Devices and Integration IV

Conference Chairs: **Xuping Zhang**, Nanjing Univ. (China); **Hai Ming**, Univ. of Science and Technology of China (China); **Joel M. Therrien**, Univ. of Massachusetts Lowell (United States)

Program Committee: **Dayan Ban**, Univ. of Waterloo (Canada); **Xiaoyi Bao**, Univ. of Ottawa (Canada); **Ho-Pui A. Ho**, The Chinese Univ. of Hong Kong (Hong Kong, China); **Zhong-cheng Liang**, Nanjing Univ. of Posts and Telecommunications (China); **Hai Lin**, Stanford Univ. (United States); **Xuejun Lu**, Univ. of Massachusetts Lowell (United States); **Gangding Peng**, The Univ. of New South Wales (Australia); **Yuejiang Song**, Nanjing Univ. (China); **Harish Subbaraman**, Omega Optics, Inc. (United States); **Lixin Xu**, Univ. of Science and Technology of China (China); **Guanghui Wang**, The Chinese Univ. of Hong Kong (Hong Kong, China); **Xiaoshi Zhang**, Kapteyn-Murnane Labs., Inc. (United States); **Yixin Zhang**, Nanyang Technological Univ. (Singapore)

Monday 5 November

Opening Ceremony and Plenary Session

Room: Convention Hall No. 1 Mon 9:00 to 12:00

9:00: **Opening Ceremony**

9:30: **New directions for microcavity physics**, Kerry J. Vahala, California Institute of Technology (United States)

10:00: **Laser spectroscopy applied to environmental and medical research**, Sune Svanberg, Lund Univ. (Sweden) and South China Normal Univ. (China)

Coffee/Tea Break Mon 10:30 to 11:00

11:00: **Scalable quantum information processing with atoms and photons**, Jianwei Pan, Univ. of Science and Technology of China (China)

11:30: **Quantum dot lasers and relevant nanoheterostructures**, Alexey E. Zhukov, Saint-Petersburg Academic Univ. (Russian Federation)

Lunch Break Mon 12:00 to 13:30

Session 1

Room: 303 Mon 13:30 to 15:10

Plasmonic and Nano Materials/Devices I

Session Chairs: **Xuping Zhang**, Nanjing Univ. (China); **Bikash Nakarmi**, KAIST (Korea, Republic of)

13:30: **Making the mid-infrared nano with designer plasmonic materials** (*Invited Paper*), Stephanie Law, Jonathan R. Felts, Univ. of Illinois at Urbana-Champaign (United States); Viktor A. Podolskiy, Univ. of Massachusetts Lowell (United States); William P. King, Daniel M. Wasserman, Univ. of Illinois at Urbana-Champaign (United States) [8555-1]

14:00: **Polymer based plasmonic elements investigated with leakage radiation microscopy** (*Invited Paper*), Douguo Zhang, Univ. of Science and Technology of China (China) [8555-2]

14:30: **Optical interactions between silver nanocubes and two dimensional silver gratings studied by surface enhanced Raman scattering**, Qiang Fu, Univ. of Science and Technology of China (China) [8555-3]

14:50: **Subwavelength dielectric-loaded plasmonic waveguides based on a core-shell structure**, Bing Shen, Yongqing Huang, Xiaomin Ren, Qi Wang, Xia Zhang, Xiaofeng Duan, Beijing Univ. of Posts and Telecommunications (China); Dong Zhang, Beijing Univ. of Posts and Telecommunications (China); Jinhua Hu, Beijing Univ. of Posts and Telecommunications (China) [8555-4]

Coffee/Tea Break Mon 15:10 to 15:40

Session 2

Room: 303 Mon 15:40 to 17:50

Plasmonic and Nano Materials/Devices II

Session Chairs: **Xuejun Lu**, Univ. of Massachusetts Lowell (United States); **Bikash Nakarmi**, KAIST (Korea, Republic of)

15:40: **Random optical traps enabled by metallic nano-island** (*Invited Paper*), Ho-Pui A. Ho, Zhiwen Kang, Haifei Lu, Haixi Zhang, The Chinese Univ. of Hong Kong (Hong Kong, China) [8555-5]

16:10: **Heterojunction Si-SiC photodiodes for high temperature operation**, Joel Therrien, Daniel Shmidt, Lian Dai, Univ. of Massachusetts Lowell (United States) [8555-6]

16:30: **A simple ultra-wideband dual-core SPSM PCF**, Min Liu, Li Dan, Chongqing Univ. (China) [8555-7]

16:50: **Multilayer polymeric mode filter using K - resin for optical integrated circuits**, Kailash N. Tripathi, Galgotias Univ. (India) [8555-8]

17:10: **Compact Terahertz wave broadband reflectors based on silicon photonic crystal slabs**, Xiaolong Hao, Zexuan Qiang, Zhiyong Chen, Yanmin Zheng, Junzhen Jiang, Fujian Normal Univ. (China); Xiyao Chen, Minjiang Univ. (China); Yishen Qiu, Fujian Normal Univ. (China) [8555-9]

17:30: **Absorption modulation enhancement of azo-polymer film induced by plasmonic field**, Xiang Xian Wang, Univ. of Science and Technology of China (Chile) [8555-10]

Tuesday 6 November

Session 3

Room: 303 Tue 8:30 to 10:30

Fiber and Guided-Wave Lasers/Semiconductor Devices I

Session Chairs: **Ho-Pui A. Ho**, The Chinese Univ. of Hong Kong (Hong Kong, China); **Jianwei Wu**, Chongqing Normal Univ. (China)

8:30: **Tabletop ultrafast X-ray "laser" advancing nanophotonics under unprecedented spatial and temporal resolutions** (*Invited Paper*), Xiaoshi Zhang, Kapteyn-Murnane Labs., Inc. (United States) [8555-11]

9:00: **External cavity based single mode Fabry-Pérot laser diode and its application towards all-optical digital circuits** (*Invited Paper*), Bikash Nakarmi, KAIST (Korea, Republic of) [8555-12]

9:30: **Vector beam fiber laser based on few-mode FBG**, Biao Sun, Anting Wang, Lixin Xu, Chun Gu, Hai Ming, Univ. of Science and Technology of China (China) [8555-13]

9:50: **Research on pattern-induced transparent conductive films**, Xiaohong Zhou, Zongbao Fang, Heng Zhang, Linsen Chen, Soochow Univ. (China) [8555-14]

10:10: **Emission properties of single deep confinement potential QD-cavity system under incoherent excitation**, Huan Guan, Univ. of Science and Technology of China (China) [8555-15]

Coffee/Tea Break Tue 10:30 to 11:00

Session 4

Room: 303 **Tue 11:00 to 12:00**

Fiber and Guided-Wave Lasers/Semiconductor Devices II

Session Chairs: **Jianwei Wu**, Chongqing Normal Univ. (China); **Ho-Pui A. Ho**, The Chinese Univ. of Hong Kong (Hong Kong, China)

11:00: **Opto-DMD -based tunable triple-channel-wavelength fiber laser**, Di Zhang, Binbin Yan, Kuizhi Huang, Qiang Yang, Beijing Univ. of Posts and Telecommunications (China); Xiao Chen, Minzu Univ. of China (China); Gengxiang Chen, Beijing Jiaotong Univ. (China) [8555-17]

11:20: **Tunable high power multi-wavelength double-clad fiber laser**, Jie You, Pengbo Xiao, Xin Wang, Long Huang, National Univ. of Defense Technology (China) [8555-18]

11:40: **All-optical QPSK signal regeneration based on XPM in semiconductor optical amplifier**, Yueying Zhan, Min Zhang, Mingtao Liu, Lei Liu, Xue Chen, Beijing Univ. of Posts and Telecommunications (China) [8555-19]

Lunch Break Tue 12:00 to 13:30

Session 5

Room: 303 **Tue 13:30 to 15:20**

Fiber and Guided-Wave Lasers/Semiconductor Devices III

Session Chairs: **Joel M. Therrien**, Univ. of Massachusetts Lowell (United States); **Guanghui Wang**, The Chinese Univ. of Hong Kong (Hong Kong, China)

13:30: **All-optical modulation based on side mode injection-locked multi-mode Fabry-Perot laser diode (Invited Paper)**, Jianwei Wu, Chongqing Normal Univ. (China) [8555-20]

14:00: **Comparison on the accuracy and sensitivity of hole-based solar sensor under gray scale and binary configuration**, Chung-Jen Ou, Yo Yuan Liu, Hsiuping Institute of Technology (Taiwan, China) [8555-21]

14:20: **All-optical amplitude regeneration for PDM RZ-DPSK signal using a semiconductor optical amplifier**, Yu Yu, Huazhong Univ. of Science and Technology (China); Dexiu Huang, Wuhan National Lab. for Optoelectronics (China) and Huazhong Univ. of Science and Technology (China) [8555-22]

14:40: **Two-wavelength switching in an asymmetric Fabry-Perot resonator with InGaAs/InP based multiple quantum well structure**, Lokanath Mishra, Indian Institute of Technology Kharagpur (India); Rajib Pradhan, Midnapore College (India); Prasant K. Datta, Indian Institute of Technology Kharagpur (India) [8555-23]

15:00: **Optical generation of millimeter-wave based on single-mode fiber ring cavity**, Haiyan Chen, Lilin Chen, Cong Chen, Yangtze Univ. (China) [8555-24]

Coffee/Tea Break Tue 15:20 to 16:00

Poster Session

Room: Exhibition Hall 1 **Tue 16:00 to 18:00**

Conference attendees are invited to attend the poster session on Tuesday afternoon. Come view the posters, ask questions, and network with colleagues in your field. Authors of poster papers will be present to answer questions concerning their papers. Attendees are required to wear their conference registration badges to the poster sessions.

Poster authors, view poster presentation guidelines at <http://spie.org/x37999.xml>.

Tunable erbium-doped fiber ring laser based on an all-fiber filter, Xiaochun Ji, Zhigang Cao, Benli Yu, Anhui Univ. (China) [8555-35]

Addressable wide dynamic range and high precision digital control device for adaptive liquid crystal microlenses array, Xin Chen, Huazhong Univ. of Science and Technology (China); Shengwu Kang, Wuhan Polytechnic Univ. (China); Xinyu Zhang, Huazhong Univ. of Science and Technology (China); An Ji, Institute of Semiconductors (China); Changsheng Xie, Wuhan National Lab. for Optoelectronics (China); Tianxu Zhang, Huazhong Univ. of Science and Technology (China) [8555-37]

Wide FOV receiving device for indoor visible light communication systems based on the MIMO principle, Xue Ming Liu, Nanjing Xiao Zhuang College (China) and Nanjing Univ. of Posts and Telecommunications (China); Zhong-cheng Liang, Xuying Wang, Qiuqi Ju, Nanjing Univ. of Posts and Telecommunications (China) [8555-38]

Liquid crystal microlens with tunable-focus in focal plane driven by low-voltage, Shengwu Kang, Xin Chen, Huazhong Univ. of Science and Technology (China) [8555-39]

A no adhesive and temperature-independent package for fiber Bragg grating pressure sensor, Hui Wang, Hui Wang, Jun Zhu, Hao Yin, Zhao Zhang, Benli Yu, Anhui Univ. (China) [8555-40]

Linearly-polarized Yb-doped fiber laser based on 45-degree fiber Bragg grating, Shenggui Fu, Xiaojuan Liu, Gongxiang Wei, Liping Guo, Xiaolu Ge, Shandong Univ. of Technology (China) [8555-41]

Photoemission stability of negative electron affinity GaN photocathode, Junju Zhang, Nanjing Univ. of Science and Technology (China) [8555-42]

Laser-induced damage threshold of CCD in nanosecond, picosecond, and femtosecond regimes, Junyan Hou, Beijing Track and Communication Technology Institute (China) [8555-43]

Research on the impact of extreme environment on the FBG-based tensile strain monitoring for CFRP composite structure, Hong-yue Liu, Nanjing Univ. of Aeronautics and Astronautics (China) and Southeast Univ. (China); Da-kai Liang, Nanjing Univ. of Aeronautics and Astronautics (China); Qing-guo Fei, Southeast Univ. (China) [8555-44]

Three-dimensional modeling of nematic liquid crystal micro-optics structures with complex patterned electrodes, Xing Rong, Huazhong Univ. of Science and Technology (China); Shengwu Kang, Wuhan Polytechnic Univ. (China) [8555-45]

Photoelectric response performance of nano-graphene film over infrared substrates, Jinhui Gong, Huazhong Univ. of Science and Technology (China) [8555-46]

Giant laser-induced thermoelectric voltage in c-axis inclined Na₂CoO₂ thin films, Shufang Wang, Zilong Bai, Hebei Univ. (China) [8555-47]

Drift error analysis of atomic spin gyroscope, Shuangai Wan, Jiancheng Fang, Yao Chen, BeiHang Univ. (China) [8555-48]

Coupling characteristics between fundamental mode square waveguide and fiber, Fuyuan Guo, Lianhuang Li, Hua Zheng, Yi Wang, Jinrui Ke, Tianguai Dai, Fujian Normal Univ. (China) [8555-49]

Variable doping narrow-band response GaAlAs photocathode the preparation method of the research, Yuan Xu, Nanjing Univ. of Science and Technology (China) and Nanyang Institute of Technology (China); Xinlong Chen, Jing Zhao, Bengang Chang, Nanjing Univ. of Science and Technology (China); Youtang Gao, Nanyang Institute of Technology (China) [8555-50]

Add-drop filters based on asymmetric high-order microring resonators, Dong Zhang, Yongqing Huang, Xiaomin Ren, Xiaofeng Duan, Bing Shen, Qi Wang, Xia Zhang, Shiwei Cai, Beijing Univ. of Posts and Telecommunications (China) [8555-51]

Experimental demonstration of a narrow linewidth 1120 nm Yb-doped fiber laser, Xiaojuan Liu, Shandong Univ. of Technology (China) [8555-52]

Hybrid integration of III-V RCE photodetector with CMOS receiver on silicon platform from Associated National Laboratory, Luo Yang, Yongqing Huang, Xiaofeng Duan, Xiaomin Ren, Qi Wang, Xia Zhang, Shiwei Cai, Beijing Univ. of Posts and Telecommunications (China) [8555-53]

Hermite Gaussian approximation for TE₁ mode of dielectric planar waveguide, Ziyun Wang, Lianhuang Li, Fuyuan Guo, Fujian Normal Univ. (China) [8555-54]

Analysis and design of a tunable filtering waveguide based on silicon-on-insulator, Fuquan Hu, Yongqing Huang, Xiaofeng Duan, Xu Zhang, Xinye Fan, Xiaomin Ren, Qi Wang, Xia Zhang, Shiwei Cai, Beijing Univ. of Posts and Telecommunications (China) [8555-55]

The influence of growth parameters on the formation on InAs/GaAs by MOCVD, Hui Wang, Beijing Univ. of Posts and Telecommunications (China); Qi Wang, Beijing Univ. of Posts and Telecommunications (China); Zhi-Gang Jia, Ying-Ce Yan, Yong-Qing Huang, Xiao-Min Ren, Beijing Univ. of Posts and Telecommunications (China) [8555-56]

Coplanar lumped electroabsorption modulator fabricated on the common n-type InP substrate, Can Zhang, Li Ma, Song Liang, Hongliang Zhu, Institute of Semiconductors (China) [8555-57]

A polymer-modified PbS quantum dot fiber amplifier excited by evanescent wave, Xiaolan Sun, Libin Xie, Wei Zhou, Shanghai Univ. (China) [8555-58]

A flat-top steep-edge waveguide photodetector composed of cascaded silicon microring resonators, Jinhua Hu, Yongqing Huang, Xiaofeng Duan, Xinye Fan, Fuquan Hu, Bing Shen, Luo Yang, Qi Wang, Xia Zhang, Xiaomin Ren, Beijing Univ. of Posts and Telecommunications (China) [8555-59]

The tunable demodulator of DPSK based on reflection differential delay interference, Guodong Liu, Chongqing Wu, Yaya Mao, Zhengyong Li, Beijing Jiaotong Univ. (China) [8555-60]

Design and fabrication of the Y-branch waveguide for optical printed circuit board(OPCB) interconnect, Kang Li, Shanghai Univ. (China); Fufei Pang, Xiaobei Zhang, Tingyun Wang, Shanghai Univ (China) [8555-61]

High stable single-polarization tunable fiber laser based on Opto-DMD processor and polarization-maintaining fiber devices, Huang Kuizhi, Yan Binbin, Beijing Univ. of Posts and Telecommunications (China); Xiao Chen, Genxiang Chen, Ai Qi, Minzu Univ. of China (China); Wang Kuiru, Beijing Univ. of Posts and Telecommunications (China); Yiquan Wang, Ying Zhang, Minzu Univ. of China (China); Feijun Song, China Daheng Group, Inc. (China); Sang Xinzhu, Beijing Univ. of Posts and Telecommunications (China) [8555-62]

A photonic instantaneous microwave frequency measurement without ambiguities, Nuannuan Shi, Xiyou Han, Yiyang Gu, Meng Wang, Jingjing Hu, Mingshan Zhao, Dalian Univ. of Technology (China) [8555-63]

Temperature tuning of the resonant photonic band gap of InAsP/InP Bragg-spaced quantum wells grown by MOCVD, Wei Yan, Wuhan National Lab. for Optoelectronics (China) [8555-64]

Wideband nearly-zero dispersion in fiberized slot waveguides, Qi Liu, Nanjing Univ. (China) [8555-65]

Micro-cavity lasers with highly directional emission, Changling Yan, Changchun Univ. of Science and Technology (China) [8555-66]

Long distance optical printed circuit board for 10Gbps optical interconnection, Shiqiong Chen, Fufei Pang, Kang Li, Shanghai Univ. (China); Jinhua Wu, TTM Technologies, Inc. (China); Marika P. R. Immonen, TTM Technologies, Inc. (Finland); Xiaobei Zhang, Shanghai Univ. (China); Tingyun Wang, Shanghai Univ (China) [8555-67]

Negative feedback optical amplification effect based on optical triode, Yuma Fujikawa, Mohamad Syafiq Azmi, Yoshinobu Maeda, Kinki Univ. (Japan) [8555-68]

Simulation and parameters optimization of high gain silicon micro-pixel avalanche photodiode, Fangkui Sun, Huaqi Gu, Lixue Chen, Zhiwei Wang, Harbin Institute of Technology (China) [8555-69]

Blue-green reflection-mode GaAlAs photocathodes, Xinlong Chen, Jing Zhao, Benkang Chang, Muchun Jin, Guanghui Hao, Yuan Xu, Nanjing Univ. of Science and Technology (China) [8555-70]

Beam steering based on multi-waveguide shifter, Dengcai Yang, Dayong Wang, Zhiyong Wang, Beijing Univ. of Technology (China) [8555-71]

Direct-detection WiMax orthogonal frequency division multiplexing over fiber access networks, Jing He, Hunan Univ. (China); Jinshu Su, National Univ. of Defense Technology (China); Yuan Huang, Hao Liu, Hunan Univ. (China) [8555-72]

Optimized parallel energy storage and delivery solar lighting and heating system, Junewen Chen, Chung-Hua Univ. (Taiwan, China) [8555-73]

1.65µm distributed Bragg reflective (DBR) laser for CH₄ trace-gas sensing, Bin Niu, Hongyan Yu, Liqiang Yu, Jiaoqing Pan, Lingjuan Zhao, Wei Wang, Institute of Semiconductors (China) [8555-74]

Saturable absorption in graphene at 800 nm band, Shunbin Lu, Shuqing Chen, Zhiwei Zheng, Han Zhang, Chujun Zhao, Shuangchun Wen, Hunan Univ. (China) [8555-75]

Model of a series-cascaded fractal topological structure of microring resonator arrays, Xiaobei Zhang, Yingchun Li, Fan Gu, Biyun Jin, Shanghai Univ. (China) [8555-76]

Temperature tunability of hybrid material infiltrated photonic crystal fiber, Yinping Miao, Nankai Univ. (China) [8555-77]

Selective etching of metamorphic GaAs/Si and InP/GaAs wafers, Xiong Zhen, Qi Wang, Zhigang Jia, Yingce Yan, Yongqing Huang, Xiaomin Ren, Beijing Univ. of Posts and Telecommunications (China) [8555-78]

Wednesday 7 November

Session 6

Room: 303 **Wed 8:00 to 10:10**

Devices for Photonic Applications I

Session Chairs: **Hai Ming**, Univ. of Science and Technology of China (China); **Douguo Zhang**, Univ. of Science and Technology of China (China)

8:00: **Rigorous calculation of optical modes and their interference induced power distribution in arbitrary numbered coupled slab waveguides** (*Invited Paper*), Guiru Gu, Xuejun Lu, Univ. of Massachusetts Lowell (United States) [8555-25]

8:30: **Error analysis and system implementation for structured light stereo vision 3D geometric detection in large scale condition**, Li Qi, Xuping Zhang, Jiaqi Wang, Yixin Zhang, Shun Wang, Fan Zhu, Nanjing Univ. (China) .. [8555-26]

8:50: **Thermal effects on interconnect crosstalk of optoelectronic transmitter modules**, Ikechi A. Ukaegbu, KAIST (Korea, Republic of) [8555-27]

9:10: **Monolithically integrated photodetector with flat-top and steep-edge response for wavelength division multiplexing (WDM) systems**, Yongqing Huang, Xiaofeng Duan, Xinye Fan, Xiaomin Ren, Qi Wang, Shiwei Cai, Xia Zhang, Beijing Univ. of Posts and Telecommunications (China) [8555-28]

9:30: **Polymer planar lightwave circuit based hybrid-integrated coherent receiver for advanced modulation signals**, Jin Wang, Yang Han, Zhongcheng Liang, Yongjin Chen, Nanjing Univ. of Posts and Telecommunications (China) [8555-29]

9:50: **InGaN/GaN light-emitting diode on GaN/Si template with AlN/GaN superlattice as interlayer**, Fang Ren Hu, Y. J. Wang, H. B. Zhu, Nanjing Univ. of Posts and Telecommunications (China); M. Wakui, H. Sameshima, K. Hane, Tohoku Univ. (Japan) [8555-30]

Coffee/Tea Break Wed 10:10 to 10:40

Session 7

Room: 303 **Wed 10:40 to 12:10**

Devices for Photonic Applications II

Session Chairs: **Lixin Xu**, Univ. of Science and Technology of China (China); **Yuejiang Song**, Nanjing Univ. (China)

10:40: **Surface-corrugated microfiber Bragg grating** (*Invited Paper*), Fei Xu, Jun-Long Kou, Yan-Qing Lu, Nanjing Univ. (China) [8555-31]

11:10: **Large area monolithic organic solar cells**, Hui Jin, The Univ. of Queensland (Australia) [8555-32]

11:30: **Improve the open-circuit voltage of organic photovoltaic devices with PCDTBT: PCBM heterojunction**, Weimin Li, Jinchuan Guo, Shenzhen Univ. (China) [8555-33]

11:50: **Design of planar lightwave interleavers based on echelle gratings structure**, Wenkai Liu, Baoqun Li, Xiaowei Dong, North China Univ. of Technology (China) [8555-34]

Conference 8556 · Room: 305A

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Holography, Diffractive Optics, and Applications V

Conference Chairs: **Yunlong Sheng**, Univ. Laval (Canada); **Chongxiu Yu**, Beijing Univ. of Posts and Telecommunications (China); **Linsen Chen**, Soochow Univ. (China)

Program Committee: **Chunlei Du**, Institute of Optics and Electronics (China); **Min Gu**, Swinburne Univ. of Technology (Australia); **An-zhi He**, Nanjing Univ. of Science & Technology (China); **Dahsiung Hsu**, Beijing Univ. of Posts and Telecommunications (China); **Byoung-ho Lee**, Seoul National Univ. (Korea, Republic of); **Junchang Li**, Kunming Univ. of Science and Technology (China); **Ai-Qun Liu**, Nanyang Technological Univ. (Singapore); **Dahe Liu**, Beijing Normal Univ. (China); **Hai Ming**, Univ. of Science and Technology of China (China); **Ting-Chung Poon**, Virginia Polytechnic Institute and State Univ. (United States); **Ching-Cherng Sun**, National Central Univ. (Taiwan, China); **Toyohiko Yatagai**, Utsunomiya Univ. (Japan); **Baoli Yao**, Xi'an Institute of Optics and Precision Mechanics (China); **Xiaocong Yuan**, Nankai Univ. (China); **Jianlin Zhao**, Northwestern Polytechnical Univ. (China); **Changhe Zhou**, Shanghai Institute of Optics and Fine Mechanics (China)

Monday 5 November

Opening Ceremony and Plenary Session

Room: Convention Hall No. 1 Mon 9:00 to 12:00

9:00: **Opening Ceremony**

9:30: **New directions for microcavity physics**, Kerry J. Vahala, California Institute of Technology (United States)

10:00: **Laser spectroscopy applied to environmental and medical research**, Sune Svanberg, Lund Univ. (Sweden) and South China Normal Univ. (China)

Coffee/Tea Break Mon 10:30 to 11:00

11:00: **Scalable quantum information processing with atoms and photons**, Jianwei Pan, Univ. of Science and Technology of China (China)

11:30: **Quantum dot lasers and relevant nanoheterostructures**, Alexey E. Zhukov, Saint-Petersburg Academic Univ. (Russian Federation)

Lunch Break Mon 12:00 to 13:30

Session 1

Room: 305A Mon 13:30 to 15:10

3D Display I

Session Chair: **Yunlong Sheng**, Univ. Laval (Canada)

13:30: **Transparent 3D display for augmented reality (Invited Paper)**, Byoung-ho Lee, Jisoo Hong, Seoul National Univ. (Korea, Republic of) [8556-1]

14:00: **Fourier holographic display system of three-dimensional images using phase-only spatial light modulator**, Hao Zhang, Qiaofeng Tan, Guofan Jin, Tsinghua Univ. (China) [8556-2]

14:20: **Comparative analysis on light field reconstruction characteristics of autostereoscopic three-dimensional display technologies (Invited Paper)**, Jae-Hyeung Park, Chungbuk National Univ. (Korea, Republic of) [8556-3]

14:50: **360-degree viewable volumetric 3D floating display system**, Wenping Pan, Nanjing Univ. of Aeronautics and Astronautics (China) [8556-4]

Coffee/Tea Break Mon 15:10 to 15:40

Session 2

Room: 305A Mon 15:40 to 16:50

3D Display II

Session Chair: **Chongxiu Yu**, Beijing Univ. of Posts and Telecommunications (China)

15:40: **3D LED display without glasses and viewer's responses (Invited Paper)**, Hirotsugu Yamamoto, Shiro Suyama, Univ. of Tokushima (Japan) [8556-5]

16:10: **Binocular and multi-view parallax images acquisition for three dimensional stereoscopic displays**, Hongsheng Ge, Xinzhu Sang, Tianqi Zhao, Jinhui Yuan, Junmin Leng, Beijing Univ. of Posts and Telecommunications (China); Ying Zhang, Minzu Univ. of China (China); Binbin Yan, Beijing Univ. of Posts and Telecommunications (China) [8556-6]

16:30: **Relationship between individual maximum disparity and individual comfort disparity in visual comfort of stereoscopic 3D contents**, Zaiqing Chen, Junsheng Shi, Yunnan Normal Univ. (China); Yonghang Tai, Yunnan Normal Univ. (China) [8556-8]

Session 3

Room: 305A Mon 16:50 to 17:30

Telecomm Application

Session Chair: **Chongxiu Yu**, Beijing Univ. of Posts and Telecommunications (China)

16:50: **10-Gbps RSOA-based upstream transmission in WDM-PON with MZI-based equalizers**, Ting Su, Beijing Univ. of Posts and Telecommunications (China) [8556-9]

17:10: **Performance analysis of a novel super-orthogonal modulation scheme for high speed optical OFDM system**, Qi Zhang, Xiangjun Xin, Lijia Zhang, Yongjun Wang, Chongxiu Yu, Nan Meng, Houtian Wang, Beijing Univ. of Posts and Telecommunications (China) [8556-10]

Tuesday 6 November

Session 4

Room: 305A Tue 8:00 to 10:00

Diffraction of Plasmonic Structure I

Session Chair: **Xiaocong Yuan**, Nankai Univ. (China)

8:00: **Frequency shifts of spectral lines induced by scattering of a truncated polychromatic plane wave**, Jia Li, Yali Qin, Hongliang Ren, Zhejiang Univ. of Technology (China) [8556-11]

8:20: **All-optically manipulated plasmonic microscope (Invited Paper)**, Rong Wang, Chonglei Zhang, Changjun Min, Jing Bu M.D., Hui Fang, Yong Yang, Nankai Univ. (China); Siwei Zhu, Nankai Univ. Affiliated Hospital (China); Xiaocong Yuan, Nankai Univ. (China) [8556-12]

8:50: **Impact of surface waves on the electromagnetic enhancement by a metallic nano-cavity (Invited Paper)**, Haitao Liu, Zhiwen Zeng, Nankai Univ. (China) [8556-13]

9:20: **Theory on the quasi-cylindrical wave diffracted by a sub-wavelength metallic slit and its enhancement by surface plasmon resonance**, Yann Gravel, Yunlong Sheng, Univ. Laval (Canada) [8556-14]

9:40: **Enhanced subwavelength light spot of vertically-tapered metallic aperture based on plasmonics**, Junbum Park, Kyungho Kim, Il-Min Lee, Dawoon Choi, Byoung-ho Lee, Seoul National Univ. (Korea, Republic of) [8556-15]

Coffee/Tea Break Tue 10:00 to 10:30

Session 5

Room: 305A **Tue 10:30 to 11:20**

Diffraction of Plasmonic Structure II

Session Chair: **Byoung-ho Lee**, Seoul National Univ. (Korea, Republic of)

10:30: **Tunable nano-pattern generation based on surface plasmon polaritons** (*Invited Paper*), Chinhua Wang, Soochow Univ. (China); X. Fy, Zhejiang Normal Univ. (China); Yiming Lou, Cao Bing, Soochow Univ. (China) [8556-16]

11:00: **Metallic superlens design using the long-range SPP mode cutoff technique**, Guillaume Tremblay, Jing Wang, Yunlong Sheng, Univ. Laval (Canada) [8556-17]

Session 6

Room: 305A **Tue 11:20 to 12:10**

Digital Holography I

Session Chair: **Chinhua Wang**, Soochow Univ. (China)

11:20: **Digital holographic display for a single user** (*Invited Paper*), Joonku Hahn, Kyungpook National Univ. (Korea, Republic of); Hwi Kim, Korea Univ. (Korea, Republic of) [8556-18]

11:50: **In-line phase shifting digital holography based on LCOS**, Spozmai Panezai, Dayong Wang, Jie Zhao, Yunxin Wang, Beijing Univ. of Technology (China) [8556-19]

Lunch Break Tue 12:10 to 13:40

Session 7

Room: 305A **Tue 13:40 to 15:10**

Digital Holography II

Session Chair: **Chinhua Wang**, Soochow Univ. (China)

13:40: **Common-path phase-shifting digital holographic microscopy** (*Invited Paper*), Baoli Yao, Peng Gao, Junwei Min, Xi'an Institute of Optics and Precision Mechanics (China) [8556-20]

14:10: **A JPEG based enhanced compression algorithm of digital holograms**, Hanming Yu, Zibang Zhang, Jingang Zhong, Jinan Univ. (China) [8556-21]

14:30: **Effect of phase-shift step on hologram reconstruction in Fresnel incoherent correlation holography**, Hao Chen, Yuhong Wan, Tianlong Man, Zhuqing Jiang, Dayong Wang, Shiquan Tao, Beijing Univ. of Technology (China) [8556-22]

14:50: **Detection of silver ions induced morphological changes on E. coli membrane using digital holographic microscopy**, Farzaneh Borji Monfared, Ali Mohebbi, Zanjian Univ. (Iran, Islamic Republic of); Ali-Reza Moradi, Institute for Advanced Studies in Basic Sciences (Iran, Islamic Republic of) and Optics and Photonics Research Ctr. (Iran, Islamic Republic of) [8556-24]

Coffee/Tea Break Tue 15:10 to 16:00

Poster Session

Room: Exhibition Hall 1 **Tue 16:00 to 18:00**

Conference attendees are invited to attend the poster session on Tuesday afternoon. Come view the posters, ask questions, and network with colleagues in your field. Authors of poster papers will be present to answer questions concerning their papers. Attendees are required to wear their conference registration badges to the poster sessions.

Poster authors, view poster presentation guidelines at <http://spie.org/x37999.xml>.

Numerical simulation of polarization dependent characteristics of the structured thin-films phase grating, Yiyu Li, Yuchen Wu, Haihua Feng, Jiaojie Chen, Chuan Hu, Wenzhou Medical College (China) [8556-45]

A novel iterative computation algorithm for kinoform of 3D object, Xiaoyu Jiang, Pei Chuang, Yantao Zong, Jia Wang, Academy of Armored Force Engineering (China) [8556-46]

Combination of electronic speckle pattern interferometry and digital image correlation for 3-D deformation measurement, Xinghua Chai, Naiguang Lv, Xiaoping Lou, Beijing Information Science & Technology Univ. (China) . . [8556-47]

Speckle reduction by spatial light modulator in digital holography, Puhui Meng, Dayong Wang, Shifeng Chang, Shiquan Tao, Beijing Univ. of Technology (China) [8556-49]

Iterative partial quantization method for the error reduction of low-quantized kinoforms, Shiyuan Yang, Seiichi Serikawa, Kyushu Institute of Technology (Japan) [8556-50]

Research of fabricate large scale pulse compression grating by multiple exposure, Chaoming Li, Soochow Univ. (China) [8556-51]

Defect mode in a one-dimensional photonic crystal with a dielectric-superconducting pair defect, Ji Jiang Wu, Jinxia Gao, Shandong Univ. of Technology (China) [8556-53]

Effective design of diffractive optical elements for beam splitting with SA algorithm, Hui Pang, Shaoyun Yin, Qiling Deng, Institute of Optics and Electronics (China); Yongqi Fu, Univ. of Electronic Science and Technology of China (China); Chunlei Du, Institute of Optics and Electronics (China) [8556-54]

Computer simulation and optimization design of the holographic photonic crystal template fabrication process, Ying Liu, Academy of Armored Force Engineering (China) [8556-55]

Iterative phase difference constraint method for the speckle elimination of kinoforms, Toshinori Hora, Shuan Yang, Seiichi Serikawa, Kyushu Institute of Technology (Japan) [8556-56]

Optical correlation recognition based on LCOS, Mingchuan Tang, Soochow Univ (China); Jianhong Wu, Soochow Univ. (China) [8556-58]

Design and fabrication of aluminum nanowire-grid polarizer in near-infrared broadband, Qiufeng Jin, Quan Liu, Jianhong Wu, Soochow Univ. (China) [8556-60]

3D measurement for volume holograms in Fe:Cu:LiNbO₃ crystal by dual-wavelength digital holographic microscopy, Zhirui Gao, Zhuqing Jiang, Yujia Wang, Jiangtao Wu, Yunxin Wang, Beijing Univ. of Technology (China) . [8556-61]

Improving the phase measurement by the apodization filter in the digital holography, Shifeng Chang, Dayong Wang, Yunxin Wang, Puhui Meng, Jie Zhao, Beijing Univ. of Technology (China) [8556-62]

Rectification of gridline structure in integral image using radon transform and perspective transformation, Bi-yun WANG, Yang Song, An-zhi He, Nanjing Univ. of Science and Technology (China) [8556-63]

System calibration of road rut detection by linear structured light and binocular vision, Shan Zhao, Yang Song, An-zhi He, Nanjing Univ. of Science and Technology (China) [8556-64]

Study on effects of organic solvents on proliferation of HeLa cells by digital holography, Liting Ouyang, Dayong Wang, Yunxin Wang, Yizhuo Zhang, Xinlong Wang, Beijing Univ. of Technology (China) [8556-65]

The fabrication of super-hydrophobic surface on the glass, WeiPing Liu, Changsi Peng, Soochow Univ. (China) [8556-67]

Measurement of the optical fiber refractive index profiling based on digital holography, Duocheng Wang, Sujuan Huang, Zheng Chang, Tingyun Wang, Shanghai Univ. (China) [8556-68]

Factors of influencing the value of the W in the bi-grating diffraction imaging equation, Weiping Zhang, Feng Zhu, Guangxi Univ. (China) [8556-69]

Electro-holography display using computer generated hologram of 3D objects based on projection spectra, Sujuan Huang, Duocheng Wang, Chao He, Shanghai Univ. (China) [8556-70]

Holographic two-dimensional photonic crystal of LED decorative illumination, Yidan Zheng, Fujian Normal Univ. (China) [8556-72]

Theoretical analysis of volume moiré tomography based on double orthogonal gratings for real 3D flow fields diagnosis, Nan Sun, Yang Song, Jia Wang, Zhenhua Li, Anzhi He, Nanjing Univ. of Science and Technology (China) [8556-73]

A novel 2D wavelength-time chaos code in optical CDMA system, Qi Zhang, Xiangjun Xin, Yongjun Wang, Lijia Zhang, Chongxiu Yu, Nan Meng, Houtian Wang, Beijing Univ. of Posts and Telecommunications (China) [8556-74]

Wednesday 7 November

Session 8

Room: 305AWed 8:00 to 10:30

Advanced Diffractive Elements

Session Chair: **Changhe Zhou**, Shanghai Institute of Optics and Fine Mechanics (China)

8:00: **The formation of large scale reconstructed images through the use of computer generated holograms: colorization**, Sumio Nakahara, Kyoji Matsushima, Kansai Univ. (Japan) [8556-25]

8:20: **High efficient design method of large diffractive optical elements by vectorial field analysis based on boundary element method (Invited Paper)**, Jun-ichiro Sugisaka, Toyohiko Yatagai, Utsunomiya Univ. (Japan) [8556-26]

8:50: **A parameters study of the multi-plane diffraction iterative algorithm for single-beam phase retrieval**, Yuanyuan Sun, Jinan Univ. (China); Zibang Zhang, Jinan Univ (China); Jingang Zhong, Jinan Univ. (China) [8556-27]

9:10: **Slanted volume holographic gratings design based on rigorous coupled-wave analysis (Invited Paper)**, Ting Li, Liangcai Cao, Tsinghua Univ. (China); Qingsheng He, Guofan Jin, Tsinghua Univ. (China) [8556-28]

9:40: **Fast generation of hologram from range camera images based on the sub-lines and holographic interpolation (Invited Paper)**, Peter W. M. Tsang, Wu Chao Situ, Kayton W. K. Cheung, City Univ. of Hong Kong (Hong Kong, China); Ting-Chung Poon, Virginia Polytechnic Institute and State Univ. (United States); Changhe Zhou, Shanghai Institute of Optics and Fine Mechanics (China) [8556-29]

10:10: **A new way to reconstruct the amplitude distribution of the coherent light source**, Qiankun Gao, Graduate Univ of the Chinese Academy of Sciences (China); Tuo Li, Liang Qiao, Yali Wang, Graduate Univ. of the Chinese Academy of Sciences (China); Haifei Li, Ordnance Repair Factory of Air Force (China); Yishi Shi, Graduate Univ. of the Chinese Academy of Sciences (China) [8556-30]

Coffee/Tea Break Wed 10:30 to 11:00

Session 9

Room: 305AWed 11:00 to 12:30

Nano Measurement and Fabrication

Session Chair: **Peter W.M. Tsang**, City Univ. of Hong Kong (Hong Kong, China)

11:00: **Dynamic holographic interferometry with matrix LC modulator (Invited Paper)**, Vladimir Y. Venediktov, Saint Petersburg State Electrotechnical Univ. (Russian Federation) and Saint Petersburg State Univ. (Russian Federation); Sergey A. Pulkhin, Saint-Petersburg State Univ. (Russian Federation) . . . [8556-31]

11:30: **Research on fabrication for nanostructures on the surface of GaN**, Heng Zhang, Xiaohong Zhou, Zongbao Fang, Soochow Univ. (China) . . [8556-32]

11:50: **3D measurement system with two detecting channels using structured light**, Shengbin Wei, Changhe Zhou, Shaoqing Wang, Shanghai Institute of Optics and Fine Mechanics (China) [8556-33]

12:10: **The influence of squeezing ratio on the birefringence characteristics of photonic crystal fibers**, Peng Song, Univ. of Jinan (China) [8556-34]

Lunch Break Wed 12:30 to 14:00

Session 10

Room: 305AWed 14:00 to 15:30

Applications

Session Chair: **Baoli Yao**, Xi'an Institute of Optics and Precision Mechanics (China)

14:00: **Three dimensional optical techniques using Dammann gratings (Invited Paper)**, Changhe Zhou, Shanghai Institute of Optics and Fine Mechanics (China) [8556-35]

14:30: **Beam splitters of metal-dielectric reflective grating**, Anduo Hu, Changhe Zhou, Hongchao Cao, Jun Wu, Jia Wei, Shanghai Institute of Optics and Fine Mechanics (China) [8556-36]

14:50: **The focusing property of the VLS grating with different types of beams**, Chunzhi Wang, Weiping Zhang, Yanchun Gao, Guangxi Univ. (China) [8556-37]

15:10: **Absorption enhancement in thin-film solar cell using grating structure**, Jun Wu, Changhe Zhou, Hongchao Cao, Anduo Hu, Jia Wei, Shanghai Institute of Optics and Fine Mechanics (China) [8556-38]

Coffee/Tea Break Wed 15:30 to 16:00

Session 11

Room: 305AWed 16:00 to 18:00

Devices and Fabrication

Session Chair: **Dayong Wang**, Beijing Univ. of Technology (China)

16:00: **Low-coherence holography with two-spherical waves**, Shaoqun Zeng, Britton Chance Ctr. for Biomedical Photonics (China) [8556-39]

16:20: **Calibration and pre-compensation of direct laser writing system**, Feng Zhu, Changhe Zhou, Jianyong Ma, Shanghai Institute of Optics and Fine Mechanics (China) [8556-40]

16:40: **Quantitative evaluation of spatial phase light modulator characteristics in Fresnel incoherent correlation holography**, Man Tian Long, Yuhong Wan, Hao Chen, Zhuqing Jiang, Dayong Wang, Shiquan Tao, Beijing Univ. of Technology (China) [8556-41]

17:00: **An optically addressed liquid crystal light valve with high transmittance**, Dajie Huang, Wei Fan, Xuechun Li, Zunqi Lin, Shanghai Institute of Optics and Fine Mechanics (China) [8556-42]

17:20: **Tunable photonic structures from polymer-liquid crystal composites**, Irena Drevensek-Olenik, Univ. of Ljubljana (Slovenia) [8556-43]

17:40: **Laser beam scanning using binary diffraction holograms**, Bosanta R. Boruah, Abhijit Das, Indian Institute of Technology Guwahati (India) . . . [8556-44]

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Optical Design and Testing V

Conference Chairs: **Yongtian Wang**, Beijing Institute of Technology (China); **Chunlei Du**, Institute of Optics and Electronics (China); **Hong Hua**, College of Optical Sciences, The Univ. of Arizona (United States); **Kimio Tatsuno**, Hitachi, Ltd. (Japan); **H. Paul Urbach**, Technische Univ. Delft (Netherlands)

Program Committee: **Jian Bai**, Zhejiang Univ. (China); **Pablo Benítez**, Univ. Politécnica de Madrid (Spain); **Toshihide Dohi**, OptiWorks, Inc. (Japan); **Qun Hao**, Beijing Institute of Technology (China); **Kyung-Hee Hong**, Korea Research Institute of Standards and Science (Korea, Republic of); **Tsuyoshi Konishi**, Osaka Univ. (Japan); **Yanqiu Li**, Beijing Institute of Technology (China); **Irina L. Livshits**, National Research Univ. of Information Technologies, Mechanics and Optics (Russian Federation); **Sung Chan Park**, Dankook Univ. (Korea, Republic of); **Xiang Peng**, Shenzhen Univ. (China); **Jannick P. Rolland**, Univ. of Rochester (United States); **Keiji Sasaki**, Hokkaido Univ. (Japan); **José Sasián**, College of Optical Sciences, The Univ. of Arizona (United States); **Han Sen**, Soochow Univ. (China); **Han-Ping David Shieh**, National Chiao Tung Univ. (Taiwan, China); **Qiaofeng Tan**, Tsinghua Univ. (China); **Kevin P. Rolland-Thompson**, Synopsys, Inc. (United States); **Sandy To**, The Hong Kong Polytechnic Univ. (Hong Kong, China); **Theo Tschudi**, Technische Univ. Darmstadt (Germany); **Wilhelm Ulrich**, Carl Zeiss AG (Germany)

Monday 5 November

Opening Ceremony and Plenary Session

Room: Convention Hall No. 1 Mon 9:00 to 12:00

9:00: **Opening Ceremony**

9:30: **New directions for microcavity physics**, Kerry J. Vahala, California Institute of Technology (United States)

10:00: **Laser spectroscopy applied to environmental and medical research**, Sune Svanberg, Lund Univ. (Sweden) and South China Normal Univ. (China)

Coffee/Tea Break Mon 10:30 to 11:00

11:00: **Scalable quantum information processing with atoms and photons**, Jianwei Pan, Univ. of Science and Technology of China (China)

11:30: **Quantum dot lasers and relevant nanoheterostructures**, Alexey E. Zhukov, Saint-Petersburg Academic Univ. (Russian Federation)

Lunch Break Mon 12:00 to 13:30

Session 1

Room: 308 Mon 13:30 to 15:00

Liquid Optics and Micro-Optics

Session Chair: **Chunlei Du**, Chongqing Institute of Green and Intelligent Technology (China)

13:30: **Developing interface localized liquid dielectrophoresis for optical applications** (*Invited Paper*), Glen McHale, Northumbria Univ. (United Kingdom); Carl V. Brown, Michael I. Newton, Gary G. Wells, Naresh Sampara, Nottingham Trent Univ. (United Kingdom) [8557-1]

14:00: **Wafer-level micro-optics: trends in manufacturing, testing, packaging and applications**, Reinhard Voelkel, Li Gong, Jürgen Rieck, Dayu Zheng, SUSS MicroOptics SA (Switzerland) [8557-2]

14:20: **Optical modulation of polarization state based on an etched single mode fiber with azo-polymer overlay**, Weiwei Qiu, Xijie Tian, Qijin Zhang, Bing Zhu, Univ. of Science and Technology of China (China) [8557-3]

14:40: **Fabrication method of artificial compound eye**, Lifang Shi, Axiu Cao, Yan Liu, Institute of Optics and Electronics (China); Yutang Ye, Univ. of Electronic Science and Technology of China (China); Qiling Deng, Institute of Optics and Electronics (China); Chunlei Du, Chongqing Institute of Green and Intelligent Technology (China) [8557-77]

Coffee/Tea Break Mon 15:00 to 15:30

Session 2

Room: 308 Mon 15:30 to 17:30

New Testing Technologies

Session Chair: **Glen McHale**, Northumbria Univ. (United Kingdom)

15:30: **Aberration retrieval using through focus intensity measurements** (*Invited Paper*), Sylvania F. Pereira, Technische Univ. Delft (Netherlands) [8557-5]

16:00: **Test of diffractive optical element for DUV lithography system using visible laser**, Zhonghua Hu, Jing Zhu, Baoxi Yang, Yanfen Xiao, Aijun Zeng, Huijie Huang, Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences (China) [8557-8]

16:20: **Wave-front aberrations analysis by Zernike polynomials based on the annular sub-aperture stitching system**, Lei Duan, Mei Hui, Cheng Gong, Yuejin Zhao, Beijing Institute of Technology (China) [8557-9]

16:40: **High speed zonal wavefront sensing**, Bosanta R. Boruah, Indian Institute of Technology Guwahati (India); Biswajit Pathak, Abhijit Das, IIT Guwahati (India) [8557-7]

17:00: **Aspheric optics testing with the SCOTS: a reflection deflectometry approach** (*Invited Paper*), Peng Su, James H. Burge, College of Optical Sciences, The Univ. of Arizona (United States) [8557-6]

Tuesday 6 November

Session 3

Room: 308 Tue 8:30 to 10:40

Holographic 3D Display and 3D Modeling

Session Chair: **Juan Liu**, Beijing Institute of Technology (China)

8:30: **Recent progress on digital holography for 3D display** (*Invited Paper*), Hiroshi Yoshikawa, Takeshi Yamaguchi, Nihon Univ. (Japan) [8557-11]

9:00: **Three-dimensional display based on phase modulation** (*Invited Paper*), Osamu Matoba, Kobe Univ. (Japan) [8557-12]

9:30: **Parallel phase-shifting digital holography system using a high-speed camera** (*Invited Paper*), Yasuhiro Awatsuji, Takashi Kakue, Tatsuki Tahara, Peng Xia, Kenzo Nishio, Shogo Ura, Toshihiro Kubota, Kyoto Institute of Technology (Japan); Osamu Matoba, Kobe Univ. (Japan) [8557-13]

10:00: **Digitization and visualization of virtual cultural heritage**, Ameng Li, Xiang Peng, Dong He, Hailong Chen, Xiaoli Liu, Shenzhen Univ. (China); Qingping Zhao, Aimin Hao, BeiHang Univ. (China); Xinghua Qu, Tianjin Univ. (China); Kaibing Xiang, ESUN Co., Ltd. (China) [8557-14]

10:20: **Basic problems in 3D real-time holographic display**, Juan Liu, Jia Jia, Beijing Institute of Technology (China) [8557-15]

Coffee/Tea Break Tue 10:40 to 11:10

Session 4

Room: 308 **Tue 11:10 to 12:20**

Laser Beam Propagation

Session Chair: **Silvania F. Pereira**, Technische Univ. Delft (Netherlands)

11:10: **Super-resolving spots for high momentum transfer sub-wavelength scatterometry and imaging** (*Invited Paper*), H. Paul Urbach, Technische Univ. Delft (Netherlands) [8557-16]

11:40: **The behavior of branch points in laser propagation through atmosphere**, Xiaolu Ge, Anhui Institute of Optics and Fine Mechanics, Chinese Acad (China) and Shandong Univ. of Technology (China); Chengyu Fan, Xiaoxing Feng, Anhui Institute of Optics and Fine Mechanics (China); Chengfeng Li, Xiaojuan Liu, Liping Guo, Gongxiang Wei, Shandong Univ. of Technology (China) [8557-17]

12:00: **Implementation of controlling the divergence angle utilizing liquid crystal optical phased array**, Feng Xiao, Lingjiang Kong, Univ. of Electronic Science and Technology of China (China) [8557-18]

Lunch Break Tue 12:20 to 13:30

Session 5

Room: 308 **Tue 13:30 to 15:30**

Analysis and Simulation Methods

Session Chair: **Yongtian Wang**, Beijing Institute of Technology (China)

13:30: **New approach to cost-based tolerancing** (*Invited Paper*), Akira Yabe, Independent Consultant (Germany) [8557-19]

14:00: **Thermal control design of a multi-channel scanning imagery radiometer** (*Invited Paper*), Jiang Shichen, Bingting Hu, Xu Tao, Shanghai Institute of Satellite Engineering (China); Ganquan Wang, Shanghai Institute of Technical Physics (China) [8557-20]

14:30: **Description and implementation studies on field dependent wavefront aberration**, Luwei Zhang, Zhaofeng Cen, Xiaotong Li, Zhejiang Univ. (China) [8557-21]

14:50: **Simulation analysis of space remote sensing image quality degradation induced by satellite platform vibration**, Feng Yang, Xiaofang Zhang, Yu Huang, Weiwei Hao, Baiwei Guo, Beijing Institute of Technology (China) [8557-22]

15:10: **A realization method of full-field point spread function**, Hongmei Luo, Zhaofeng Cen, Xiaotong Li, Zhejiang Univ. (China) [8557-23]

Coffee/Tea Break Tue 15:30 to 16:00

Poster Session

Room: Exhibition Hall 1 **Tue 16:00 to 18:00**

Conference attendees are invited to attend the poster session on Tuesday afternoon. Come view the posters, ask questions, and network with colleagues in your field. Authors of poster papers will be present to answer questions concerning their papers. Attendees are required to wear their conference registration badges to the poster sessions.

Poster authors, view poster presentation guidelines at <http://spie.org/x37999.xml>.

Design and experimental study of miniature fiber-optic displacement sensor, Fei Gao, Jun Yang, Harbin Engineering Univ. (China) [8557-32]

Infrared dual-band telephoto design used in joint transform correlator, Dong Jianing, Mu Da, Chunyun Xu, Quanyong Li, Wensheng Wang, Changchun Univ. of Science and Technology (China) [8557-39]

A high-speed and small-volume IR zoom lens using root-exchange theory and DOE element, Liu Lin, Sun Xing, Zhang xing de, North China Research Institute of Electro-Optics (China) [8557-40]

Optical design of solar blind ultraviolet warning system, Chunyun Xu, Dong Jianing, Wu Boqi, Wensheng Wang, Changchun Univ. of Science and Technology (China) [8557-41]

Designing adapted to fabricating of holographic silver gratings, Amir Asgari, Amirkabir Univ. of Technology (Iran, Islamic Republic of); Naser Partovi, NSTRI Optic & Laser Research School (Iran, Islamic Republic of); Hooshang Araghi, Amirkabir Univ. of Technology (Iran, Islamic Republic of); Eesa Alidokht, Mohammad Hadi Maleki, NSTRI Optic & Laser Research School (Iran, Islamic Republic of) [8557-42]

Design of all reflective zoom optical system of wide field of view with 3 mirrors, Lifei Zhang, Jun Chang, Aman Wei, Jiao Cao, Jiao Ouyang, Beijing Institute of Technology (China) [8557-43]

Study of an ultra-short-throw projector optical system design using the aspherical surfaces, Yong Wang, Xuemin Cheng, Tsinghua Univ. (China); Qun Hao, Beijing Institute of Technology (China) [8557-44]

Prototype design of an all-reflective non-coaxial optical zooming system for space camera application without moving elements based on deformable mirror, Hui Zhao, Xuewu Fan, Gangyi Zou, Zhihai Pang, Wei Wang, Rui Guo, Yunfei Du, Yu Su, Xi'an Institute of Optics and Precision Mechanics (China) [8557-45]

The design of a stepper motor control-based high-precision varifocal imaging optical system, Bai Xiang, Beijing Institute of Tracking and Telecommunications Technology (China) [8557-46]

Design of cooled athermalized infrared telephoto lens, Yu Zhang, Jiyang Shang, Yue Xu, Wensheng Wang, Changchun Univ. of Science and Technology (China) [8557-47]

Design of low-distortion single fingerprint acquisition system, Zheming Wu, Tianjin Univ. of Technology (China) [8557-48]

Design of blue LEDs arrays with high optical power, Pengzhi Lu, Bin Xue, Hua Yang, Huaiwen Zheng, Xiaoyan Yi, Jing Li, Junxi Wang, Guohong Wang, Institute of Semiconductors (China) [8557-49]

Compact optical imaging system for star tracker with long focal length and perfect thermal adaptability, Yiqun Ji, Hucheng He, Rongbao Shi, Soochow Univ. (China) [8557-50]

Optimization design and error analysis of photoelectric autocollimator, Lei Gao, Bixi Yan, Beijing Information Science & Technology Univ. (China) [8557-51]

Design of a front objective in a monocular zoom video microscope, Liao Wenzhe, Xiao Zexin, Guilin Univ. of Electronic Technology (China) [8557-52]

Design of reflective active zoom systems with four mirrors, Shen Benlan M.D., Jun Chang, Beijing Institute of Technology (China) [8557-53]

Design and research of the second parallel optical path of the telescope photoelectronic imaging system, Chen Gang, Guilin Univ. of Electronic Technology (China); Xingyu Gao, Liu Zhou OVM Machinery Co., Ltd. (China); Dao Yin Yu, Tianjin Univ. (China); Ze-Xin Xiao, Guilin Univ. of Electronic Technology (China) [8557-54]

Design and modeling of a new CO₂ laser heater for thin film deposition applications, Mohammad Reza Rashidian Vaziri, Fereshteh Hajiesmaeilbaigi, Mohammad Hadi Maleki, Univ. of Tehran (Iran, Islamic Republic of) [8557-55]

A new type of wide spectral coverage echelle spectrometer design for ICP-AES, Shoajie Chen, Yuguo Tang, Bayan heshig, Xiangdong Qi, Changchun Institute of Optics, Fine Mechanics and Physics (China); Wenyu Zhu, Changchun Institute of Optics, Fine Mechanics and Physics (China) and Medical Instrument Ltd. of CIOMP (China) [8557-56]

Optical system design of polarization imaging spectrometer for ground-based astronomical observation, Lingying Chang, Xi'an Univ. of Posts and Telecommunications (China) [8557-57]

A novel optical beam deflection detection system based on aspheric lens for high-speed atomic force microscope, Jianyong Zhao, Guangyi Shang, Junen Yao, Weitao Gong, BeiHang Univ. (China) [8557-58]

Design and theoretical investigation of nanograting for XUV outcoupler, Ying-Ying Yang, Institute of Semiconductors (China); Wei Sun, Laboratory of solid state laser sources, Institute of Semiconductors, Chinese academy of sciences (China); Ling Zhang, Huai-juan Yu, Xue-Chun Lin, Institute of Semiconductors (China) [8557-59]

Off-axis illumination of lithography tool, Xing Han, Lin Li, Beijing Institute of Technology (China); Bin Ma, Beijing Institute of Technology (China) and Univ. of Rochester (United States) [8557-60]

Research on design of a cubic conjugate phase mask having the capability of controlling the bandwidth of wave-front coding system, Hui Zhao, Yingcai Li, Xi'an Institute of Optics and Precision Mechanics (China) [8557-61]

Aberration retrieval for annular pupils using parametric model of point spread function, Xinhua Chen, Weimin Shen, Soochow Univ. (China) [8557-62]

Analysis on the effect of extinction ratio in birefringent measurement by phase-stepping method, Xusheng Zhang, Chuan He, Linfeng Chen, Beijing Institute of Technology (China) [8557-63]

Research on surface deformation of lens fastened by adhesive under gravity load and aberration analysis, Shaohua Guan, Institute of Optics and Electronics (China); Tianmeng Ma, Quanzhong Wei, Institute of Optics and Electronics, CAS (China) [8557-64]

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Stray light analysis of a space patrol, Huiyi Chen, Li Lin, Beijing Institute of Technology (China) [8557-65]

Analysis and protection of stray light for the space camera at geosynchronous orbit, Xiaorui Jin, Li Lin, Beijing Institute of Technology (China) [8557-66]

Analysis of thermal shock strength and quality factor with infrared optical domes, Youtang Gao, Nanjing Univ. of Science and Technology (China) [8557-67]

Off-axis three-mirror zoom system perturbation analysis, Jiao Ouyang, Jun Chang, Lifei Zhang, Jiao Cao, Aman Wei, Beijing Institute of Technology (China) [8557-68]

Research on the real-time calibration of the varifocal photoelectric imaging system, Bing Zhou, Fuyu Huang, Shijiazhuang Mechanical Engineering College (China) [8557-69]

Accuracy analysis of surface figure fitting based on opto-mechanical-thermal technology, Xifa Song, Li Lin, Yifan Huang, Beijing Institute of Technology (China) [8557-70]

Multi-limit unsymmetrical MLIBD image restoration algorithm, Yang Yang, Information Engineering Univ. (China); Chen Bo, Peking Univ. (China) .. [8557-71]

Polarization characteristics of a linearly polarized laser beam after hollow light pipe in projectors, Pengfei Zhao, Shengtao Zhang, Yanhong Wang, Yunbo Shi, North Univ. of China (China); XuYuan Chen, North Univ. of China (China) and Vestfold Univ. College (Norway) [8557-72]

Parameters affecting pattern fidelity and line edge roughness under diffraction effects in optical maskless lithography using a digital micromirror device, Manseung Seo, Haeryung Kim, Taehyoung Lee, Tongmyong Univ. (Korea, Republic of) [8557-73]

Wavefront fitting with Zernike polynomials based on total variation regularization method, Lihong Lu, Tianjin Polytechnic Univ. (China); Qingyu Hou, Jinnan Gong, Harbin Institute of Technology (China) [8557-74]

A model for simulating coherence of laser light caused by Mie scattering, Yanhong Wang, Wenhong Gao, Wenhong Gao, Pengfei Zhao, Xuyuan Chen, North Univ. of China (China) [8557-75]

Fluid mechanics principle about manufacture technology of micro-lens generated on needing positions, Jian Wu Sr., Kuanxin Yu Sr., Beijing Univ. of Technology (China) [8557-76]

Fiber ring depolarizer with one degree of freedom, Chunhua Wang, Qing Yang Yu, Li Li, Shengfei Zhang, Shanghai Univ. (China) [8557-78]

A practical approach for measurement of IR optical system transmissivity, Yi Jian, Zhaoxin Pan, Shiyong Wang, Wang Yu, Luo Yixue, Shanghai Institute of Technical Physics (China) [8557-79]

Analysis of array image camera modes in the test for dynamical focus position, Juanning Zhao, Xiaona Dong, Limin Gao, Hongguang Li, Xi'an Institute of Optics and Precision Mechanics (China) [8557-80]

The distortion analysis and correction of two-dimensional scanning system in laser differential confocal microscopy, Chao Gao, Dali Liu, Weiqian Zhao, Beijing Institute of Technology (China) [8557-81]

Research on the key parameters influencing the anti-vibration capability of time-frequency-domain interferometer, Fanghua Zhang, Qun Hao, Yao Hu, qiudong zhu, Beijing Institute of Technology (China) [8557-83]

Study of partial coherence measurement of the illumination system in excimer laser lithography based on CCD image sensor, Xiaoyong Liu, Sichuan Univ. (China) and Shi Hezi Univ. (China); Yiping Cao, Sichuan Univ. (China) [8557-84]

The measurement schemes of PSF of Star Sensor, Xu Yao, Beijing Institute of Technology (China) [8557-86]

Study on the sub-aperture stitching method, Zhengnan Liang, Weirui Zhao, Guangyu Pan, Rong Li, Beijing Institute of Technology (China) [8557-87]

Smile effect detection for dispersive hyperpectral imager based on the doped reflectance panel, Jiankang Zhou, Soochow Univ. (China); Xiaoli Liu, Jiaozuo Institute of Technology (China); Yiqun Ji, Yuheng Chen, Weimin Shen, Soochow Univ. (China) [8557-88]

Error and compensation of Non-polarization Splitting Prism(NPBS) in single frequency laser interferometer, Yong Wei, Jun Yang, Harbin Engineering Univ. (China); Zhaoji liu, Harbin Institute of Technology (China) [8557-89]

Measurement of physical polarization parameters by system estimation with least-square optimization, Tao Liu, Chunhua Wang, Li Li, Haiyang Zhou, Shenfei Zhang, Shanghai Univ. (China) [8557-90]

Evaluation of parallel phase-shifting digital holography by photon counting method, Lin Miao, Kobe Univ. (Japan); Kouichi Nitta, Osamu Matoba, Kobe University (Japan); Yasuhiro Awatsuji, Kyoto Institute of Technology (Japan) [8557-91]

The effect of temperature characteristic of Faraday rotator to passively demodulated all optical fiber current transformers, Zhengping Wang, Yuekun Wang, Shuai Sun, Harbin Engineering Univ. (China) [8557-92]

Cyclops opening-up fiber for real-time fluorescence sensing, Yi Yang, Donghua Univ. (China); Guanjun Wang, Key Laboratory of Instrumentation Science and Dynamic Measurement (Ministry of Education) (China); Jian Cui, Engineering Training Center, Beijing University of Aeronautics and Astronautics (China) [8557-93]

Radiation distribution measurement for forest plant canopies tracing, Xuefen Wan, North China Institute of Science and Technology (China) [8557-94]

Temperature effect of SO₂ ultraviolet differential absorption, Guiyin Zhang, Haiping Li, Haiming Zheng, North China Electric Power Univ. (China) . . . [8557-95]

A high-precision method and its implementation of measuring spatial azimuth, Zhiyong Yang, Zhaofa Zhou, Zhili Zhang, Xi'an Research Institute of High Technology (China) [8557-96]

Design and optimization of chopper based on Labview, Guo Li, Capital Normal Univ. (China); Xiaolei Wang, Ministry of Industry and Information Technology (China); Lichun Feng, Cunlin Zhang, Capital Normal Univ. (China) [8557-97]

Technique of measuring single grating incremental angle, Yu Xiao, Changchun Univ. of Science and Technology (China) [8557-98]

Planar alignment sensor based on Rayleigh interference in two wavelengths, Yao Hu, Beijing Institute of Technology (China) [8557-99]

Wednesday 7 November

Session 6

Room: 308 **Wed 8:30 to 10:20**

Novel Optical System Design

Session Chair: **Xuemin Cheng**, Tsinghua Univ. (China)

8:30: **Advances in optical design and optimization of miniature zoom optics with liquid lens element** (*Invited Paper*), Yi-Chin Fang, National Kaohsiung First Univ. of Science and Technology (Taiwan, China) [8557-24]

9:00: **Ultra-wide to mid-wide angle 3X zoom and focus adjustable lens design for industrial video endoscope**, Dongmin Yang, GE Inspection Technologies (United States) [8557-25]

9:20: **Optical image stabilizing technique based on deformable mirror zoom system**, Yuhua Jiang, Qun Hao, Beijing Institute of Technology (China); Xuemin Cheng, Tsinghua Univ. (China) [8557-26]

9:40: **Optical system design for a short-wave infrared imaging spectrometer**, Han Huang, Xiaotong Li, Zhaofeng Cen, Zhejiang Univ. (China) [8557-27]

10:00: **Designing an all-reflective, long focus and large field of view optical system with freeform surface**, Qingfeng Wang, Dewen Cheng, YongTian Wang, Yue Liu, Beijing Institute of Technology (China) [8557-28]

Coffee/Tea Break Wed 10:20 to 10:50

Session 7

Room: 308 **Wed 10:50 to 12:00**

Advanced Sensing and Measurement

Session Chair: **Bosanta R. Boruah**, Indian Institute of Technology Guwahati (India)

10:50: **Measurement of the mirror refractive spectrum of typical roughness surface in the ultraviolet band** (*Invited Paper*), Lu Bai, Zhensen Wu, Yanhui Li, Xidian Univ. (China) [8557-29]

11:20: **The measurement of optical reflector with complex surface using nano-CMM**, Zhichao Wu, Tong Guo, Jinping Chen, Xing Fu, Xiaotang Hu, Tianjin Univ. (China) [8557-30]

11:40: **Wave-front coded optical readout for the MEMS-based uncooled infrared imaging system**, Tian Li, Yuejin Zhao, Beijing Institute of Technology (China); Xiaomei Yu, Peking Univ. (China); Liqun Dong, Beijing Institute of Technology (China); Mei Hui, Beijing Institute of Technology (China); Xiaohua Liu, Cheng Gong, Xuhong Chu, Beijing Institute of Technology (China) [8557-31]

Lunch Break Wed 12:00 to 13:30

Session 8

Room: 308Wed 13:30 to 15:20

Advances in Space Optics

Session Chair: **Jun Chang**, Beijing Institute of Technology (China)

13:30: **Enhancing the performance of coaxial three mirror anastigmatic optical system by wavefront coding** (*Invited Paper*), Bo Li, Bing-Long Zhang, Beijing Institute of Space Mechanics and Electricity (China) [8557-33]

14:00: **Analysis of the silicon carbide applicable technique in the EO/IR telescope for spaceborne**, Haengbok Lee, Agency for Defense Development (Korea, Republic of) [8557-34]

14:20: **The effects of piston error on image quality**, Jun Zhang, Weirui Zhao, Feng Yang, Beijing Institute of Technology (China) [8557-35]

14:40: **Optical design of multi-spectral sensor using off-axis three-mirror reflective optics**, Tianjin Tang, Huan Li, Beijing Institute of Space Mechanics and Electricity (China) [8557-36]

15:00: **Design of a compact four mirror optical system with wide field of view**, Aman Wei, Jun Chang, Beijing Institute of Technology (China) ... [8557-37]

Optoelectronic Imaging and Multimedia Technology II

Conference Chairs: **Tsutomu Shimura**, The Univ. of Tokyo (Japan); **Guangyu Xu**, Tsinghua Univ. (China); **Linmi Tao**, Tsinghua Univ. (China); **Jesse Zheng**, Photontech Instruments Corp. (Canada)

Program Committee: **Tingzhu Bai**, Beijing Institute of Technology (China); **Yi Dong**, Shanghai Jiao Tong Univ. (China); **Ruowei Gu**, OPTON Co., Ltd. (Japan); **Jia Jia**, Tsinghua Univ. (China); **Tangjun Li**, Beijing Jiaotong Univ. (China); **Peilin Liu**, Shanghai Jiao Tong Univ. (China); **Yinglong Liu**; **Cunwei Lu**, Fukuoka Institute of Technology (Japan); **Dandan Song**, Institute of Automation (China); **Pingtao Wang**, O&E Co., Ltd. (Japan); **Ping Wei**, Beijing Institute of Technology (China); **Shengli Wu**, Xi'an Jiaotong Univ. (China); **Toru Yoshizawa**, Saitama Medical Univ. (Japan); **Jingyun Zhang**, Aero-creative Corp. (United States); **Qing-Chuan Zhang**, Univ. of Science and Technology of China (China)

Monday 5 November

Opening Ceremony and Plenary Session

Room: Convention Hall No. 1 Mon 9:00 to 12:00

9:00: **Opening Ceremony**

9:30: **New directions for microcavity physics**, Kerry J. Vahala, California Institute of Technology (United States)

10:00: **Laser spectroscopy applied to environmental and medical research**, Sune Svanberg, Lund Univ. (Sweden) and South China Normal Univ. (China)

Coffee/Tea Break Mon 10:30 to 11:00

11:00: **Scalable quantum information processing with atoms and photons**, Jianwei Pan, Univ. of Science and Technology of China (China)

11:30: **Quantum dot lasers and relevant nanoheterostructures**, Alexey E. Zhukov, Saint-Petersburg Academic Univ. (Russian Federation)

Lunch Break Mon 12:00 to 13:30

Session 1

Room: 307 Mon 13:30 to 15:10

13:30: **Real-time interactive projection system based on infrared structured-light method**, Xiaorui Qiao, Qian Zhou, Kai Ni, Yang Li, Guanhao Wu, Liang He, Leshan Mao, Xuemin Cheng, Tsinghua Univ. (China) [8558-1]

13:50: **A laser-based measurement system for transparent surface forming**, Mingyan Li, Xinzhu Sang, Yang Sun, Binbin Yan, Chongxiu Yu, Beijing Univ. of Posts and Telecommunications (China) [8558-2]

14:10: **Seal imprint verification using edge difference histogram**, Jin He, Tianjin Univ. of Technology and Education (China); Hao Zhang, Liu Tiegeng, Tianjin Univ. (China) [8558-3]

14:30: **A new 3D imaging lidar with a high-speed 2D laser scanner**, Chunsheng Hu, Shiqiao Qin, Xingshu Wang, Zongsheng Huang, National Univ. of Defense Technology (China) [8558-4]

14:50: **A brand new high-speed 2D laser scanner for 3D imaging lidars**, Chunsheng Hu, Shiqiao Qin, Xingshu Wang, Dejun Zhan, National Univ. of Defense Technology (China) [8558-5]

Coffee/Tea Break Mon 15:10 to 15:40

Session 2

Room: 307 Mon 15:40 to 18:20

15:40: **Compressive imaging based target locating system for APT in FSO communication**, Ping Wei, Jun Ke, Fen Wang, Beijing Institute of Technology (China) [8558-6]

16:00: **Real-time identification and tracking of infrared markers based on kalman filter**, Qiaona Xing, Dayuan Yan, Xiaoming Hu, Junqin Lin, Bo Yang, Beijing Institute of Technology (China) [8558-7]

16:20: **Potential fingerprints detection using UV spectral imaging**, Wei Huang, Institute of Forensic Science (China); Zhichao Yang, Zhejiang Police College (China); Xiaojing Xu, Institute of Forensic Science Ministry of Public Security (China); Jingjing Guo, Institute of Forensic Science Ministry of Public Security (China) [8558-8]

16:40: **A real-time people counting system by detecting human head-shoulder profile using line structured light**, Ping Wei, Jun Ke, Lizhong Wei, Beijing Institute of Technology (China) [8558-9]

17:00: **Video fire detection based on three-state hidden Markov modal and fractal dimension calculation**, Bo Lei, Zhijie Zhang, Chensheng Wang, Huazhong Institute of Electro-Optics-Wuhan National Lab. for Optoelectronics (China) [8558-10]

17:20: **Improvement of single-wavelength based Thai jasmine rice identification with elliptic fourier descriptor and neural network analysis**, Kajpanya Suwansukho, King Mongkut's Institute of Technology Ladkrabang (Thailand); Sarun Sumriddetchkajorn, National Electronics and Computer Technology Ctr. (Thailand); Prathan Buranasiri, King Mongkut's Institute of Technology Ladkrabang (Thailand) [8558-11]

17:40: **Two-dimensional PCA based human gait identification**, Jinyan Chen, Tianjin Univ. (China); Rongteng Wu, Minjiang Univ. (China) [8558-12]

18:00: **Feature point tracking for incomplete trajectories with multi-view constraint**, Kun Pen Wang, Beijing Institute of Tracking and Telecommunication Technology (China) [8558-13]

Tuesday 6 November

Session 3

Room: 307 Tue 8:00 to 10:00

8:00: **Baikhao (rice leaf) app: a mobile device-based application in analyzing the color level of the rice leaf for nitrogen estimation**, Yuttana Intaravanne, Sarun Sumriddetchkajorn, National Electronics and Computer Technology Ctr. (Thailand) [8558-14]

8:20: **In-line retro-reflective polarizing contrast scope for translucent objects**, Sarun Sumriddetchkajorn, National Electronics and Computer Technology Ctr. (Thailand) [8558-15]

8:40: **Design on imaging system base on FPGA technology for EMBCCD**, Liu Pan, Beijing Institute of Technology (China) [8558-16]

9:00: **A high-definition electronic industrial endoscope based on embedded system.**, Guang Xu, Liqiang Wang, Zhejiang Univ. (China) [8558-17]

9:20: **A device designed and improved for frequency decorrelation of speckle in multimode fibers**, Hongyuan Fu, Harbin Engineering Univ. (China) . . [8558-18]

9:40: **Extended depth of field for visual systems: an overview**, Yufu Qu, Liyan Liu, BeiHang Univ. (China) [8558-19]

Coffee/Tea Break Tue 10:00 to 10:30

Session 4

Room: 307 **Tue 10:30 to 11:50**

- 10:30: **VLC based indoor location awareness using LED lights and image sensors**, Seok-Ju Lee, Sung-Yoon Jung, Yeungnam Univ. (Korea, Republic of) [8558-20]
- 10:50: **Vision communications based on LED array and imaging sensor**, Jong-Ho Yoo, Sung-Yoon Jung, Yeungnam Univ. (Korea, Republic of) [8558-21]
- 11:10: **Designing and implementing a miniature CMOS imaging system with USB interface**, Chenyun Yao, Liqiang Wang, Bo Yuan, Zhejiang Univ. (China) [8558-22]
- 11:30: **Design and implementation of non-linear image processing functions for CMOS image sensor**, Purnawarman Musa, Univ. de Bourgogne (France) and Univ. Gunadarma (Indonesia); Sunny A. Sudiro, Institute of Informatics Management and Computer Jakarta (STI&K) (Indonesia); Eri P. Wibowo, Suryadi Harmanto, Univ. Gunadarma (Indonesia); Michel Paindavoine, Univ. de Bourgogne (France) [8558-23]
- Lunch Break Tue 11:50 to 13:20

Session 5

Room: 307 **Tue 13:20 to 14:40**

- 13:20: **A fast mode decision algorithm for multiview auto-stereoscopic 3D video coding based on mode and disparity statistic analysis**, Cong Ding, Xinzhu Sang, Tianqi Zhao, Binbin Yan, Junmin Leng, Jinhui Yuan, Ying Zhang, Beijing Univ. of Posts and Telecommunications (China) [8558-24]
- 13:40: **Stereo correspondence of contour using dynamic programming**, Junqin Lin, Dayuan Yan, Xiaoming Hu, Qiaona Xing, Bo Yang, Beijing Institute of Technology (China) [8558-25]
- 14:00: **Generation of fractal Chinese characters based on IFS**, Zhengbing Zhang, Wei Zhang, Yangtze Univ. (China) [8558-27]
- 14:20: **New algorithms based on data re-organization for three dimensional point cloud data partition**, Meinan Li, Qun Hao, Yong Song, Beijing Institute of Technology (China) [8558-28]
- Coffee/Tea Break Tue 14:40 to 16:00

Poster Session

Room: Exhibition Hall 1 **Tue 16:00 to 18:00**

Conference attendees are invited to attend the poster session on Tuesday afternoon. Come view the posters, ask questions, and network with colleagues in your field. Authors of poster papers will be present to answer questions concerning their papers. Attendees are required to wear their conference registration badges to the poster sessions. Poster authors, view poster presentation guidelines at <http://spie.org/x37999.xml>.

- Target contour extraction for shipborne active range-gated imaging**, Chao Liu, Xinwei Wang, Yan Zhou, Yuliang Liu, Institute of Semiconductors (China) [8558-26]
- An effective method of eliminating ghosting in image mosaic**, Shurui Zhao, Univ. of Electronic Science and Technology of China (China) [8558-34]
- Calculating method for the brightness of spatial objects in engineering**, Tang Jia, Gao Xin, Beijing Institute of Tracking and Telecommunication Technology (China) [8558-36]
- Research on the system modeling and data reconstruction for spatial coding compressive spectral imaging**, Yuheng Chen, Xinhua Chen, Yiqun Ji, Jiankang Zhou, Weimin Shen, Soochow Univ. (China) [8558-44]
- LDPC codes in wireless optical communication application**, Xiangxiang Chang, Univ. of Electronic Science and Technology of China (China) [8558-45]
- A real-time TV logo tracking method using template matching**, Zhi Li, Xinzhu Sang, Binbin Yan, Beijing Univ. of Posts and Telecommunications (China); Junmin Leng, Beijing Information Science & Technology Univ. (China) [8558-46]
- Imaging reconstruction based on improved wavelet denoising combined with parallel-beam filtered back-projection algorithm**, Zhong Ren, Guodong Liu, Zhen Huang, Jiangxi Science and Technology Normal University (China) [8558-47]
- Study on thickness measurement of multi alkali photocathode**, Xiaofeng Li, Qiang Lu, North Night Vision Technology Co., Ltd. (China) [8558-48]
- Age estimation using active appearance model combine with local texture features**, Chunhua Xie, Zhenming Peng, Univ. of Electronic Science and Technology of China (China) [8558-49]

Target tracking using multiple templates based on maximum pixel count criterion, Jie Pu, Zhenming Peng, Univ. of Electronic Science and Technology of China (China) [8558-50]

Compound algorithm for restoration of heavy turbulence-degraded image for space target, Liang-liang Wang, Ru-jie Wang, Ming Li, Beijing Institute of Tracking and Telecommunication Technology (China); Zi-qian Kang, Hebei Communication Design & Consultation Co. Ltd (China); Xiao-qin Xu, Xin Gao, Beijing Institute of Tracking and Telecommunication Technology (China) [8558-51]

Study on depth field problem in electronic image stabilization, Chen Huang, Beijing Institute of Tracking and Telecommunications Technology (China) [8558-52]

Method of Sun scene simulation based on active optical control system for solar occultation measurement, Fei Yu, Zhe Lin, Xiao-jun Kang, Beijing Institute of Space Mechanics and Electricity (China); Ling-Qin Kong, Yuejin Zhao, Beijing Institute of Technology (China) [8558-53]

Digital image information hiding based on compressive sensing and double random-phase encoding technique, Lu Pei, Institute of Optics and Electronics (China) and Shihezi Univ. (China) and Graduate Univ. of Chinese Academy of Sciences (China); Zhiyong Xu, Institute of Optics and Electronics (China); Xi Lu, 34th China Electronics Technology Group Co. (China); Xiaoyong Liu, Sichuan Univ. (China) [8558-54]

Image process technique used in a large FOV compound eye imaging system, Axiu Cao, Sichuan Univ. (China) and Institute of Optics and Electronics (China); Lifang Shi, Institute of Optics and Electronics (China); Ruiying Shi, Sichuan Univ. (China); Qiling Deng, Institute of Optics and Electronics (China); Chunlei Du, Chongqing Institute of Green and Intelligent Technology (China) [8558-55]

An artificial compound eye system for large field imaging, Yan Liu, Sichuan Univ. (China) and Institute of Optics and Electronics (China); Lifang Shi, Institute of Optics and Electronics (China); Ruiying Shi, Sichuan Univ. (China); Xiaochun Dong, Qiling Deng, Institute of Optics and Electronics (China); Chunlei Du, Chongqing Institute of Green and Intelligent Technology (China) [8558-56]

Motion target detection based on the fourier descriptors of the fractal edge in complex environment, Jing Liang, Zhenming Peng, Univ. of Electronic Science and Technology of China (China) [8558-57]

Improving videometric precision with adaptive optics based on stochastic parallel gradient descent algorithm, Junfeng Cui, Sanhong Wang, Taiyuan Satellite Launch Ctr. (China); Guangwen Jiang, Haotong Ma, National Univ. of Defense Technology (China) [8558-58]

The control technique of delay-time jitter from the echo-transponder satellite laser ranging, Jian-ting Li, Beijing Institute of Tracking and Telecommunication Technology (China) [8558-59]

Robust object recognition based on HMAX model architecture, Yongxin Chang, Institute of Optics and Electronics (China) and Univ. of Electronic Science and Technology of China (China); Zhiyong Xu, Chengyu Fu, Institute of Optics and Electronics (China); Chunming Gao, Univ. of Electronic Science and Technology of China (China) [8558-60]

An improved algorithm applied to electronic image stabilization based on SIFT, Lu Dai, Yuejin Zhao, Xiaohua Liu, Liqun Dong, Bangze Zeng, Beijing Institute of Technology (China) [8558-61]

A SIFT feature based registration algorithm in automatic seal verification, Jin He, Tianjin Univ. of Technology and Education (China); Tiegeng Liu, Tianjin Univ. (China) [8558-62]

A method of contrast enhancement processing on wide-bits image, Xiang Peng, Zhiyong Xu, Institute of Optics and Electronics (China) [8558-63]

Bayer image parallel decoding based on GPU, Rihui Hu, Zhiyong Xu, Institute of Optics and Electronics (China) [8558-64]

Non-solid hardware three dimensions display, Junewen Chen, Chung-Hua Univ. (Taiwan, China) [8558-65]

Analysis of the effect on optical equipment caused by solar position in target flight measure, Shunhua Zhu, Haibin Hu, Beijing Institute of Tracking and Telecommunication Technology (China) [8558-66]

Target azimuth estimation for automatic tracking in range-gated imaging, Yinan Cao, Xinwei Wang, Yan Zhou, Institute of Semiconductors (China) [8558-67]

Object class recognition based on compressive sensing with sparse features inspired by hierarchical model in visual cortex, Lu Pei, Institute of Optics and Electronics (China) and Shihezi Univ. (China) and Graduate Univ. of Chinese Academy of Sciences (China); Zhiyong Xu, Institute of Optics and Electronics (China) [8558-68]

Multi-limit unsymmetrical MLIBD restoration algorithm for adaptive optics image, Yang Yang, Information Engineering Univ. (China) [8558-69]

ENAS-RIF algorithm for image restoration, Yang Yang, Bo Chen, Information Engineering Univ. (China) [8558-70]

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Space debris photometric observation weather impact analysis and processing verification, Xiao-qin Xu, Beijing Institute of Tracking and Telecommunication Technology (China) [8558-71]

A fast star image extraction algorithm for autonomous star sensors, Xifang Zhu, Feng Wu, Changzhou Institute of Technology (China) [8558-72]

No-reference blur assessment based on entropy and PCNN for restoration images, Jinping He, Beijing Institute of Space Mechanics and Electricity (China); Jiansheng Chen, Guangda Su, Tsinghua Univ. (China) [8558-73]

Impact and application of echo broadening effect on three-dimensional range-gated imaging, Xinwei Wang, Yan Zhou, Yuliang Liu, Institute of Semiconductors (China) [8558-74]

Fast range estimation based on active range-gated imaging for coastal surveillance, Qingshan Kong, Institute of Semiconductors (China) [8558-75]

A comparative study of temporal phase analysis in dynamic speckle interferometry, Hao Zhang, Tianjin Univ. (China) [8558-76]

Research and implementation of real time image restoration based on Phase diversity, Quan Zhang, Changhui Rao, Institute of Optics and Electronics (China); Zhenming Peng, Univ. of Electronic Science and Technology of China (China); Hua Bao, Institute of Optics and Electronics (China) [8558-77]

Suishu character recognition based on genetic fuzzy C-means algorithm, Xu-Guo Zhou, Fang Dong, Jian Xu, Guizhou Industry Polytechnic College (China) [8558-78]

On-line object tracking method based on co-training, Jianhong Lai, Zhenming Peng, Univ. of Electronic Science and Technology of China (China) [8558-79]

Adaptive bilateral filter for extended object imaging in adaptive optics system without a wavefront sensor, Huizhen Yang, Huaihai Institute of Technology (China) [8558-80]

An improved electronic image stabilization algorithm, Yantao Zong, Xiaoyu Jiang, Academy of Armored Force Engineering (China) [8558-82]

A novel contour detection method, Rongteng Wu, Minjiang Univ. (China) [8558-83]

Wavelength calibration of imaging spectrometer using atmospheric absorption features, Jiankang Zhou, Yuheng Chen, Xinhua Chen, Weimin Shen, Soochow Univ. (China) [8558-84]

Restoration of nondiffracting image based on multiple copy images and retinex, Xing Zhong, Hubei Univ. of Technology (China) [8558-85]

Point target detection based on nonlinear spatial-temporal filter in infrared image sequences and its analysis, Wei Zhang, Jinnan Gong, Chunjiang Bian, Qingyu Hou, Harbin Institute of Technology (China) [8558-86]

Ship target segmentation and detection in complex optical remote sensing image based on component tree characteristics discrimination, Chunjiang Bian, Qingyu Hou, Xiao Zhao, Jinnan Gong, Harbin Institute of Technology (China) [8558-87]

Template matching and registration based on edge, Qingyu Hou, Lihong Lu, Chunjiang Bian, Wei Zhang, Jinnan Gong, Harbin Institute of Technology (China) [8558-88]

The simulation for the temporal characteristic of the microchannel plate, Houzhi Cai, Jinyuan Liu, Xiang Peng, Shenzhen Univ. (China) [8558-89]

Multichannel serial-parallel analog-to-digital converters based on current mirrors for the high-performance image multi-sensor systems, Vladimir G. Krasilenko, Vinnitsa Social Economy Institute (Ukraine); Aleksandr I. Nikolskiy, Alexander A. Lazarev, Vinnitsa National Technical Univ. (Ukraine) [8558-90]

Noise of CCD reduction based on three-D noise model, Hui Lin, Li-Li Liu, Xi'an Institute of Optics and Precision Mechanics (China) [8558-91]

An image threshold based on Burr distribution, Xiaohong Xie, Rongteng Wu, Minjiang Univ. (China) [8558-92]

Evolution of the square pattern in dielectric barrier discharge, Yongjie Wang, North China Electric Power Univ. (China); Lifang Dong, Hebei Univ. (China) [8558-93]

CT/MR medical image fusion based on fuzzy algorithm, Weidong Lai, Hebei Univ. (China); Xiaojun Wang, North China Electric Power Univ. (China) . . [8558-94]

Restoration of ultrasound image based on novel morphology operator, Xiaojun Wang, North China Electric Power Univ. (China); Weidong Lai, Hebei Univ. (China) [8558-95]

The effect of chromatic background for luminance contrast-sensitivity function, Li Song, Ningfang Liao, Shuwen Dong, Ting Liao, Weigui Hu, Kai Lin, Beijing Institute of Technology (China) [8558-96]

Wednesday 7 November

Session 6

Room: 307 Wed 8:40 to 10:20

8:40: **Probability voting and SVM based vehicle detection in complex background airborne traffic video**, Bo Lei, Huazhong Institute of Electro-Optics-Wuhan National Lab. for Optoelectronics (China); Qingquan Li, Wuhan Univ. (China); Zhijie Zhang, Huazhong Institute of Electro-Optics-Wuhan National Lab for Optoelectronics (China) [8558-29]

9:00: **Silhouette extraction from human gait images sequence using cosegmentation**, Jinyan Chen, Yi Zhang, Tianjin Univ. (China) [8558-30]

9:20: **An Adaboost based approach for ship detection in remote sensing images**, Junli Yang, Jiang Zhiguo, BeiHang Univ. (China) [8558-31]

9:40: **Bottom-up attention based on C1 features of HMAX model**, Huapeng Yu, Zhiyong Xu, Chengyu Fu, Institute of Optics and Electronics (China); Yafei Wang, Univ. of Electronic Science and Technology of China (China) . . . [8558-32]

10:00: **Normalization of the collage regions of iterated function systems**, Zhengbing Zhang, Wei Zhang, Yangtze Univ. (China) [8558-33]

Coffee/Tea Break Wed 10:20 to 10:50

Session 7

Room: 307 Wed 10:50 to 11:50

10:50: **A subpixel motion estimation approach based on phase correlation**, Hui Yu, Huazhong Univ. of Science and Technology (China); Fusheng Chen, Zhijie Zhang, Chensheng Wang, Huawang Chen, Huazhong Institute of Electro-Optics-Wuhan National Lab for Optoelectronics (China) [8558-35]

11:10: **An illumination and affine invariant descriptor for aerial image registration**, Zhaoxia Liu, Yaxuan Wang, Yu Jing, Jing Zhao, Dalian Univ. of Foreign Languages (China); Jingjing Wang, Liaoning Police Academy (China) [8558-37]

11:30: **Manifold representation of multi-view images**, Haopeng Zhang, Zhiguo Jiang, Junli Yang, BeiHang Univ. (China) [8558-38]

Lunch Break Wed 11:50 to 13:20

Session 8

Room: 307 Wed 13:20 to 15:00

13:20: **Tire x-ray image belt-ply defect feature recognition method based on Gabor wavelets**, Qiang Du, Qingdao Mesnac Co., Ltd (China) and Tianjin Univ. (China) [8558-39]

13:40: **A three-dimensional cursor used in binocular stereo vision**, Hong Jiang, Bo Yuan, Liqiang Wang, Zhejiang Univ. (China) [8558-40]

14:00: **Steganography based on human visual system with wet paper codes**, Zhihong Chen, Tianjin Univ. (China); Lili Cao, Tianjin Univ. of Technology (China) [8558-41]

14:20: **A visible/infrared gray image fusion algorithm based on the YUV color transformation**, Zhu Jin, Weiqi Jin, Jiakun Li, Li Li, Beijing Institute of Technology (China) [8558-42]

14:40: **Liver hydatid CT image segmentation based on localizing region active contours method and modified parametric active contour model**, Jianjun Chen, Murat Hamit, Yanting Hu, Xinjiang Medical Univ. (China) . [8558-43]

Information Optics and Optical Data Storage II

Conference Chairs: **Feijun Song**, China Daheng Group, Inc. (China); **Hui Li**, Fujian Normal Univ. (China); **Xiudong Sun**, Harbin Institute of Technology (China); **Francis T. S. Yu**, The Pennsylvania State Univ. (United States); **Suganda Jutamulia**, Univ. of Northern California (United States); **Kees A. Schouhamer Immink**, Turing Machines B.V. (Netherlands); **Keiji Shono**, Fujitsu Labs., Ltd. (Japan)

Program Committee: **Dianyong Chen**, Philips Research (China); **Chong Tow Chong**, A*STAR - Data Storage Institute (Singapore); **Fuxi Gan**, Shanghai Institute of Optics and Fine Mechanics (China); **Qingsheng He**, Tsinghua Univ. (China); **Ken-Yuh Hsu**, National Chiao Tung Univ. (Taiwan, China); **Mingju Huang**, Henan Univ. (China); **Kazuyoshi Itoh**, Osaka Univ. (Japan); **Ken-ichi Itoh**, Fujitsu Labs., Ltd. (Japan); **Soo-Gil Kim**, Hoseo Univ. (Korea, Republic of); **ByoungHo Lee**, Seoul National Univ. (Korea, Republic of); **Takeshi Matsui**; **Takeo Ohta**, Ovonic Phase Change Institute (Japan); **Yoshihiro Okino**, Kansai Univ. (Japan); **Longfa Pan**, Tsinghua Univ. (China); **No-Cheol Park**, Yonsei Univ. (Korea, Republic of); **Ailun Rong**, BeiHang Univ. (China); **Sar Sardy**, Indonesia Univ. (Indonesia); **Luping Shi**, A*STAR - Data Storage Institute (Singapore); **Han-Ping David Shieh**, National Chiao Tung Univ. (Taiwan, China); **Kehar Singh**, Indian Institute of Technology Delhi (India); **Yu-nan Sun**, Beijing Institute of Technology (China); **Motoyasu Terao**, Hitachi, Ltd. (Japan); **Din Ping Tsai**, National Taiwan Univ. (Taiwan, China); **Kiichi Ueyanagi**; **Jun Uozumi**, Hokkai-Gakuen Univ. (Japan); **Paul Weijenbergh**, Philips Research Nederland B.V. (Netherlands); **Joewono Widjaja**, Suranaree Univ. of Technology (Thailand); **Pochi Yeh**, Univ. of California, Santa Barbara (United States); **Shizhuo Yin**, The Pennsylvania State Univ. (United States)

Monday 5 November

Opening Ceremony and Plenary Session

Room: Convention Hall No. 1 Mon 9:00 to 12:00

9:00: **Opening Ceremony**

9:30: **New directions for microcavity physics**, Kerry J. Vahala, California Institute of Technology (United States)

10:00: **Laser spectroscopy applied to environmental and medical research**, Sune Svanberg, Lund Univ. (Sweden) and South China Normal Univ. (China)

Coffee/Tea Break Mon 10:30 to 11:00

11:00: **Scalable quantum information processing with atoms and photons**, Jianwei Pan, Univ. of Science and Technology of China (China)

11:30: **Quantum dot lasers and relevant nanoheterostructures**, Alexey E. Zhukov, Saint-Petersburg Academic Univ. (Russian Federation)

Pattern recognition by Mach-Zehnder joint transform correlator with binary power spectrum, Chengyu Liu, Chulung Chen, Weichih Liao, Sihliang Fu, Yuan Ze Univ. (Taiwan, China) [8559-20]

Optical correlation recognition research of low light level target based on lifting wavelet transform, Qibo Zhang, Su Zhang, Wensheng Wang, Changchun Univ. of Science and Technology (China) [8559-21]

Distorted target recognition based on Canny differential operator combined with MACH filter, Jiyang Shang, Yu Zhang, Qibo Zhang, Wensheng Wang, Changchun Univ. of Science and Technology (China) [8559-23]

Multi-limit unsymmetrical MLIBD image restoration algorithm, Yang Yang, Information Engineering Univ. (China) [8559-24]

Gain and phase dynamics in strained quantum well semiconductor optical amplifiers, Cui Qin, Xinliang Zhang, Wuhan National Lab. for Optoelectronics (China) [8559-25]

A GRIN medium coupler and its application in light beam spot conversion, Ning Wang, Fangkui Sun, Harbin Institute of Technology (China); Lixue Chen, Harbin Institute of Technology (China); Lequn Li, Harbin Institute of Technology (China) [8559-26]

Optical correlation tracking of low contrast target based on wavelet threshold segmentation, Su Zhang, Youjian Wang, Qibo Zhang, Wensheng Wang, Changchun Univ. of Science and Technology (China) [8559-28]

Optical isolator based on surface plasmon polaritons, Wanyuan Liu, Fangkui Sun, Lixue Chen, Bowen Li, Harbin Institute of Technology (China) [8559-29]

All-optical programmable logic arrays using SOA-based canonical logic units, Lei Lei, Jianji Dong, Yu Yu, Xinliang Zhang, Wuhan National Lab. for Optoelectronics (China) [8559-30]

Tuesday 6 November

Poster Session

Room: Exhibition Hall 1 Tue 16:00 to 18:00

Conference attendees are invited to attend the poster session on Tuesday afternoon. Come view the posters, ask questions, and network with colleagues in your field. Authors of poster papers will be present to answer questions concerning their papers. Attendees are required to wear their conference registration badges to the poster sessions.

Poster authors, view poster presentation guidelines at <http://spie.org/x37999.xml>.

A novel high speed opto-electronic hybrid correlator for recognition and tracking, Jinggao Sui, Xiaoya Zhang, Wusheng Tang, ChenCheng Feng, Jia Hui, National Univ. of Defense Technology (China) [8559-4]

Recognizing and recording the tone of people and others' language to promote development of work, life, and science, and to promote administration of social security, Xu Han-You, Workers' Hospital of Nanyang Textile Corp. (China) [8559-17]

Hydrogen bonded supramolecular azopolymers: A media for multilayered and polarization-multiplexed data storage based on two-photon process, Daqiao Hu, Yanlei Hu, Wenhao Huang, Qijin Zhang, Univ. of Science and Technology of China (China) [8559-18]

Simulation results of optoelectronic photocurrent reconfigurable (OPR) universal logic devices (ULD) as the universal circuitry basis for advanced parallel high-performance processing, Vladimir G. Krasilenko, Vinnitsa Social Economy Institute (Ukraine); Aleksandr I. Nikolskiy, Alexander A. Lazarev, Vinnitsia National Technical Univ. (Ukraine); Taras E. Magas, Vinnitsa Social Economy Institute (Ukraine) [8559-19]

Wednesday 7 November

Session 1

Room: 310 Wed 9:20 to 10:10

Information Optics Technology I

Session Chair: **Suganda Jutamulia**, Univ. of Northern California (United States)

9:20: **Photonics crystal fiber Raman sensors (Invited Paper)**, Claire Gu, Univ. of California, Santa Cruz (United States) [8559-1]

9:50: **Method for measuring retardation of infrared wave-plate by modulated-polarized visible light**, Ying Zhang, Beijing Univ. of Posts and Telecommunications (China) and Minzu Univ. of China (China); Feijun Song, China Daheng Group, Inc. (China) [8559-3]

Coffee/Tea Break Wed 10:10 to 10:40

Conference 8559 · Room: 310

Session 2

Room: 310Wed 10:40 to 11:50

Information Optics Technology II

Session Chair: **Suganda Jutamulia**, Univ. of Northern California (United States)

10:40: **Power flow study in subwavelength plasmonic apertures and antennas** (*Invited Paper*), Byoung-ho Lee, Il-Min Lee, Seung Yeol Lee, Seoul National Univ. (Korea, Republic of)[8559-5]

11:10: **The workpiece surface intelligent tracing based on support vector machine in laser remanufacturing**, Nan Yang, Tianjin Univ. of Technology (China)[8559-6]

11:30: **Light multinary computing: the evolution from electronic binary computing**, Jaime Arago, Freelance (Spain)[8559-7]

Lunch Break Wed 11:50 to 13:30

Session 3

Room: 310Wed 13:30 to 15:00

Information Optics Technology III

Session Chair: **Feijun Song**, China Daheng Group, Inc. (China)

13:30: **Compact digital holoscope with dual wavelength** (*Invited Paper*), Jianglei Di, Jianlin Zhao, Anand Krishna Asundi, Nanyang Technological Univ. (Singapore)[8559-8]

14:00: **Dynamic resource-aware routing and frequency slots allocation in SLICE using adaptive modulation with consideration of both BER requirement and distance**, Lei Wang, Min Zhang, Beijing Univ. of Posts and Telecommunications (China)[8559-9]

14:20: **Dynamic wavelength, priority and bandwidth assignment (DWPBA) for long-reach hybrid WDM/TDM-PON based on multi-thread scheduling**, Yuqin Xie, Min Zhang, Beijing Univ. of Posts and Telecommunications (China)[8559-10]

14:40: **Holography display with LED illumination based on phase-only spatial light modulator**, Yan Zhao, Liangcai Cao, Qingsheng He, Guofan Jin, Tsinghua Univ. (China)[8559-11]

Coffee/Tea Break Wed 15:00 to 15:30

Session 4

Room: 310Wed 15:30 to 17:30

Optical Holographic Storage

Session Chair: **Feijun Song**, China Daheng Group, Inc. (China)

15:30: **Vector wave recording techniques for optical data storage** (*Invited Paper*), Toyohiko Yatagai, Daisuke Barada, Utsunomiya Univ. (Japan); Suganda Jutamulia, Univ. of Northern California (United States)[8559-12]

16:00: **Novel holographic recording in phenanthrenequinone-doped poly(methyl methacrylate) photopolymer and its applications** (*Invited Paper*), Shiuan Huei Lin, June Hua Lin, Ken Y. Hsu, National Chiao Tung Univ. (Taiwan, China)[8559-13]

16:30: **Fundamental study on hybrid phase-coding and spatial multiplexing for holographic data storage**, Wei Song, Shiquan Tao, Dayong Wang, Beijing Univ. of Technology (China)[8559-14]

16:50: **Experimental verification of hologram generation using intensity images**, Ni Chen, Jiwoon Yeom, Keehoon Hong, Jae-Hyun Jung, Byoung-ho Lee, Seoul National Univ. (Korea, Republic of)[8559-15]

17:10: **Multiplexed holographic gratings recorded by 405nm laser in polymer film containing spirooxazines**, Shencheng Fu, Changchun Univ. of Science and Technology (China); Shiyu Sun, Northeast Normal Univ. (China); Wenling Sang, Bo Sun, Changchun Univ. of Science and Technology (China); Xintong Zhang, Yichun Liu, Northeast Normal Univ. (China)[8559-16]

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LED and Display Technologies II

Conference Chairs: **Yanbing Hou**, Beijing Jiaotong Univ. (China); **Bin Hu**, The Univ. of Tennessee (United States)

Program Committee: **Donal D. C. Bradley**, Imperial College London (United Kingdom); **Youmei Dong**, BOE Technology Group Co., Ltd. (China); **Wei Huang**, Nanjing Univ. of Posts and Telecommunications (China); **Fengyi Jiang**, Lattice Power (Jiangxi) Corp. (China); **Hoi Sing Kwok**, Hong Kong Univ. of Science and Technology (Hong Kong, China); **Liang-Sheng Liao**, Soochow Univ. (China); **Shi-Yong Liu**, Jilin Univ. (China); **Yunqi Liu**, Institute of Chemistry (China); **Zhidong Lou**, Beijing Jiaotong Univ. (China); **Junbiao Peng**, South China Univ. of Technology (China); **Yong Qiu**, Tsinghua Univ. (China); **Jun Ruan**, China Solid State Lighting Alliance (China); **Xiao Wei Sun**, Nanyang Technological Univ. (Singapore); **Baoping Wang**, Southeast Univ. (China); **Lixiang Wang**, Changchun Institute of Applied Chemistry (China); **Xingwei Wu**, iFire Technology Ltd. (Canada); **Zhiguo Xiao**, Luming Science and Technology Group (China); **Ningsheng Xu**, Sun Yat-Sen Univ. (China); **Guo-Yi Zhang**, Peking Univ. (China)

Monday 5 November

Opening Ceremony and Plenary Session

Room: Convention Hall No. 1 Mon 9:00 to 12:00

9:00: **Opening Ceremony**

9:30: **New directions for microcavity physics**, Kerry J. Vahala, California Institute of Technology (United States)

10:00: **Laser spectroscopy applied to environmental and medical research**, Sune Svanberg, Lund Univ. (Sweden) and South China Normal Univ. (China)

Coffee/Tea Break Mon 10:30 to 11:00

11:00: **Scalable quantum information processing with atoms and photons**, Jianwei Pan, Univ. of Science and Technology of China (China)

11:30: **Quantum dot lasers and relevant nanoheterostructures**, Alexey E. Zhukov, Saint-Petersburg Academic Univ. (Russian Federation)

Tuesday 6 November

Session 1

Room: 310 Tue 9:00 to 10:20

LED I

Session Chair: **Bin Hu**, The Univ. of Tennessee (United States)

9:00: **Organic spintronics developed from organic light-emitting diodes**, Bin Hu, The Univ. of Tennessee (United States) [8560-1]

9:30: **Investigation of color-stable deep red-emitting OLEDs and transparent LiF:Al composite cathodes (Invited Paper)**, Qu Bo, Peking Univ. (China); Chao Gao, Xi'an Modern Chemistry Research Institute (China); Zhijian Chen, Lixin Xiao, Qihuang Gong, Peking Univ. (China) [8560-2]

10:00: **Optimal spectrum design of OLED indoor lighting**, Shih-Jie Dai, National Chung Cheng Univ. (Taiwan, China); Hsiang-Chen Wang, National Chung Cheng Univ. (Taiwan, China) and National Chung Cheng Univ. (Taiwan, China) . . . [8560-3]

Coffee/Tea Break Tue 10:20 to 10:50

Session 2

Room: 310 Tue 10:50 to 11:50

LED II

Session Chair: **Bin Hu**, The Univ. of Tennessee (United States)

10:50: **A simple, low-cost and portable LED-based multi-wavelength light source for forensic application**, Wee Chuen Lee, Univ. Sains Malaysia (Malaysia); Bee Ee Khoo, Universiti Sains Malaysia (Malaysia); Ahmad Fami Lim bin Abdullah, Univ. Sains Malaysia (Malaysia) [8560-4]

11:10: **Optimized LED spatial apodization and locations for spatial uniformity in enclosed space**, Chung-Jen Ou, Chong-Jei Huang, Yu-Yuan Liu, Hsiuping Institute of Technology (Taiwan, China) [8560-5]

11:30: **High efficient tandem blue fluorescent organic light-emitting diodes based on C₆₀/NPB:MoO₃ interconnecting layer**, W T Bi, M X Wu, Y L Hua, Tianjin University of Technology (China) [8560-6]

Lunch Break Tue 11:50 to 13:30

Session 3

Room: 310 Tue 13:30 to 14:50

Display

Session Chair: **Yanbing Hou**, Beijing Jiaotong Univ. (China)

13:30: **Embed an irregular linear Fresnel lens into a simple empty chamber to let a medium or large edge lighting LED backlight module be thin, lightweight, low-cost, and possess high effect of light rays guiding**, Wen-Gong Chen, Yung Ta Institute of Technology & Commerce (Taiwan, China) [8560-7]

13:50: **First principles calculations of electronic and optical properties of Zn_{1-x}(TM)_xO (TM=Mg,Cd)**, Peng Chen, South China Normal Univ. (China) . . . [8560-8]

14:10: **Improvement of light extraction efficiency of GaN-based flip-chip light-emitting diodes by double-side patterned sapphire**, Xiaoqing Du, Guangming Zhong, Weimin Chen, Xiaohua Lei, Xianming Liu, Chongqing Univ. (China) [8560-9]

14:30: **Design and fabrication of a controllable haze diffuser film**, Zongbao Fang, Heng Zhang, Xiaohong Zhou, Linsen Chen, Soochow Univ. (China) [8560-11]

Coffee/Tea Break Tue 14:50 to 16:00

Conference 8560 · Room: 310

Poster Session

Room: Exhibition Hall 1 Tue 16:00 to 18:00

Conference attendees are invited to attend the poster session on Tuesday afternoon. Come view the posters, ask questions, and network with colleagues in your field. Authors of poster papers will be present to answer questions concerning their papers. Attendees are required to wear their conference registration badges to the poster sessions.

Poster authors, view poster presentation guidelines at <http://spie.org/x37999.xml>.

TDDFT investigation and design for fluorescent molecules with push-pull structures, Lin Tao, Beijing Jiaotong Univ. (China) [8560-12]

BaAl₂S₄:Eu thin films sputtered by complex target with spark plasma sintering BaS:Eu pellets, Dongpu Zhang, Beijing Institute of Technology (China) and Beijing Space Technology Development and Testing Ctr. (China); Wei Xue, Zhinong Yu, Beijing Institute of Technology (China) [8560-13]

A semi-analytical approach for LED secondary lens design, Chung-Jen Ou, Hsiuping Univ. of Science and Technology (Taiwan, China) [8560-15]

Energy transfer under applied electric field in doped PLED by transient spectra, Lingchuan Meng, Yanbing Hou, Longfeng Lu, Beijing Jiaotong Univ. (China) [8560-16]

A new uniform chromaticity diagram based on CIE1931 (x, y), Yusheng Lian, Ningfang Liao, Beijing Institute of Technology (China); Xiuze Wang, Institute of Science, Information Engineering University of PLA (China); Jing Liang, School of Light Industry and Chemical Engineering, Dalian Polytechnic University (China); Jiajia Wang, Beijing Institute of Technology (China) [8560-17]

TEM sample preparation and characterization of the group-III nitrides: common problems and solutions, Xiao-Dong Yang, Xiamen Univ. (China) [8560-18]

Effect of the projector resolution on speckle contrast measurement in laser projection displays, Mei-Fang Xu, North Univ. of China (China) [8560-19]

Quantum efficiency measurement of luminescence glasses for white LED, Xiangkun Dong, Xiaoqing Du, Yulong Liu, Linjiao Ren, Lei Jin, Xiaohua Lei, Weimin Chen, Chongqing Univ. (China) [8560-20]

Design of freeform LED lens with large light deflection angle for road lighting application, Shaoyun Yin, Xiuhui Sun, Chongqing Institute of Green and Intelligent Technology (China); Yiming Pan, Liangping Xia, Institute of Optics and Electronics (China); Jinglei Du, Sichuan Univ. (China); qiling deng, Institute of Optics and Electronics (China); Chunlei Du, Chongqing Institute of Green and Intelligent Technology (China) [8560-22]

Epitaxial lateral overgrowth on the air void embedded SiO₂ mask for InGaN light-emitting diodes, Sang-Mook Kim, Korea Photonics Technology Institute (Korea, Republic of) [8560-23]

Preparation and characterization of Eu³⁺ ion in Mg-substituted tricalcium phosphate phosphors, Tsung-Yuan Chang, National Taiwan Ocean University, Keelung (Taiwan, China); Hsiu-Mei Lin, Tai-Yuan Lin, National Taiwan Ocean Univ. (Taiwan, China) [8560-24]

The variation laws of mutual coherence function in laser projector with moving diffuser for speckle reduction, Gaoming Li, Yishen Qiu, Hui Li, Fujian Normal Univ. (China) [8560-25]

Advanced Sensor Systems and Applications V

Conference Chairs: **Brian Culshaw**, Univ. of Strathclyde (United Kingdom); **Yanbiao Liao**, Tsinghua Univ. (China); **Anbo Wang**, Virginia Polytechnic Institute and State Univ. (United States); **Xiaoyi Bao**, Univ. of Ottawa (Canada); **Xudong Fan**, Univ. of Michigan (United States)

Program Committee: **Weihong Bi**, Yanshan Univ. (China); **Rongshen Chen**, The Univ. of Birmingham (United Kingdom); **Weimin Chen**, Chongqing Univ. (China); **Zhe Chen**, Jinan Univ. (China); **Kin-Seng Chiang**, City Univ. of Hong Kong (Hong Kong, China); **Fajie Duan**, Tianjin Univ. (China); **Claire Gu**, Univ. of California, Santa Cruz (United States); **Shibin Jiang**, AdValue Photonics, Inc. (United States); **Wei Jin**, The Hong Kong Polytechnic Univ. (Hong Kong, China); **Tiegen Liu**, Tianjin Univ. (China); **Gangding Peng**, The Univ. of New South Wales (Australia); **Yun-Jiang Rao**, Univ. of Electronic Science and Technology of China (China); **Tingyun Wang**, Shanghai Univ. (China); **Hai Xiao**, Missouri Univ. of Science and Technology (United States); **Libo Yuan**, Harbin Engineering Univ. (China)

Monday 5 November

Opening Ceremony and Plenary Session

Room: Convention Hall No. 1 Mon 9:00 to 12:00

9:00: **Opening Ceremony**

9:30: **New directions for microcavity physics**, Kerry J. Vahala, California Institute of Technology (United States)

10:00: **Laser spectroscopy applied to environmental and medical research**, Sune Svanberg, Lund Univ. (Sweden) and South China Normal Univ. (China)

Coffee/Tea Break Mon 10:30 to 11:00

11:00: **Scalable quantum information processing with atoms and photons**, Jianwei Pan, Univ. of Science and Technology of China (China)

11:30: **Quantum dot lasers and relevant nanoheterostructures**, Alexey E. Zhukov, Saint-Petersburg Academic Univ. (Russian Federation)

Lunch Break Mon 12:00 to 13:30

Session 1

Room: 311B Mon 13:30 to 15:20

Advanced Sensor Systems and Applications I

Session Chairs: **Ming-Jun Li**, Corning Incorporated (United States); **Tun Cao**, Dalian Univ. of Technology (China)

13:30: **Thermal stability solutions for optical current sensor using thermoelectric method** (*Invited Paper*), Shuping Wang, Univ. of North Texas (United States); Xiaoling Yang, Beijing Union Univ. (China); Abdullaziz Alahmari, Univ. of North Texas (United States) [8561-2]

14:00: **An experimental study on detection of load application onto an optical fiber by means of changes of a speckle pattern**, Makoto Hasegawa, Muneki Kawahara, Chitose Institute of Science and Technology (Japan) [8561-3]

14:20: **Rotation phenomena of speckle patterns observed in an output light spot from an optical fiber and its applicability for sensing application**, Makoto Hasegawa, Yusuke Takahashi, Muneki Kawahara, Chitose Institute of Science and Technology (Japan) [8561-4]

14:40: **Rock mass acoustic emission detection using distributed feedback fiber grating lasers**, Wenzhu Huang, Institute of Semiconductors (China) and Shijiazhuang Tiedao Univ. (China); Huaixiang Ma, Shijiazhuang Tiedao University (China); Wentao Zhang, Fang Li, Institute of Semiconductors (China); Yanliang Du, Shijiazhuang Tiedao Univ. (China) [8561-5]

15:00: **High performance four-element DFB fiber laser hydrophone array system**, Zhihui Sun, Li Min, Shandong Academy of Sciences (China); Xiaolei Zhang, Shandong Univ. (China); Jiasheng Ni, Yingying Wang, Jinyu Wang, Meng Wang, Chang Wang, Shandong Academy of Sciences (China); Jun Chang, Shandong Univ. (China); Gangding Peng, The Univ. of New South Wales (Australia) [8561-6]

Coffee/Tea Break Mon 15:20 to 15:50

Session 2

Room: 311B Mon 15:50 to 18:10

Advanced Sensor Systems and Applications II

Session Chairs: **Shuping Wang**, Univ. of North Texas (United States); **Haiyan Chen**, Yangtze Univ. (China)

15:50: **Double clad fibers for optical endomicroscopy applications** (*Invited Paper*), Ming-Jun Li, Corning Incorporated (United States) [8561-7]

16:20: **Photonic crystal cavity Sensor integrated with microfluidic channel in the visible region** (*Invited Paper*), Lei Zhang, Tun Cao, Kai Rong Qin, Wei Ping Yan, Dalian Univ. of Technology (China) [8561-8]

16:50: **A novel fiber optic microphone with three flexural disks**, Ran Tao, Anhui Univ. (China) [8561-9]

17:10: **Single-helix chiral long period fiber gratings for wavelength-interrogated liquid level sensing**, Li Yang, Yunfei Wu, Univ. of Science and Technology of China (China) [8561-10]

17:30: **Self-phase modulation in a nonlinear single-mode fiber Fabry-Pérot cavity with high intensity pulsed laser injection**, Haiyan Chen, Cong Chen, Lilin Chen, Yangtze Univ. (China) [8561-11]

17:50: **Characterization of Mach-Zehnder interferometer-based photonic crystal fiber sensors**, Amine Ben Salem, Ahmed Dhib, Rim Cherif, Mourad Zghal, SUP'COM (Tunisia) [8561-12]

Tuesday 6 November

Session 3

Room: 311B Tue 8:00 to 10:10

Advanced Sensor Systems and Applications III

Session Chairs: **Rene Landgraf**, Fraunhofer-Institut für Photonische Mikrosysteme (Germany); **Hsiang-Chen Wang**, National Chung Cheng Univ. (Taiwan, China)

8:00: **Phase shifted FBG fabricated with arc discharge erasing technique** (*Invited Paper*), Yuanhong Yang, Xiaozhe Zhang, Xuejing Liu, BeiHang Univ. (China) [8561-13]

8:30: **A novel method for design and development of magnetic motor based on thermal energy**, Nitthin Goona, National Institute of Technology, Goa (India) [8561-14]

8:50: **Monitoring system for high and steep slope based on optical fiber sensing technology**, Feng Li, Yanliang Du, Shijiazhuang Tiedao Univ. (China); Wentao Zhang, Institute of Semiconductors (China); Baochen Sun, Shijiazhuang Tiedao Univ. (China); Fang Li, Institute of Semiconductors (China) [8561-15]

9:10: **Fabrication and sensing characteristics of tilted long-period fiber gratings**, Rui Wu, Yunqi Liu, Na Chen, Fufei Pang, Tingyun Wang, Shanghai Univ. (China) [8561-16]

9:30: **Highly sensitive temperature measurement based on polymer-coated single-mode-multimode-single-mode fiber structure**, Linlin Xue, Yujuan Zhang, Di Che, Qijin Zhang, Li Yang, Univ. of Science and Technology of China (China) [8561-17]

9:50: **Experimental investigation of birefringence of solid core polarization maintaining photonic crystal fibers**, Weiqian Duan, Yuanhong Yang, Xing Zhang, Miao Ye, BeiHang Univ. (China) [8561-18]

Coffee/Tea Break Tue 10:10 to 10:40

Conference 8561 · Room: 311B

Session 4

Room: 311B Tue 10:40 to 12:10

Advanced Sensor Systems and Applications IV

Session Chairs: **Yuanhong Yang**, BeiHang Univ. (China); **Yunqi Liu**, Shanghai Univ. (China)

10:40: **The fabrication of nanostructures CIGS thin film solar cell** (*Invited Paper*), Li-Hsi Chen, Xusun-Yu Yu, National Chung Cheng Univ. (Taiwan, China); Hsiang-Chen Wang, National Chung Cheng Univ. (Taiwan, China) and National Chung Cheng Univ. (Taiwan, China); Jian-Hung Lin, Chia-Chen Hsu, Chien-Chao Tsiang, National Chung Cheng Univ. (Taiwan, China) [8561-19]

11:10: **Optical voltage sensor using Fresnel Rhomb Bi₄Ge₃O₁₂ crystal**, Changsheng Li, BeiHang Univ. (China); Rong Zeng, Tsinghua Univ. (China) [8561-20]

11:30: **Sub-pixel algorithms on linear-array detector grating spectrometer**, Chuan Qin, Jianlin Zhao, Dexing Yang, Biqiang Jiang, Northwestern Polytechnical Univ. (China) [8561-21]

11:50: **A geometric algorithm for space optical imaging system based on topological mapping relationship**, Zhang Zhi, Zhou Feng, Ning-juan Ruan, Beijing Institute of Space Mechanics and Electricity (China) [8561-22]

Lunch Break Tue 12:10 to 13:40

Session 5

Room: 311B Tue 13:40 to 15:10

Advanced Sensor Systems and Applications V

Session Chairs: **Changsheng Li**, BeiHang Univ. (China); **Wei-dong Zhou**, Zhejiang Normal Univ. (China)

13:40: **Planar optical microring resonators used as biosensors: Design of polymer compared to semiconductor based waveguides** (*Invited Paper*), Rene Landgraf, Fraunhofer-Institut für Photonische Mikrosysteme (Germany) and Technische Univ. Dresden (Germany); Toni Haugwitz, Robert Kirchner, Andreas Finn, Technische Univ. Dresden (Germany); Frank Deicke, Fraunhofer-Institut für Photonische Mikrosysteme (Germany); Wolf-Joachim Fischer, Technische Univ. Dresden (Germany) and Fraunhofer-Institut für Photonische Mikrosysteme (Germany) [8561-23]

14:10: **A sensitive refractive-index sensor with a micro-structure metamaterial**, An Yang, Jiangsu Normal Univ. (China); Changchun Yan, Jiangsu Normal Univ. (China) and Nanyang Technological Univ. (Singapore) [8561-24]

14:30: **Sensitivity limits of guided modes in silicon integrated waveguide-based sensors**, Oleg Zero, Norwegian Univ. of Science and Technology (Norway); Astrid Aksnes, Norwegian Univ of Science and Technology (Norway) [8561-25]

14:50: **Lidar observations of the urban aerosols: case study on the air quality in China**, Zhenyi Chen, Anhui Institute of Optics and Fine Mechanics (China) [8561-26]

Coffee/Tea Break Tue 15:10 to 16:00

Poster Session

Room: Exhibition Hall 1 Tue 16:00 to 18:00

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Poster authors, view poster presentation guidelines at <http://spie.org/x37999.xml>.

A fiber-optic flexural disk microphone of high sensitivity, Ran Tao, Ran Tao, Xuqiang Wu, Qifa Zhang, Sheng Huang, Benli Yu, Anhui Univ. (China) . . . [8561-28]

Simulation analysis and theoretical model of electro-optic modulator in Rayleigh BOTDA, Hu Wang, Yongqian Li, Huan Li, Qinger He, North China Electric Power Univ. (China) [8561-29]

Characteristics analysis of double-cladding coating layer propagation properties of Eccentric Core Optical Fiber, Liu Jianxia, Harbin Engineering Univ. (China) and College of Electronic & Information, Heilongjiang Institute of Science & Technology (China); Yuan Libo, Harbin Engineering Univ. (China) [8561-31]

A method for improving Rayleigh-BOTDA system performance, Yongqian Li, Hu Wang, Huan Li, Qinger He, North China Electric Power Univ. (China) [8561-32]

Research on fiber Bragg grating based on nano-fiber, Nuan Jiang, Zhengtong Wei, Yongming Hu, National Univ. of Defense Technology (China) [8561-33]

Localized surface plasmon resonance properties of I-shape Ag/SiO₂/Ag nanoparticles, Juanyi Liu, Zhejiang Ocean Univ. (China); YuLiang Liu, Lili Li, Yaner Feng, QiuLiang Zhao, School of Electromechanical Engineering of Zhejiang Ocean University (China) [8561-35]

The frequency mixing impact analysis of the light intensity noise with modulation signals in phase generated carrier (PGC) demodulation method, Jiaolong Yu, Jiaolong Yu, Anhui Univ. (China) [8561-36]

A structured light vision sensor for discrimination of failure laser radar data caused by multiple reflections of laser beam, Xiao Kang, Wei Zhu, Li Tian, KeJie Li, Beijing Institute of Technology (China) [8561-37]

A method for improving the performance of Brillouin echo system, Yongqian Li, Huan Li, Hu Wang, Qinger He, North China Electric Power Univ. (China) [8561-38]

Use of bending of a single SMS fiber structure for measurement of temperature sensing, Yujuan Zhang, Qijin Zhang, Univ. of Science and Technology of China (China) [8561-39]

Ultra-long distance distributed fiber-optic system for intrusion detection, Dongsheng Tu, Zhaogong Jiang, Ningbo Nuoke Electronic Technology Development Co., Ltd. (China); Shangran Xie, Tsinghua Univ. (China); Shangjin Ren, Ningbo Nuoke Electronic Technology Development Co., Ltd. (China); Min Zhang, Tsinghua Univ. (China) [8561-41]

Characteristics of in-fiber Mach-Zehnder interferometer formed by lateral offset splicing, Xiujian Yu, Ge Li, Shengchun Liu, Jintao Zhang, Xuefeng Chen, Liying Zhang, Heilongjiang Univ. (China); Yanbiao Liao, Tsinghua Univ. (China) [8561-42]

Analysis on the performances of multiple parameters measurement base on the distributed optical fiber sensing system, Lei Qin, Wei Liu, Capital Normal Univ. (China) [8561-43]

Distributed feedback fiber laser strain sensor with high sensitivity in a wide frequency range, Xiaolei Zhang, Shandong Academy of Sciences (China); Gangding Peng, The Univ. of New South Wales (Australia); Chang Wang, Zhihui Sun, Jiasheng Ni, Yingying Wang, Shandong Academy of Sciences (China) [8561-44]

Surface plasmon resonance sensor based on grapefruit photonic crystal fiber filled with silver nanowires, Zhang Lei, Shijiazhuang Univ. of Economics (China) [8561-45]

Discrete multi-target on-off states detection and location with optical fiber sensing system, Nian Fang, Lutang Wang, Zhaoming Huang, Chen Liu, Shanghai Univ. (China) [8561-46]

Camera calibration external parameters amendments in vision measuring, Yexin Zhao, Naiguang Lv, Xiaoping Lou, Beijing Information Science & Technology Univ. (China) [8561-47]

A new AD device application in the CCD signal process system, Su Lei, Beijing Institute of Space Mechanics and Electricity (China) [8561-48]

Measurement and analysis on infrared imaging system performance under libration, Wang Jing, Ji ming, Xi'an Institute of Applied Optics (China) . . [8561-49]

Multiplexing of double cladding fiber sensors for bending sensor, Libo Wu, Fufei Pang, Zhenyi Chen, Tingyun Wang, Shanghai Univ. (China) [8561-50]

Study on an ammonia sensor with high sensitivity in farmland based on laser absorption spectroscopy technology, Ying He, Yujun Zhang, Liming Wang, Kun You, Yanwei Gao, Anhui Institute of Optics and Fine Mechanics, CAS (China); Anning Zhu, Wenliang Yang, Institute of Soil Science, CAS (China) [8561-51]

A pressure sensor based on high-birefringence fiber loop mirror, Tiancong Xu, Shuyang Hu, Dongmei Bai, Beijing Univ. of Technology (China) . . . [8561-52]

Design of semiconductor ice box cooled by solar power supply, Jie Hou, Hebei Univ. of Science and Technology (China); Jun Zuo, Hebei University of Science and Technology (China); Shuwang Chen, Hebei Univ. of Science and Technology (China) [8561-53]

Bending characteristics of long-period fiber grating with a over-coupled resonant wavelength, Chunying Guan, Xiaozhong Tian, Harbin Engineering Univ. (China) [8561-54]

FDMA/TDMA hybrid MAC protocol for wireless sensor network, Qi Qi, Hong Wu, Yuejin Zhao, Beijing Institute of Technology (China) [8561-55]

- Theoretical study of the fiber nonlinear polarization sensing based on whispering gallery modes**, Rui Yang, Hai-peng Jin, Yunnan Univ. (China) [8561-56]
- A HBF strain sensor with piezoelectric ceramic based on Sagnac LM**, Lidan Yin, Li Wang, Beijing Univ. of Technology (China) [8561-57]
- PH sensor using fiber bragg grating based on swelling of hydrogel**, Xiaohua Lei, Chongqing Univ. (China); Bo Dong, Jianmin Gong, Anbo Wang, Virginia Polytechnic Institute and State Univ. (United States); Weimin Chen, Chongqing Univ. (China) [8561-58]
- Study of a novel micro-displacement measurement system based on chromatic confocal technology**, Xiaofei Liu, Wenyi Deng, Chun-Hui Niu, Boshi Jin, Beijing Information Science & Technology Univ. (China) [8561-59]
- An experimental study about humidity sensors based on tapered optical fibers**, Xinghu Fu, Guangwei Fu, Weihong Bi, Yanshan Univ. (China) . . . [8561-60]
- A novel safety light curtain system using a hemispherical mirror**, Yusuke Kenjo, Ryosuke Suzue, Huimin Lu, Kohei Miyata, Shiyuan Yang, Seiichi Serikawa, Kyushu Institute of Technology (Japan) [8561-61]
- A single-photon detector without cooler**, Bing Zhou, Fuyu Huang, Shijiazhuang Mechanical Engineering College (China) [8561-62]
- Surface plasmon resonance sensor based on multihole optical fiber with TiO₂ layer**, Chunying Guan, Di Gao, Harbin Engineering Univ. (China) . . [8561-63]
- Effects of diameter on characteristics of a long-period fiber grating**, Xiaobei Zhang, Zhaohui Yin, Yang Li, Fufei Pang, Yunqi Liu, Tingyun Wang, Shanghai Univ. (China) [8561-64]
- The implementation of zero-phase high-pass filtering in interferometric fiber-optic hydrophone system**, Yaowen Xiao, Tsinghua Univ. (China) [8561-66]
- Experiments research on motion detection accuracy of joint transform correlator**, Guang Lin, Qi Li, Huajun Feng, Zhihai Xu, Zhejiang Univ. (China) [8561-67]
- The design of multi-parameter detection platform of drinking water based on two-electrode voltammetry**, Yazhuo Li, Jiali Wei, Xiaoping Wang, Zhejiang Univ. (China) [8561-68]
- Gas detection system using off-axis cavity enhanced absorption spectroscopy**, Wei-dong Zhou, Zhiwei Wu, Zhejiang Normal Univ. (China) [8561-69]
- A new type fiber-optic accelerometer**, Chang Yang, Tianjin Univ. (China); Hongpu Zhou, Min Zhang, Tsinghua Univ. (China); Fajie Duan, Kai Wang, Tianjin Univ. (China); Yanbiao Liao, Tsinghua Univ. (China) [8561-70]
- The research and implementation of mobile sink for the regional information monitoring system based on WSN**, Biyao Shen, Hong Wu, Yuejin Zhao, Beijing Institute of Technology (China) [8561-71]
- The study of intelligent temperature measurement based on optic fiber**, Xiaoqiao Xing, Yuexiang Peng, Beijing Univ. of Technology (China) [8561-72]

Conference 8562 · Room: 305B

Monday - Wednesday 5-7 November 2012 • Proceedings of SPIE Vol. 8562

Infrared, Millimeter-Wave, and Terahertz Technologies II

Conference Chairs: **Cunlin Zhang**, Capital Normal Univ. (China); **Xi-Cheng Zhang**, Univ. of Rochester (United States); **He Li**, Shanghai Institute of Technical Physics (China); **Sheng-Cai Shi**, Purple Mountain Observatory (China)

Program Committee: **Peter A. Ade**, Cardiff Univ. (United Kingdom); **Yi Cai**, Kunming Institute of Physics (China); **Hou-Tong Chen**, The Ctr. for Integrated Nanotechnologies (United States); **Yuping Cui**, Jinhang Institute of Technical Physics (China); **Haewook Han**, Pohang Univ. of Science and Technology (Korea, Republic of); **Weiqi Jin**, Beijing Institute of Technology (China); **Ci-Ling Pan**, National Tsing Hua Univ. (Taiwan, China); **Jiancheng Shi**, Institute of Remote Sensing Applications (China); **Alexander Pavlovich Shkurinov**, Lomonosov Moscow State Univ. (Russian Federation); **Masahiko Tani**, Univ. of Fukui (Japan); **Chao Zhang**, Univ. of Wollongong (Australia); **Yan Zhang**, Capital Normal Univ. (China)

Monday 5 November

Opening Ceremony and Plenary Session

Room: Convention Hall No. 1 Mon 9:00 to 12:00

9:00: **Opening Ceremony**

9:30: **New directions for microcavity physics**, Kerry J. Vahala, California Institute of Technology (United States)

10:00: **Laser spectroscopy applied to environmental and medical research**, Sune Svanberg, Lund Univ. (Sweden) and South China Normal Univ. (China)

Coffee/Tea Break Mon 10:30 to 11:00

11:00: **Scalable quantum information processing with atoms and photons**, Jianwei Pan, Univ. of Science and Technology of China (China)

11:30: **Quantum dot lasers and relevant nanoheterostructures**, Alexey E. Zhukov, Saint-Petersburg Academic Univ. (Russian Federation)

Lunch Break Mon 12:00 to 13:30

Session 1

Room: 305B Mon 13:30 to 15:30

Session Chair: **Cunlin Zhang**, Capital Normal Univ. (China)

13:30: **Review of THz wave air photonics** (*Invited Paper*), Xi-Cheng Zhang, Univ. of Rochester (United States) [8562-1]

14:00: **Optimization of receiver parameters of an optical array receiver for deep-space optical communication during Earth-Mars conjunction phase** (*Invited Paper*), Ali Javed Hashmi, National Univ. of Science and Technology (Pakistan); Ali Asghar Eftekhari, Ali Adibi, Georgia Institute of Technology (United States); Farid Amoozegar, Jet Propulsion Lab. (United States) [8562-2]

14:30: **Study of terahertz spectroscopy using an infrared FTS system**, Shaoliang Li, Kangmin Zhou, Wenying Duan, Zhenhui Lin, Qijun Yao, Shengcai Shi, Purple Mountain Observatory (China) [8562-3]

14:50: **Design of 800x2 low-noise readout circuit for near-infrared InGaAs focal plane array**, Zhangcheng Huang, Huang Songlei, Jiexiong Fang, Shanghai Institute of Technical Physics (China) [8562-4]

15:10: **Shifting media for terahertz carpet cloak and overlapped effects**, XiaoFei Zang, YiMing Zhu, Univ. of Shanghai for Science and Technology (China) [8562-5]

Coffee/Tea Break Mon 15:30 to 16:00

Session 2

Room: 305B Mon 16:00 to 18:00

Session Chair: **Cunlin Zhang**, Capital Normal Univ. (China)

16:00: **Computer processing of image captured by the passive THz imaging device as an effective tool for its de-noising** (*Invited Paper*), Vyacheslav A. Trofimov, Vladislav V Trofimov, Lomonosov Moscow State Univ. (Russian Federation); Yuan-meng Zhao, Chao Deng, Xin Zhang, Cun-lin Zhang, Capital Normal Univ. (China) [8562-6]

16:30: **A new approach of graph cuts based segmentation for thermal IR image analysis** (*Invited Paper*), Sumit Chakravarty, SGT, Inc. (United States) [8562-7]

17:00: **Research on a project of the new airborne polarization hyperspectral imager**, Huan Li, Jia ZHAO, Feng Zhou, Xu-ling LIN, Hai-bo Zhao, Beijing Institute of Space Mechanics and Electricity (China) [8562-8]

17:20: **Remote measuring system for infrared spectral features using hollow fiber probe**, Yu-jing He, Fudan Univ. (China) [8562-9]

17:40: **Design of dual-color ROIC with double sharing capacitor**, Jie Zhou, Rui Jun Ding, Lei Gao, Guo-Qiang Chen, Pan Wang, Li-Chao Hao, Shanghai Institute of Technical Physics (China) [8562-10]

Tuesday 6 November

Session 3

Room: 305B Tue 8:50 to 10:00

Session Chair: **Xi-Cheng Zhang**, Univ. of Rochester (United States)

8:50: **Terahertz supercontinuum generation from metal foil** (*Invited Paper*), Cunlin Zhang, Capital Normal Univ. (China) [8562-10]

9:20: **A scheme format conversion from NRZ-OOK to QPSK/16QAM signal based on XPM in SOA-MZI**, Yueying Zhan, Min Zhang, Mingtao Liu, Lei Liu, Xue Chen, Beijing Univ. of Posts and Telecommunications (China) [8562-12]

9:40: **A robust MAP-based method for infrared image super-resolution**, Hui Yu, Huazhong Univ. of Science and Technology (China); Fusheng Chen, Zhijie Zhang, Huawang Chen, Huazhong Institute of Electro-Optics-Wuhan National Lab. for Optoelectronics (China) [8562-13]

Coffee/Tea Break Tue 10:00 to 10:30

Session 4

Room: 305B Tue 10:30 to 12:10

Session Chair: **Xi-Cheng Zhang**, Univ. of Rochester (United States)

10:30: **Dimmable VLC demonstration systems based on LED** (*Invited Paper*), Seongsu Lee, Sung-Yoon Jung, Yeungnam Univ. (Korea, Republic of) . . [8562-15]

11:00: **Study of fractional-order surface plasmons in terahertz frequencies** (*Invited Paper*), Yu-Ping Yang, Central Univ. for Nationalities (China) . . [8562-16]

11:30: **A photonic approach to microwave/millimeter-wave frequency measurement with extended range based on phase modulation**, Xuiyou Han, Nuannuan Shi, Meng Wang, Yiyi Gu, Mingshan Zhao, Dalian Univ. of Technology (China) [8562-17]

11:50: **Signal model and jamming characteristics of a 35GHz millimeter-wave FMCW SAR**, Wen Yu, Beijing Institute of Tracking and Telecommunication Technology (China) [8562-18]

Lunch Break Tue 12:10 to 13:30

Session 5

Room: 305B Tue 13:30 to 15:30

Session Chair: **Sheng-Cai Shi**, Purple Mountain Observatory (China)

13:30: **Spatio-temporal characteristics of global atmospheric CO₂ mole fractions (XCO₂) retrieved from remotely sensed data** (*Invited Paper*), Tianxing Wang, Jiancheng Shi, Institute of Remote Sensing Applications (China) . [8562-19]

14:00: **Development of high efficiency pulse tube cryocoolers for space-borne infrared applications** (*Invited Paper*), Haizheng Dang, Shanghai Institute of Technical Physics (China) [8562-20]

14:30: **Readout system for the terahertz superconducting imaging array (TSIA)**, Sheng Li, Jin-Ping Yang, Wen-Ying Duan, Zhen-Hui Lin, Jing Li, Sheng-Cai Shi, Purple Mountain Observatory (China) [8562-21]

14:50: **Research on the infrared and UV radiation characters of ballistic missile tail-flame**, Xiao-hu Liang, Beijing Institute of Tracking and Telecommunications Technology (China) [8562-22]

15:10: **Goos-Hänchen shifts on the air-COC interface in the terahertz region**, He Jun, Qingmei Li, Capital Normal Univ. (China) [8562-23]

Coffee/Tea Break Tue 15:30 to 16:00

Poster Session

Room: Exhibition Hall 1 Tue 16:00 to 18:00

Conference attendees are invited to attend the poster session on Tuesday afternoon. Come view the posters, ask questions, and network with colleagues in your field. Authors of poster papers will be present to answer questions concerning their papers. Attendees are required to wear their conference registration badges to the poster sessions.

Poster authors, view poster presentation guidelines at <http://spie.org/x37999.xml>.

Rational design of long-wave infrared band for application of the earth surface temperature observation, Yunfei Bao, Hongyan He, Feng Zhou, Beijing Institute of Space Mechanics and Electricity (China) [8562-37]

The research of remote sensing duststorm with FY-3B three infrared channels, Hui Xu, Tao Yu, Jiaguo Li, Donghai Xie, Institute of Remote Sensing Applications (China); Jibao Lai, State Key Laboratory of Remote Sensing Science, Institute of Remote Sensing Applications (China) [8562-38]

Role of soft-collision in terahertz generation in ionizing atoms, Dongwen Zhang, Zhihui Lv, Chao Meng, Zhaoyan Zhou, Zengxiu Zhao, Jianmin Yuan, National Univ. of Defense Technology (China) [8562-39]

Single-scan coherent detection with enhanced time resolution for arbitrarily polarized terahertz wave, Zhihui Lv, Zengxiu Zhao, Jianmin Yuan, National Univ. of Defense Technology (China) [8562-40]

SBNUC based on constant statistics for VOx uncooled IRFPA and implementation with FPGA, Shudi Wei, Weiqi Jin, Minglei Jin, Chao Xu, Beijing Institute of Technology (China) [8562-41]

High-power terahertz quantum cascade laser, Jianyan Chen, Junqi Liu, Tao Wang, Fengqi Liu, Zhanguo Wang, Institute of Semiconductors (China) . [8562-42]

A target recognition method for total reflection terahertz scanning images, Yuan-meng Zhao, Chao Deng, Xin Zhang, Cunlin Zhang, Capital Normal Univ. (China) [8562-44]

Terahertz spectroscopic Investigation of polypeptide and protein, Xiu-Hua Fu, China Jiliang Univ. (China) [8562-45]

Target detection method based on multi-life restrict used in super wide angle infrared starting warning system, Bing Zhou, Fuyu Huang, Shijiazhuang Mechanical Engineering College (China) [8562-46]

Performance of portable high-resolution Fourier transform spectrometer for trace gas remote sensing, Haoyun Wei, Tsinghua Univ. (China); Dongdong Fan, Beijing Vision Sky Aerospace Technology Co., Ltd. (China); Marc-André Soucy, ABB Analytical Measurement (Canada) [8562-47]

Continuous field measurements of δD in water vapor by open-path Fourier transform infrared spectrometry, Wei Wang, university of Science and Technology of China (China) and Anhui Institute of Optics and Fine Mechanics (China); Wengqing Liu, Tianshu Zhang, Anhui Institute of Optics and Fine Mechanics (China) [8562-48]

10Gbit/s full-duplex bidirectional RSOA-based WDM PON using Mach-Zehnder interferometer and forward error correction, Weiping Han, Min Zhang, Mingtao Liu, Beijing Univ. of Posts and Telecommunications (China) [8562-49]

An experimental 0.2 THz stepped frequency radar system for the target detection, Bangze Zeng, Meiyuan Liang, Yuejin Zhao, Beijing Institute of Technology (China); Cunlin Zhang, Capital Normal Univ. (China) [8562-50]

A reflection sensor based on the Rayleigh anomaly of metallic grating in terahertz wave band, Lingyue Yue, Capital Normal Univ. (China); Jingwen He, Shengfei Feng, Xinke Wang, Wenfeng Sun, Yan Zhang, Capital Normal Univ. (China) and Beijing Key Lab. for Terahertz Spectroscopy and Imaging (China) and Key Lab. of Terahertz Optoelectronics, Ministry of Education (China) . . [8562-51]

A novel target LOS calibration method for IR scanning sensor based on control points, Yong-Hong Xue, Wei An, National Univ. of Defense Technology (China); Yin-Sheng Zhang, Tao Zhang, Beijing Institute of Tracking and Telecommunication Technology (China) [8562-52]

Numerical simulation of terahertz transmission of bilayer metallic meshes with different thickness of substrates, Guozhong Zhao, Capital Normal Univ. (China) [8562-53]

Uncooled infrared imaging system based on the filter method with polka-dot beamsplitter, Lin Ding, Beijing Institute of Space Mechanics and Electricity (China); Mei Hui, Beijing Institute of Technology (China); Yiliang Liu, Beijing Institute of Space Mechanics and Electricity (China); Wenjuan Wang, Yuejin Zhao, Beijing Institute of Technology (China) [8562-54]

Denoising to the pulsed laser radar return waves based on pulses accumulation and wavelet filter, Xiping Cai, Jianbo Liu, Heilongjiang Univ. (China); Quan Han, Harbin Institute of Technology (China); Wenjiang Dai, Heilongjiang Univ. (China) [8562-55]

Measurement and analysis of perceivable signal-to-noise ratio for infrared imaging system with human vision, Xin Liu, Xidian Univ. (China) [8562-57]

A 8K FFT architecture for FPGA-based space-borne FTS on-board data processing, Jiaqing Liu, Shanghai Institute of Technical Physics (China) [8562-58]

Plasmonic resonance of bowtie antennas and their geometry dependence, Yu-Ping Yang, Minzu Univ. of China (China); Ruilin Dong, Minzu Univ. of Chian (China) [8562-59]

Power-efficient UWB generation based on hybrid of optical fiber link and RF circuits, Jianji Dong, Huazhong Univ. of Science and Technology (China) [8562-60]

An image processing system design in a new type of infrared imaging technology based on MEMS, Qiang Tong, Liqian Dong, Yuejin Zhao, Cheng Gong, Lei Yang, Beijing Institute of Technology (China) [8562-63]

A reflective optical readout method based on the infrared imaging system, Wenjuan Wang, Mei Hui, Cheng Gong, Liqian Dong, Xiaohua Liu, Yuejin Zhao, Beijing Institute of Technology (China) [8562-64]

Optimal design of high frequency readout IC for short-wave IRFPA, Pan Wang, Guo-qiang Chen, Lei Gao, Jie Zhou, Rui-jun Ding, Shanghai Institute of Technical Physics (China) [8562-65]

Infrared and color visible image fusion system based on luminance-contrast transfer technique, Bo Wang, Wenfeng Gong, Chensheng Wang, Huazhong Institute of Electro-Optics-Wuhan National Lab. for Optoelectronics (China) [8562-66]

Theoretical and experimental research on recovering absorbance shape with wavelength modulation spectroscopy, Zhimin Peng, Yanjun Ding, Tsinghua Univ. (China) [8562-67]

Terahertz polarizing beam splitter based on copper grating on polyimide substrate, Menggen Zhang, Xiangjun Li, Wentao Wang, Jianjun Liu, Zhi Hong, China Jiliang Univ. (China) [8562-68]

The design of infrared spaceborne remote sensing signal processing circuit for multi-spectral and multi-focal plane, Tao Liu, Beijing Institute of Space Mechanics and Electricity (China) [8562-69]

Terahertz multiband filters fabricated by laser induced and non-electrolytic plating, Wentao Wang, Jianjun Liu, Xiangjun Li, Hao Han, Zhi Hong, China Jiliang Univ. (China) [8562-70]

Methane gas detection using an intergrating sphere as a multipass absorption cell in mid-infrared band, Huan Xue Wang, Yihuai Lu, Tian Shu Zhang, Anhui Institute of Optics and Fine Mechanics (China) [8562-72]

THz microcavity design using modal method, Xiaoyuan Lu, Xi'an Institute of Optics and Precision Mechanics (China) [8562-73]

High-frequency analysis on RCS from terahertz conductive targets in free space, Houqiang Hua, Beijing Univ. of Aeronautics and Astronautics (China) [8562-74]

Low frequency collective vibrational spectra of zwitterionic glycine studied by density functional theory, Shihua Ma, Shanghai Institute of Applied Physics (China) [8562-75]

Removal of complex-conjugate ambiguity in SDOCT by using phase shiftings, Wenyuan Cai, Zhuqing Jiang, Yujia Wang, Hao-Chong Huang, Yu-Hong Wan, Beijing Univ. of Technology (China) [8562-76]

Infrared image quality evaluation based on fractal dimension method, Jufeng Zhang, Song Yue, Zhijie Zhang, Chensheng Wang, Huazhong Institute of Electro-Optics-Wuhan National Lab. for Optoelectronics (China) [8562-77]

Optimization for the heating pulse used in infrared thermography non-destructive testing technology, Guo Li, Lichun Feng, Cun-lin Zhang, Capital Normal Univ. (China) [8562-79]

An improved algorithm based on ROMP used in THz imaging, Ze Li, Xiaohua Liu, Yuejin Zhao, Beijing Institute of Technology (China); Cunlin Zhang, Capital Normal Univ. (China) [8562-81]

A signal processing system of infrared remote sensing camera based on oversample and comb filter, Ning Lei, Hua Wang, Zhiyong Wei, Tao Li, Beijing Institute of Space Mechanics and Electricity (China) [8562-82]

High range resolution profile of terahertz radar, Meiyan Liang, Capital Normal Univ. (China) [8562-83]

A novel 32x1 readout integrated circuit with high dynamic range for IRFPA, Zhuang Miao, Ning Li, Zhifeng Li, Shanghai Institute of Technical Physics (China) [8562-85]

A new ROIC with high voltage protection circuit of HgCdTe e-APD FPA for passive and active imaging, Guoqiang Chen, Shanghai Institute of Technical Physics (China) [8562-86]

Wednesday 7 November

Session 6

Room: 305B **Wed 8:20 to 10:00**

Session Chair: **Sheng-Cai Shi**, Purple Mountain Observatory (China)

8:20: **Double channel mechanically tunable terahertz filter based on parallel plate waveguide cavities** (*Invited Paper*), Lin Chen, ChunMei Gao, YiMing Zhu, Univ. of Shanghai for Science and Technology (China) [8562-24]

8:50: **Millimeter-wave imaging with frequency scanning antenna and optical arrayed waveguide grating** (*Invited Paper*), Yuntao He, Guoxin Yu, XinYu FU, Yuesong Jiang, Beihang Univ. (China) [8562-25]

9:20: **A new design of signal processing system for TDI infrared focal plane array**, Hua Wang, Tao Li, Xu Wang, Ning Lei, Zhiyong Wei, Beijing Institute of Space Mechanics and Electricity (China) [8562-27]

9:40: **Aluminum-coated hollow waveguides for the transmission of terahertz radiation**, Jing Liu, Jingling Shen, Captial Normal Univ. (China) [8562-28]

Coffee/Tea Break Wed 10:00 to 10:30

Session 7

Room: 305B **Wed 10:30 to 12:10**

Session Chair: **He Li**, Shanghai Institute of Technical Physics (China)

10:30: **Terahertz super thin planar lens** (*Invited Paper*), Yan Zhang, Capital Normal Univ. (China) [8562-29]

11:00: **Atmospheric profiling synthetic observation system at THz** (*Invited Paper*), Qijun Yao, Purple Mountain Observatory (China) [8562-30]

11:30: **640x512 InGaAs focal plane array camera for detecting 1.58µm absorption spectra of CO₂**, Wei Peng, Lei Ding, Xianghua Wang, Shanghai Institute of Technical Physics (China) [8562-31]

11:50: **A kind of wide range imaging spectrometer based on deformed Michelson interferometer**, Liu Yang, Beijing Institute of Technology (China) [8562-32]

Lunch Break Wed 12:10 to 13:40

Session 8

Room: 305B **Wed 13:40 to 15:30**

Session Chair: **He Li**, Shanghai Institute of Technical Physics (China)

13:40: **THz radiation properties of siver cone antenna arrays** (*Invited Paper*), Mingzhe Hu, Guizhou Univ. (China); Kaijun Mu, Cunlin Zhang, Capital Normal Univ. (China); Ding Zhao, Guizhou Univ. (China) [8562-33]

14:10: **Near-field thermal radiation characteristics of metamaterials**, Yang Bai, Harbin Institute of Technology (China) [8562-34]

14:30: **Fast angle catching methods of a millimeter wave radar for hypersonic aircraft**, Haibin Zeng, BITTT (China) [8562-35]

14:50: **A novel quasi-optical subharmonically pumped GaAs diode mixer at 375 GHz**, Jie Hu, Zheng Lou, Sheng-Cai Shi, Purple Mountain Observatory (China) [8562-36]

15:10: **A low power SAR ADC for IRFPA ROIC**, Lei Gao, Ruijun Ding, Jie Zhou, Pan Wang, Guoqiang Chen, Lichao Hao, Shanghai Institute of Technical Physics (China) [8562-80]

Optical Metrology and Inspection for Industrial Applications II

Conference Chairs: **Kevin G. Harding**, GE Global Research (United States); **Peisen S. Huang**, Univ. of Michigan-Shanghai Jiao Tong Univ. Joint Institute (China); **Toru Yoshizawa**, Saitama Medical Univ. (Japan)

Program Committee: **Masato Aketagawa**, Nagaoka Univ. of Technology (Japan); **Yasuhiko Arai**, Kansai Univ. (Japan); **Dong Chen**, Bruker Nano Inc. (United States); **Jun Chen**, Tokyo Polytechnic Univ. (Japan); **Khaled J. Habib**, Kuwait Institute for Scientific Research (Kuwait); **Qingying Jim Hu**, QUEST Integrated, Inc. (United States); **Lianhua Jin**, Univ. of Yamanashi (Japan); **Dieter Just**, European Organisation for the Exploitation of Meteorological Satellites (Germany); **Kazuhide Kamiya**, Toyama Prefectural Univ. (Japan); **Katsuichi Kitagawa**, Toray Precision Co., Ltd. (Japan); **Guangrong Liu**, Beijing Institute of Technology (China); **Liren Liu**, Shanghai Institute of Optics and Fine Mechanics (China); **Yukitoshi Otani**, Utsunomiya Univ. (Japan); **Kemao Qian**, Nanyang Technological Univ. (Singapore); **Osami Sasaki**, Niigata Univ. (Japan); **Chen-Ko Sung**, Fraunhofer-Institut für Optronik, Systemtechnik und Bildauswertung (Germany); **Xiaodi Tan**, Sony Corp. (Japan); **Joseph D. Tobiasson**, Micro Encoder Inc. (United States); **Rainer Tutsch**, Technische Univ. Braunschweig (Germany); **Jiangtao Xi**, Univ. of Wollongong (Australia); **Jian Xu**, A*STAR Singapore Institute of Manufacturing Technology (Singapore); **Hao Zhang**, Tianjin Univ. (China); **Qing-Chuan Zhang**, Univ. of Science and Technology of China (China); **Song Zhang**, Iowa State Univ. (United States)

Monday 5 November

Opening Ceremony and Plenary Session

Room: Convention Hall No. 1 Mon 9:00 to 12:00

9:00: **Opening Ceremony**

9:30: **New directions for microcavity physics**, Kerry J. Vahala, California Institute of Technology (United States)

10:00: **Laser spectroscopy applied to environmental and medical research**, Sune Svanberg, Lund Univ. (Sweden) and South China Normal Univ. (China)

Coffee/Tea Break Mon 10:30 to 11:00

11:00: **Scalable quantum information processing with atoms and photons**, Jianwei Pan, Univ. of Science and Technology of China (China)

11:30: **Quantum dot lasers and relevant nanoheterostructures**, Alexey E. Zhukov, Saint-Petersburg Academic Univ. (Russian Federation)

Lunch Break Mon 12:00 to 13:30

Session 1

Room: 311A Mon 13:30 to 15:00

Metrology Modeling and Simulation

Session Chairs: **Kevin G. Harding**, GE Global Research (United States); **Toru Yoshizawa**, Saitama Medical Univ. (Japan)

13:30: **A composite quality-guided phase unwrapping algorithm for fast 3D profile measurement** (*Invited Paper*), Ke Chen, Jiangtao Xi, Yanguang Yu, Univ. of Wollongong (Australia); Limei Song, Tianjin Polytechnic Univ. (China) . . . [8563-1]

14:00: **An approach to compensate the object movement errors in phase shift profilometry**, Lei Lu, Jiangtao Xi, Haiping Du, Yanguang Yu, Univ. of Wollongong (Australia); Limei Song, Tianjin Polytechnic Univ. (China) . . . [8563-2]

14:20: **Multi-frequency sweeping interferometry using spatial optical frequency modulation**, Samuel Choi, Osami Sasaki, Takamasa Suzuki, Niigata Univ. (Japan) . . . [8563-3]

14:40: **Simulation of real-time large-scale absolute distance measurement with a pair of femtosecond frequency comb lasers**, Yang Li, Graduate School at Shenzhen, Tsinghua Univ. (China); Qian Zhou, Tsinghua Univ. (China); Kai Ni, Graduate School at Shenzhen, Tsinghua Univ. (China); Guanhuo Wu, Tsinghua Univ. (China); Xiaorui Qiao, Graduate School at Shenzhen, Tsinghua Univ. (China) . . . [8563-4]

Coffee/Tea Break Mon 15:00 to 15:30

Session 2

Room: 311A Mon 15:30 to 16:50

Metrology Calibration

Session Chair: **Dong Chen**, Bruker Nano Inc. (United States)

15:30: **A ball bar based self-calibration technique for 5-axis optical measurement system**, Xiaoming Du, Huazhong Univ. of Science and Technology (China) and GE Global Research (China); Jiajun Gu, GE Global Research (China); Kevin G. Harding, GE Global Research (United States) . . . [8563-5]

15:50: **A 3D measurement method and its calibration base on the combination of binocular and monocular vision**, Dong Li, Jindong Tian, Xin Yang, Shenzhen Univ. (China) . . . [8563-6]

16:10: **A data processing method to improve the accuracy of depth measurement by binocular stereo vision system**, Jia Tang, Ming Zhang, Liqiang Wang, Zhejiang Univ. (China) . . . [8563-7]

16:30: **Emission coordinates calibration and precision detecting of 3D measurement system**, Honggang Lu, Chunsheng Hu, National Univ. of Defense Technology (China) . . . [8563-8]

Tuesday 6 November

Session 3

Room: 311A Tue 8:00 to 10:00

Metrology Applications I

Session Chair: **Jiangtao Xi**, Univ. of Wollongong (Australia)

8:00: **Optical profiler and its applications in industrial measurement and inspection** (*Invited Paper*), Dong Chen, Bruker Nano Inc. (United States) . . . [8563-9]

8:30: **Absolute measurement of optical surface profile with a Fizeau interferometer** (*Invited Paper*), Osami Sasaki, Niigata Univ. (Japan); Akihiro Watanabe, Niigata University (Japan); Samuel Choi, Takamasa Suzuki, Niigata Univ. (Japan) . . . [8563-10]

9:00: **Spindle error motion measurement using concentric circle grating and phase modulation interferometers**, Masato Aketagawa, Muhammad Madden, Shuhei Uesugi, Takuya Kumagai, Yoshitaka Maeda, Nagaoka Univ. of Technology (Japan); Eiki Okuyama, Akita Univ. (Japan) . . . [8563-11]

9:20: **Automated cylindrical mapper using chromatic confocal measurement**, Esmaeil Heidari, Kevin G. Harding, GE Global Research (United States) . [8563-12]

9:40: **Imaging Stokes polarimeter by dual rotating retarder and analyzer and its application of evaluation of Japanese lacquer** . . . Ryota Mizutani, Yukitoshi Otani, Tomoharu Ishikawa, Miyoshi Ayama, Utsunomiya Univ. (Japan) and Utsunomiya Univ. Ctr. for Optical Research and Education (Japan) . . . [8563-13]

Coffee/Tea Break Tue 10:00 to 10:30

Session 4

Room: 311A Tue 10:30 to 12:00

3D Methods I

Session Chair: **Toru Yoshizawa**, Saitama Medical Univ. (Japan)

10:30: **Phase shift reflectometry for sub-surface defect detection** (*Invited Paper*), Anand K. Asundi, Nanyang Technological Univ. (Singapore); Parthasarathy Sreemathy, Eden Toh, Sook May Watt, Raffles Girls School (Singapore); Lei Huang, Nanyang Technological Univ. (Singapore) . . . [8563-14]

11:00: **Continuous bucket creep measurement based on moiré**, Yi Liao, Robert W Tait, Kevin G. Harding, Wayne C. Hasz, Edward J. Nieters, GE Global Research (United States) . . . [8563-15]

11:20: **Circular gratings' moiré effect for projection measurement in volume optical computerized tomography with two-step phase-shifting method**, Jia Wang, Yang Song, Zhen-hua Li, An-zhi He, Nanjing Univ. of Science and Technology (China) . . . [8563-16]

11:40: **High precision absolute distance measurement with the monolithic femtosecond optical frequency comb**, Tengfei Wu, Changcheng Institute of Metrology & Measurement (China) . . . [8563-17]

Lunch Break Tue 12:00 to 13:30

Conference 8563 · Room: 311A

Session 5

Room: 311A Tue 13:30 to 15:20

3D Methods II

Session Chair: **Kevin G. Harding**, GE Global Research (United States)

13:30: **Small size probe for inner profile measurement of pipes using optical fiber ring beam device** (*Invited Paper*), Toshitaka Wakayama, Toru Yoshizawa, Saitama Medical Univ. (Japan) [8563-18]

14:00: **Fiber-optic confocal probe with an integrated real-time apex finder for high-precision center thickness measurement of ball lenses**, Arnote Somboonkaew, Ratthasart Amrit, Sataporn Chanhorm, National Electronics and Computer Technology Ctr. (Thailand); Boonsong Sutapun, Suranaree Univ. of Technology (Thailand) [8563-19]

14:20: **Real-time displacement measurement using VCSEL interferometer**, Takamasa Suzuki, Noriaki Yamada, Osami Sasaki, Samuel Choi, Niigata Univ. (Japan) [8563-20]

14:40: **Towards a one step geometric calibration of an optical coherence tomography**, Jesús Díaz Díaz, Maik Rahlves, Leibniz Univ. Hannover (Germany); Omid Majdani, Medizinische Hochschule Hannover (Germany); Eduard Reithmeier, Tobias Ortmaier, Leibniz Univ. Hannover (Germany) [8563-21]

15:00: **OCT for industrial applications**, Guiju Song, Kevin G. Harding, GE Global Research (United States) [8563-22]

Coffee/Tea Break Tue 15:20 to 16:00

Poster Session

Room: Exhibition Hall 1 Tue 16:00 to 18:00

Conference attendees are invited to attend the poster session on Tuesday afternoon. Come view the posters, ask questions, and network with colleagues in your field. Authors of poster papers will be present to answer questions concerning their papers. Attendees are required to wear their conference registration badges to the poster sessions.

Poster authors, view poster presentation guidelines at <http://spie.org/x37999.xml>.

High-precision sphere diameter determination by phase-shifting interferometry with a frequency-tunable diode laser, Xuejian Wu, Jitao Zhang, Haoyun Wei, Yan Li, Tsinghua Univ. (China) [8563-25]

Analysis of non-uniformity of irradiance measurement uncertainties of pulsed solar simulator, Yingwei He, Limin Xiong, Haifeng Meng, Dingpu Liu, Jieyu Zhang, Junchao Zhang, National Institute of Metrology (China) [8563-32]

Calibration of optical double-triangulation for small-size characteristics workpieces, Yiguang Gu, Xiaoping Lou, Beijing Information Science & Technology Univ. (China) [8563-33]

Techniques of thermal state measurement based on blue structure light, Zhang Chi, Zhongwei Li, Yusheng Shi, Congjun Wang, Huazhong Univ. of Science and Technology (China) [8563-34]

Research of linear CCD on line dynamic detecting raw silk fineness based on FPGA, Fengjiao Liu, Zhou Wang, Soochow Univ. (China) [8563-35]

An optoelectronic system for the in-flight measurement of helicopter rotor blades motions and strains, Youwei Huang, Tsinghua Univ. (China); Weizhen Cheng, Chinese Flight Test Establishment (China); Yan Li, Tsinghua Univ. (China); Wanxin Li, Chinese Flight Test Establishment (China) [8563-36]

A high speed auto-adaptable system for rail-track detection, Jia Ge, Yunhan Luo, Jun Zhang, Long Guo, Liang Sun, Zhe Chen, Jinan Univ. (China) [8563-37]

Three-dimensional inspection and quantitative evaluation of defects in conducting glass using optical coherence tomography, Kung-Min Lin, Feng-Yu Chang, Kuo-En Huang, Jiann-Der Lee, Meng-Tsan Tsai, Chang Gung Univ. (Taiwan, China) [8563-38]

Simultaneous measurements of atmospheric NO₂ and HONO using IBCEAS with a near-ultraviolet LED, Liuyi Ling, Anhui Institute of Optics and Fine Mechanics, Chinese Academy of Science (China) and Institute of Electric and Information Technology, Anhui University of Science and Technology (China); Pinhua Xie, Min Qin, Renzhi Hu, Nina Zheng, Fuqi Si, Anhui Institute of Optics and Fine Mechanics, Chinese Academy of Science (China) [8563-39]

Preparation and characterization of surface oxide layer on spherical silicon substrate, Wende Liu, Chi Chen, Qiming Fan, National Institute of Metrology (China) [8563-40]

Research on the video detection device in the invisible part of stay cable anchorage system, Lin Cai, Guilin Univ. of Electronic Technology (China); Nianchun Deng, Liuzhou OVM Machinery Co., Ltd. (China); Zexin Xiao, Guilin Univ. of Electronic Technology (China) [8563-41]

Dynamic measurements by color gratings projection method using two step Fourier transform method, Kazuhide Kamiya, Takashi Nomura, Ami Tanbo, Kimihisa Matsumoto, Toyama Prefectural Univ. (Japan); Hatsuzou Tashiro, Univ. of Toyama (Japan); Shinya Suzuki, Nagano National College of Technology (Japan) [8563-42]

Multiple pulse train interference-based water vapor pressure measurement for temperature measurement using a femtosecond optical frequency comb, Dong Wei, Kiyoshi Takamasu, Hirokazu Matsumoto, The Univ. of Tokyo (Japan) [8563-43]

Use of ellipsometer determine the optical properties of the satellite surface coated materials, Yanhui Li, Zhensen Wu, Lu Bai, Xidian Univ. (China) [8563-44]

Traceable dual-frequency measurement of Zeeman split He-Ne lasers using an optical frequency comb locked external cavity diode laser, Haoyun Wei, Xuejian Wu, Lei Zhou, Jitao Zhang, Yan Li, Tsinghua Univ. (China) [8563-45]

A new method for phase unwrapping base digital spackle correlation, He Dong, Li Ameng, Xiaoli Liu, Xiang Peng, Shenzhen Univ. (China) [8563-46]

Geometric calibration and accuracy assessment of multispectral imager on UAVs, Fengjie Zheng, Tao Yu, Xingfeng Chen, Jiping Chen, Guoti Yuan, Institute of Remote Sensing Applications (China) [8563-49]

Technology of optical azimuth transmission, Honggang Lu, Chunsheng Hu, National Univ. of Defense Technology (China) [8563-50]

Device testing the corner precision of photoelectric shaft angle encoder, Guanyu Wen, Shuang Wang, Changchun Univ. of Science and Technology (China) [8563-51]

Algorithm research of high-precision optical interferometric phase demodulation based on FPGA, Chunxiao Zhi, Xiaojun Zhang, Jinghua Sun, Harbin Engineering Univ. (China) [8563-52]

Analysis of solving the point correspondence problem by trifocal tensor for real-time phase measurement profilometry system, Kai Zhong, Zhongwei Li, Yusheng Shi, Congjun Wang, Huazhong Univ. of Science and Technology (China) [8563-53]

Wednesday 7 November

Session 6

Room: 311A Wed 8:20 to 10:10

Metrology Applications II

Session Chair: **Hao Zhang**, Tianjin Univ. (China)

8:20: **Industrial surface finish method comparison for fine finish measurements** (*Invited Paper*), Kevin G. Harding, Esmaeil Heidari, Robert W. Tait, GE Global Research (United States) [8563-23]

8:50: **Application of non-contact optical methods for micro-scale surface metrology**, Shihua Wang, A*STAR National Metrology Ctr. (Singapore) [8563-24]

9:10: **Image detection of inner wall surface of holes in metal sheets through polarization using a 3D TV monitor**, Takamasa Suzuki, Katsunori Nakano, Shogo Muramatsu, Niigata Univ. (Japan); Toshiro Oitate, Totsuka Metal Industry Co., Ltd. (Japan) [8563-26]

9:30: **Simultaneous measurement of birefringence magnitude and direction using Wollaston prism**, Longhai Liu, Aijun Zeng, Beishi Chen, Lexing Zheng, Huijie Huang, Shanghai Institute of Optics and Fine Mechanics (China) [8563-27]

9:50: **Extended depth of field for visual measurement systems**, Yanyu Zhao, Yufu Qu, BeiHang Univ. (China) [8563-28]

Coffee/Tea Break Wed 10:10 to 10:40

Session 7

Room: 311A Wed 10:40 to 11:20

NDT Methods

Session Chair: **Osami Sasaki**, Niigata Univ. (Japan)

10:40: **Temporal phase retrieval in dynamic speckle interferometry by adaptive empirical mode decomposition**, Hao Zhang, Tianjin Univ. (China) [8563-30]

11:00: **Holographic approach to detection of delamination areas in layered polymeric waveguides by means of strain solitons**, Irina V. Semenova, Galina V. Dreiden, Ioffe Physico-Technical Institute (Russian Federation); Karima R. Khusnutdinova, Loughborough Univ. (United Kingdom); Alexander M. Samsonov, Ioffe Physico-Technical Institute (Russian Federation) [8563-31]

Nanophotonics and Micro/Nano Optics

Conference Chairs: **Zhiping Zhou**, Peking Univ. (China); **Kazumi Wada**, The Univ. of Tokyo (Japan)

Program Committee: **Tao Chu**, NEC Corp. (Japan); **David S. Citrin**, Georgia Institute of Technology (United States); **Chunlei Du**, Institute of Optics and Electronics (China); **Siegfried Janz**, National Research Council Canada (Canada); **El-Hang Lee**, Inha Univ. (Korea, Republic of); **Zhi-Yuan Li**, Institute of Physics (China); **Ching-Fuh Lin**, National Taiwan Univ. (Taiwan, China); **Yan-qing Lu**, Nanjing Univ. (China); **Jurgen Michel**, Massachusetts Institute of Technology (United States); **Andrew W. Poon**, Hong Kong Univ. of Science and Technology (Hong Kong, China); **Haisheng Rong**, Intel Corp. (United States); **Yikai Su**, Shanghai Jiao Tong Univ. (China); **Hon K. Tsang**, The Chinese Univ. of Hong Kong (Hong Kong, China); **Danxia Xu**, National Research Council Canada (Canada); **Lian Shan Yan**, Southwest Jiaotong Univ. (China); **Chih-Chung Yang**, National Taiwan Univ. (Taiwan, China); **Jianyi Yang**, Zhejiang Univ. (China); **Wanhua Zheng**, Institute of Semiconductors (China); **Changhe Zhou**, Shanghai Institute of Optics and Fine Mechanics (China); **Weidong Zhou**, The Univ. of Texas at Arlington (United States)

Monday 5 November

Opening Ceremony and Plenary Session

Room: Convention Hall No. 1 Mon 9:00 to 12:00

9:00: **Opening Ceremony**

9:30: **New directions for microcavity physics**, Kerry J. Vahala, California Institute of Technology (United States)

10:00: **Laser spectroscopy applied to environmental and medical research**, Sune Svanberg, Lund Univ. (Sweden) and South China Normal Univ. (China)

Coffee/Tea Break Mon 10:30 to 11:00

11:00: **Scalable quantum information processing with atoms and photons**, Jianwei Pan, Univ. of Science and Technology of China (China)

11:30: **Quantum dot lasers and relevant nanoheterostructures**, Alexey E. Zhukov, Saint-Petersburg Academic Univ. (Russian Federation)

Lunch Break Mon 12:00 to 13:30

Session 1

Room: 305E Mon 13:30 to 15:00

Silicon-based Lasing

Session Chair: **Xingjun Wang**, Peking Univ. (China)

13:30: **Advances in electrically pumped lasing from Ge-on-Si** (*Invited Paper*), Jurgen Michel, Rodolfo E. Camacho-Aguilera, Yan Cai, Lin Zhang, Marco Romagnoli, Lionel C. Kimerling, Massachusetts Institute of Technology (United States) [8564-2]

14:00: **Calculation for gain coefficient dependence on donor density of n+Ge with considering Auger recombination**, Koki Takinai, Kazumi Wada, The Univ. of Tokyo (Japan) [8564-3]

14:15: **Strain induced bandgap and refractive index variation of silicon**, Jingnan Cai, Yasuhiko Ishikawa, Kazumi Wada, The Univ. of Tokyo (Japan) [8564-4]

14:30: **Photoluminescence and electroluminescence of erbium yttrium and ytterbium co-doped Er silicates**, Xingjun Wang, Zhiping Zhou, Peking Univ. (China) [8564-5]

14:45: **Emission and optical gain properties of Si slot Er_xY_{2-x}SiO₅ waveguides**, Hideo Isshiki, Takayuki Nakajima, Takuya Sato, The Univ. of Electro-Communications (Japan) [8564-6]

Coffee/Tea Break Mon 15:00 to 15:30

Session 2

Room: 305E Mon 15:30 to 18:00

New Material/New Structure for Light Emission

Session Chair: **Jurgen Michel**, Massachusetts Institute of Technology (United States)

15:30: **Carbon nanotubes on silicon for light emission** (*Invited Paper*), Laurent Vivien, Nicolas Izard, Adrien Noury, Institut d'Électronique Fondamentale (France); Etienne Gaufres, Univ. de Montréal (Canada); Xavier Le Roux, Institut d'Électronique Fondamentale (France); Richard Martel, Univ. de Montréal (Canada); M. Tange, Toshi Okasaki, National Institute of Advanced Industrial Science and Technology (Japan) [8564-7]

16:00: **Photophysical properties of dendrimer phthalocyanine-functionalized single-walled carbon nanotubes**, Hongqin Yang, Dandan He, Dongdong Ma, Yuhua Wang, Jiangxu Chen, Shusen Xie, Yiru Peng, Fujian Normal Univ. (China) [8564-8]

16:15: **Visibility of few-layer graphene**, Yi-Hao Wang, Guan-Huang Wu, Ya-Ping Hsieh, Hsiang-Chen Wang, National Chung Cheng Univ. (Taiwan, China) . [8564-9]

16:30: **New design of As₂Se₃-based chalcogenide photonic crystal fiber for ultra-broadband, coherent, mid-IR supercontinuum generation**, Rim Cherif, Amira Baili, Mourad Zghal, SUP'COM (Tunisia) [8564-10]

16:45: **Direct patterning of high-resolution and large-area photonic devices by various unique ion-beam lithography approaches**, Andre Linden, Raith Asia Ltd. (Hong Kong, China); Sven Bauerdick, Achim Nadzeyka, Raith GmbH (Germany) [8564-11]

17:00: **Sequential phonon excitation in cavity optomechanical system**, Xue-Feng Jiang, Yun-Feng Xiao, Peking Univ. (China) [8564-12]

17:15: **The effect of aperture layout design on the multi-GHz operation of light-emitting transistors** (*Invited Paper*), Chao-Hsin Wu, Peng-Hao Chou, National Taiwan Univ. (Taiwan, China) [8564-13]

17:45: **Theory of phonon assisted secondary emission from a semiconductor quantum dot in the regime of vibrational resonance**, Anvar Baimuratov, National Research Univ. of Information Technologies, Mechanics and Optics (Russian Federation); Ivan D. Rukhlenko, Monash Univ. (Australia); Anatoly V. Fedorov, National Research Univ. of Information Technologies, Mechanics and Optics (Russian Federation) [8564-14]

Tuesday 6 November

Session 3

Room: 305E Tue 8:00 to 10:00

Novel Approaches and Devices I

Session Chair: **Zhiping Zhou**, Peking Univ. (China)

8:00: **High performance silicon optical modulators** (*Invited Paper*), Graham T. Reed, David J. Thomson, Frederic Y. Gardes, Youfang Hu, Nathan Owens, Univ. of Southampton (United Kingdom); Kapil Debnath, Liam O'Faolain, Thomas F. Krauss, Univ. of St. Andrews (United Kingdom); Leon J. Lever, Zoran Ikonc, Robert W. Kelsall, Univ. of Leeds (United Kingdom); Maksym Myronov, David R. Leadley, The Univ. of Warwick (United Kingdom); Igor P. Marko, Stephen J. Sweeney, David C. Cox, Univ. of Surrey (United Kingdom); Antoine Brimont, Pablo Sanchis, Univ. Politècnica de València (Spain); Guang-Hua Duan, Alban Le Liepvre, Christophe Jany, Marco Lamponi, Dalila Make, Francois Lelarge, Alcatel-Thales III-V Lab. (France); Jean-Marc Fedeli, Sonia Messaoudene, CEA-LETI (France); Shahram Keyvanyinia, Gunther Roelkens, Dries Van Thourhout, Univ. Gent (Belgium) [8564-18]

8:30: **silicon waveguide devices for photonic networks-on-chip** (*Invited Paper*), Lin Yang, Ruiqiang Ji, Jianfeng Ding, Rui Min, Institute of Semiconductors (China) [8564-19]

9:00: **Non-reciprocity in silicon from dynamic modulation** (*Invited Paper*), Shanhuai Fan, Stanford Univ. (United States) [8564-20]

9:30: **Active nanoplasmonics** (*Invited Paper*), Anatoly V. Zayats, King's College London (United Kingdom) [8564-21]

Coffee/Tea Break Tue 10:00 to 10:30

Session 4

Room: 305E **Tue 10:30 to 12:15**

Photonic Crystal

Session Chair: **Anatoly V. Zayats**, King's College London (United Kingdom)

10:30: **Si photonic crystal waveguide based delay lines** (*Invited Paper*), Ray T. Chen, The Univ. of Texas at Austin (United States) [8564-22]

11:00: **Engineered slot-comb photonic crystal waveguides**, Charles Caer, Xavier Le Roux, Eric Cassan, Institut d'Electronique Fondamentale (France) [8564-23]

11:15: **Radiation loss of photonic-crystal mirrors in a silica slab waveguide**, Wei Ding, Rongjuan Liu, Zhiyuan Li, Institute of Physics (China) [8564-24]

11:30: **Giant dispersive properties of planar graded photonic crystals**, Charles CAER, Xavier Le Roux, Eric Cassan, Institut d'Electronique Fondamentale (France) [8564-25]

11:45: **The temperature influence on the transmission character of a LC full-filled PCF**, Jialu Wang, Yongjun Liu, Xiaoqi Liu, Weimin Sun, Harbin Engineering Univ. (China) [8564-26]

12:00: **Optical properties of azo-chromophore attached on the surface of silica photonic crystal**, Kwang Sun Kang, Kyungil Univ. (Korea, Republic of) [8564-27]

Lunch Break Tue 12:15 to 13:45

Session 5

Room: 305E **Tue 1:45 to 2:30**

New Fabrication Method

Session Chair: **Changhe Zhou**, Shanghai Institute of Optics and Fine Mechanics (China)

1:45: **Si micro- and nano-structures for communication and energy applications** (*Invited Paper*), Ching-Fuh Lin, Shih-Che Hung, Shu-Chia Shiu, Hong-Jhang Syu, National Taiwan Univ. (Taiwan, China) [8564-15]

2:15: **Brilliant and tunable color by changing pore diameter of metal-coated porous anodic alumina**, Jiawen Li, Ping Deng, Zhiqiang Zhu, Wenhao Huang, Univ. of Science and Technology of China (China) [8564-16]

Session 6

Room: 305E **Tue 14:30 to 15:45**

New Structure/New Material for Photonic Devices

Session Chair: **Huaxiang Yi**, Peking Univ. (China)

14:30: **Nanowire based solar cells** (*Invited Paper*), Xiuling Li, Univ. of Illinois at Urbana-Champaign (United States) [8564-28]

15:00: **Morphology effects on the performance of flexible polymer solar cells under bending**, Liqiu Men, Qiying Chen, Memorial Univ. of Newfoundland (Canada) [8564-29]

15:15: **Mid-infrared chalcogenide photonics** (*Invited Paper*), Juejun Hu, Hongtao Lin, Yi Zou, Lan Li, Okechukwu Ogbuu, Univ. of Delaware (United States); Sylvain Danto, J. David Musgraves, Kathleen Richardson, Clemson Univ. (United States) and Univ. of Central Florida (United States) [8564-30]

Coffee Break Tue 15:45 to 16:00

Poster Session

Room: Exhibition Hall 1 **Tue 16:00 to 18:00**

Conference attendees are invited to attend the poster session on Tuesday afternoon. Come view the posters, ask questions, and network with colleagues in your field. Authors of poster papers will be present to answer questions concerning their papers. Attendees are required to wear their conference registration badges to the poster sessions.

Poster authors, view poster presentation guidelines at <http://spie.org/x37999.xml>.

A simple and cost-effective method for fabricating antireflection structure using self-agglomerated metal nanoparticle as etching mask, Xiaoxuan Dong, Su Shen, Renjin Shao, Linsen Chen, Soochow Univ. (China) [8564-17]

Photonic crystal one-way delay waveguide, Hongliang Ren, Hao Wen, Jia Li, Yali Qin, Zhejiang Univ. of Technology (China); Weisheng Hu, Chun Jiang, Shanghai Jiao Tong Univ. (China) [8564-56]

Analysis of relations between anti-reflective properties and silica structures, Yukun Zhang, Lifang Shi, Qiling Deng, Institute of Optics and Electronics (China); Jinglei Du, Sichuan Univ. (China); Xiaochun Dong, Shaoyun Yin, Chunlei Du, Institute of Optics and Electronics (China) [8564-57]

Infrared stop-band filter based on a subwavelength structure, Yanqin Song, Chinhua Wang, Yiming Lou, Bing Cao, Soochow Univ. (China) [8564-58]

Effects of grating marks on lithography alignment precision, Jiangping Zhu, Song Hu, Institute of Optics And Electronics (China); Junsheng Yu, Univ. of Electronic Science and Technology of China (China) [8564-59]

Beam splitter with tunable power ratio by a composite structure, Kun Ren, Tianjin Univ. (China); Xiaobin Ren, Tianjin Univ. of Science and Technology (China) [8564-60]

Bending the light by a gradually modulated photonic crystal, Xiaobin Ren, Tianjin Univ. of Science and Technology (China); Kun Ren, Tianjin Univ. (China); Mingcheng Guo, Tianjin Univ. of Science and Technology (China) [8564-61]

Pulsed laser deposition of zinc nanostructures and their nonlinear optical characterizations, Yasaman Golian, Asma Motamedi, Mohammad Reza Rashidian Vaziri, Fereshteh Hajiesmaeilbaigi, Univ. of Tehran (Iran, Islamic Republic of) [8564-62]

Optimized biomimetic antireflection nanostructure for photovoltaic applications, Fei Tao, Jiacheng Chen, Hang Zhou, Peking Univ. Shenzhen Graduate School (China) [8564-63]

The role of localized surface plasmon in the THz transmission of metallic rectangular hole arrays, Wei Xiong, Institute of Optics and Electronics (China) and Univ. of Electronic Science and Technology of China (China) and Graduate Univ. of the Chinese Academy of Sciences (China); Jun Yao, Institute of Optics and Electronics (China); Wei Li, Univ. of Electronic Science and Technology of China (China); Jingling Shen, Capital Normal Univ. (China) [8564-64]

The synthesis of rutile nano-structured TiO₂ composite under low temperature, Zhang Lei, Shijiazhuang Univ. of Economics (China) [8564-65]

Simulation and analysis of the transparent and super-hydrophobic micro-nano surface structures, Zhijian Cai, Jianhong Wu, Soochow Univ. (China) [8564-66]

Absorption spectrum of the PbS doped silica fibers fabricated by ALD and MCVD, Tang Ye, Jianxiang Wen, Yanhua Dong, Tingyun Wang, Shanghai Univ. (China) [8564-67]

Focusing of cross-polarized light by plasmonic nanoantenna metasurfaces with phase discontinuities, Jing Lin, Wu Shibin, Institute of Optics and Electronics (China) [8564-69]

Dispersive wave generation in As₂S₃ slot waveguide with four zero-dispersion wavelengths, Shaofei Wang, Xianglong Zeng, Jungao Hu, Qianwu Zhang, Tingyun Wang, Shanghai Univ. (China) [8564-71]

Absorption and microstructure characteristics of the PbS-doped silica optical fiber, Yana Shang, Long Li, Jianxiang Wen, Yanhua Dong, Tingyun Wang, Shanghai Univ. (China) [8564-72]

Functionalized nano-graphene oxide for cancer targeted imaging and photothermal therapy, Da Zhang, South China Normal Univ. (China) [8564-73]

Photon correlation spectroscopy study of mixture PEG with the AOT microemulsion, Soheil Sharifi, Univ. of Sistan and Baluchestan (Iran, Islamic Republic of) [8564-74]

Pauli equation for semiconductor quantum dots photoluminescence kinetics investigation, Vadim Turkov, Mikhail Leonov, National Research Univ. of Information Technologies, Mechanics and Optics (Russian Federation); Ivan D. Rukhlenko, Monash Univ. (Australia); Anatoly V. Fedorov, National Research Univ. of Information Technologies, Mechanics and Optics (Russian Federation) [8564-75]

Anomalous size-dependent luminescence decay from PbS quantum dots, Alexander Litvin, Peter Parfenov, Elena Ushakova, Alexander V. Baranov, Anatoly V. Fedorov, Sergey A. Cherevkov, National Research Univ. of Information Technologies, Mechanics and Optics (Russian Federation) [8564-76]

Coherent random fiber lasers in weakly scattering system based on waveguide effect, Zhijia Hu, Qijin Zhang, Univ. of Science and Technology of China (China) [8564-77]

MHz isolated XUV attosecond pulses generation using plasmonic enhancement in asymmetric metallic nanoantenna, Ying-Ying Yang, Institute of Semiconductors (China); Wei Sun, Laboratory of solid state laser sources, Institute of Semiconductors, Chinese academy of sciences (China); Qian-guang Li, Hubei Univ. of Engineering (China); Ling Zhang, Huai-juan Yu, Xue-Chun Lin, Institute of Semiconductors (China) [8564-78]

Characteristics of p-GaAs/p-Al_xGa_{1-x}As/GaAs studied by surface photovoltage, Cui Fan, Nanjing Univ. of Science and Technology (China); Gangcheng Jiao, Canglu Hu, Science and Technology on Low-Light-Level Night Vision Lab. (China); Xinlong Chen, Yunsheng Qian, Nanjing Univ. of Science and Technology (China) [8564-79]

Low loss optical modulator based on slot-loaded waveguide for unmodified CMOS process, Zhiping Zhou, Wei Tan, Qifeng Long, Huaxiang Yi, Feifei Hu, Xingjun Wang, Peking Univ. (China) [8564-80]

Fabrication of two-dimensional metallic photonic crystals using colloidal gold nanoparticles, Zhaoguang Pang, Hebei Normal Univ. (China) [8564-81]

Influence of gold nanoparticle size on the trapping performance of optical tweezers, Guang Lu, Harbin Engineering Univ. (China) [8564-82]

Preparation of silver island films with tunable surface plasmon resonance, Wanbing Lu, Wei Yu, Hebei Univ. (China); Xingkuo Li, Liping Wu, College of Physics Science and Technology, Hebei University (China); Xinzhan Wang, Hebei Normal Univ. (China); Guangsheng Fu, College of Physics Science and Technology, Hebei University (China) [8564-83]

Wednesday 7 November

Session 7

Room: 305E **Wed 8:00 to 9:45**

Light Resonators for Sensing/Detectors

Session Chair: **Ching-Fuh Lin**, National Taiwan Univ. (Taiwan, China)

8:00: **High-sensitivity silicon photonic biosensors based on cascaded resonators** (*Invited Paper*), Jian-Jun He, Zhejiang Univ. (China) [8564-31]

8:30: **Multiple transmission windows in a bilayered metamaterial based on twisted asymmetrically split rings**, Ran Liu, Bo Na, Jinhui Shi, Zhengping Wang, Harbin Engineering Univ. (China). [8564-32]

8:45: **Fano resonance in whispering gallery photonic microcavities** (*Invited Paper*), Yun-Feng Xiao, Bei-Bei Li, Xue-Feng Jiang, Yan Li, Qihuang Gong, Peking Univ. (China) [8564-33]

9:15: **Study of the spherical lenses as superlens for subwavelength imaging**, Qiming Dong, Chaoping Yao, Xiaowei Guo, Univ. of Electronic Science and Technology of China (China) [8564-34]

9:30: **A compact evanescently-coupled germanium PIN waveguide photodetector**, Zhijuan Tu, Kaibo Liu, Huaxiang Yi, Xingjun Wang, Zhiping Zhou, Zhangyuan Chen, Peking Univ. (China). [8564-35]

Coffee Break Wed 9:45 to 10:15

Session 8

Room: 305E **Wed 10:15 to 12:00**

Passive Devices: Gratings/MMI

Session Chair: **Yan-Qing Lu**, Nanjing Univ. (China)

10:15: **Simplified modal method of subwavelength gratings** (*Invited Paper*), Changhe Zhou, Shanghai Institute of Optics and Fine Mechanics (China) [8564-36]

10:45: **Grating imaging scanning lithography for fabrication of large sized grating**, Bin Yu, Changhe Zhou, Jia Wei, Shanghai Institute of Optics and Fine Mechanics (China) [8564-37]

11:00: **SOI-based bandwidth-tunable grating filter with a large tuning range**, Danhua Wu, Huaxiang Yi, Li Yu, Zhiping Zhou, Peking Univ. (China) [8564-38]

11:15: **Modal analysis of a fused-silica three-port beam splitter grating**, Wenting Sun, Changhe Zhou, Bin Yu, Shanghai Institute of Optics and Fine Mechanics (China). [8564-39]

11:30: **Dual structure waveguide grating triplexer based on silicon-on-insulator**, Junbo Yang, Xu Suzhi , Xu Jia , Kuo Zhou , National Univ. of Defense Technology (China) [8564-40]

11:45: **Ultra-short silicon MMI duplexer**, Huaxiang Yi, Yawen Huang, Xingjun Wang, Zhiping Zhou, Peking Univ. (China) [8564-41]

Lunch Break Wed 12:00 to 13:30

Session 9

Room: 305E **Wed 13:30 to 15:15**

Novel Approaches and Devices II

Session Chair: **Wanhua Zheng**, Institute of Semiconductors (China)

13:30: **On-chip polarization handling for silicon nanophotonic integrated circuits** (*Invited Paper*), Daoxin Dai, Zhejiang Univ. (China) [8564-42]

14:00: **High-speed optical logic functions using Si-nanocrystal slot waveguides**, Jian Wang, Huazhong Univ. of Science and Technology (China) [8564-43]

14:15: **Plasmon spectroscopy and imaging of individual gold nanodecahedra: a combined optical microscopy, cathodoluminescence, and electron energy-loss spectroscopy study**, Viktor Myroshnychenko, Consejo Superior de Investigaciones Científicas (Spain); Jaysen Nelayah, Univ. Paris-Sud 11 (France); Giorgio Adamo, Univ. of Southampton (United Kingdom); Nicolas Geuquet, Facultés Univ. Notre Dame de la Paix (Belgium); Jessica Rodríguez-Fernández, Isabel Pastoriza-Santos, Univ. de Vigo (Spain); Kevin F. MacDonald, Univ. of Southampton (United Kingdom); Luc Henrard, Facultés Univ. Notre Dame de la Paix (Belgium); Luis M. Liz-Marzán, Univ. de Vigo (Spain); Nikolay I. Zheludev, Univ. of Southampton (United Kingdom); Mathieu Kociak, Univ. Paris-Sud 11 (France); F. Javier García de Abajo, Consejo Superior de Investigaciones Científicas (Spain) [8564-45]

14:30: **Impact of emission broadening on plasmonic enhancement with metallic gratings**, Xue Feng, Kaiyu Cui, Yidong Huang, Tsinghua Univ. (China) [8564-46]

14:45: **Eigenvalue analysis of plasmonic waveguides in layered geometries**, Aytac Alparslan, Christian Hafner, ETH Zurich (Switzerland) [8564-47]

15:00: **Ultracompact racetrack resonators based on hybrid plasmonic waveguides**, Liangxiao Tang, Feifei Hu, Zhiping Zhou, Peking Univ. (China) [8564-48]

Coffee/Tea Break Wed 15:15 to 15:45

Session 10

Room: 305E **Wed 15:45 to 17:30**

Surface Plasmon Polaritons in Metamaterials

Session Chair: **Yun-Feng Xiao**, Peking Univ. (China)

15:45: **Super-resolution imaging and molecule sensing by plasmonic nanoparticles on AgO_x thin film** (*Invited Paper*), Din Ping Tsai, Ming Lun Tseng, National Taiwan Univ. (Taiwan, China); Yu-Hsuan Lin, Instrument Technology Research Ctr. (Taiwan, China); Chia Min Chang, Pin Chieh Wu, Yao-Wei Huang, You Zhe Ho, Ding-Wei Huang, National Taiwan Univ. (Taiwan, China); Hai-Pang Chiang, National Taiwan Ocean Univ. (Taiwan, China); Ru-Shi Liu, National Taiwan Univ. (Taiwan, China); Greg Sun, Univ. of Massachusetts Boston (United States) [8564-49]

16:15: **Tunable nano-pattern generation based on surface plasmon polaritons**, Chinhua Wang, Fuyang Xu, Yiming Lou, Bing Cao, Soochow Univ. (China) [8564-50]

16:30: **Subwavelength imaging of self-assembled triangular nanoparticles through a silver superlens**, Qiming Dong, Chaoping Yao, Xiaowei Guo, Univ. of Electronic Science and Technology of China (China) [8564-51]

16:45: **Ultra-deep subwavelength periodic patterning through multilayered metamaterial microcavity**, Jigang Hu, Yongqiang Yu, Chunyan Wu, Linbao Luo, Hefei Univ. of Technology (China); Xiangxian Wang, Hai Ming, Univ. of Science and Technology of China (China) [8564-52]

17:00: **Amplification of surface plasmon polaritons in a methyl orange doped dielectric loaded SPP waveguide**, Feng Huang, Hai Ming Yuan, Xiudong Sun, Harbin Institute of Technology (China) [8564-54]

17:15: **High performance absorber structure using subwavelength multi-branch dimers**, Kebo He, Guangyao Su, Peking Univ. Shenzhen Graduate School (China); Zhaoyu Zhang, Peking Univ. (China) [8564-55]

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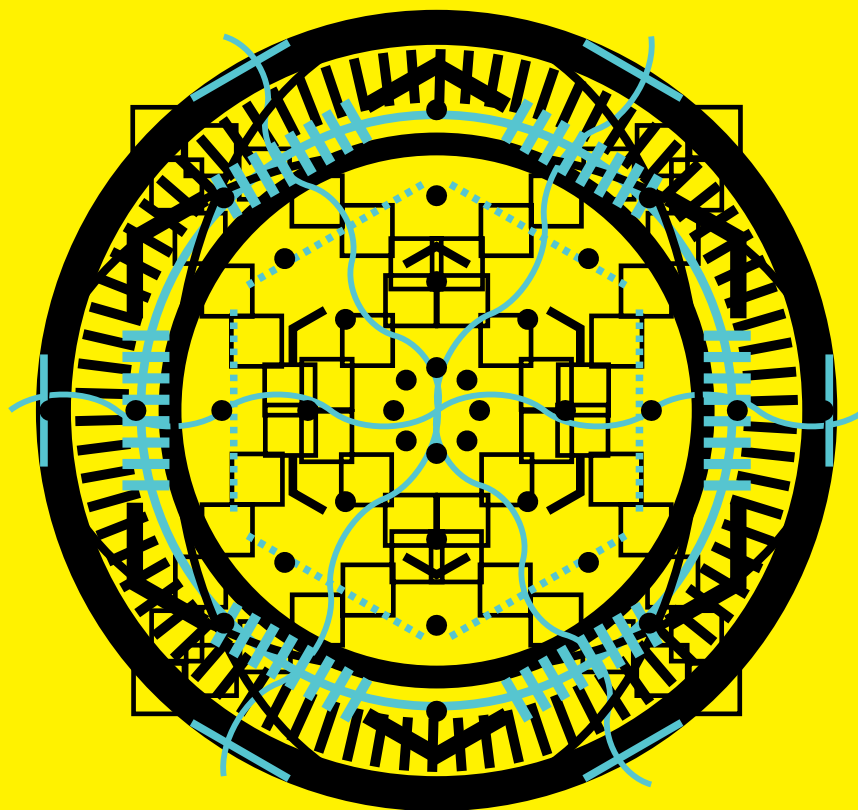


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