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SPIE/COS Photonics Asia has established itself as the premier international conference for optics and photonics technologies in China. These conferences and proceedings now play a critical role in scientific research development for a range of optical engineering professionals. In order to meet the needs of the international research community, COS and SPIE are pleased to announce that Photonics Asia will now convene every year in October to explore advanced optical technologies and enable future scientific discovery.

With important research and development projects underway in Asia and around the world, there is a growing demand for international exchange and collaboration. Local industry growth means that China is the center of rapid technology advancements and some significant breakthroughs in fundamental research science. This symposium is an international forum for the reporting and review of new developments in optics and photonics and showcases advancements in quantum and nonlinear optics, high-power lasers, optics in health care, advanced optical design and imaging, nanophotonics, plasmonics, infrared/terahertz, sensor systems, and more.

Cutting-edge technologies, applications, product announcements and demonstrations will be discussed in conference sessions and product exhibitions. The technical program includes a plenary session with visionary speakers, parallel technical sessions on critical technologies, a networking banquet, and an a poster session. This year’s event will be held at The Hangzhou International Expo Center in Hangzhou, one of the most beautiful and historic cities in China.

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SPIE PHOTONICS ASIA 2019

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Ning Hua Zhu, Institute of Semiconductors (China)

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High-Power Lasers and Applications X (PA101)

Conference Chairs: Ruxin Li, Shanghai Institute of Optics and Fine Mechanics (China); Upendra N. Singh, NASA Langley Research Ctr. (USA); Shibin Jiang, AdValue Photonics, Inc. (USA)

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Papers on the following and related topics are solicited for this conference:
• high-average-power laser
• ultra-short and super-intense lasers
• high-power DPL and ceramic lasers
• high-power fiber laser
• high-power gas, excimer, and chemical laser
• laser system for ICF
• high-power laser beam propagation and beam quality
• design and simulation for high-power laser
• lasers in material processing and manufacturing
• lasers development and qualification for space applications
• pump diodes and reliability
• high-power laser development for space-based lidar remote sensing applications
• other applications.

Semiconductor Lasers and Applications IX (PA102)

Conference Chairs: Ning Hua Zhu, Institute of Semiconductors (China); Werner H. Hofmann, Technische Univ. Berlin (Germany); Jian-Jun He, Zhejiang Univ. (China)

Program Committee: Minghua Chen, Tsinghua Univ. (China); Xiangfei Chen, Nanjing Univ. (China); Nan Chi, Fudan Univ. (China); Brian Corbett, Tyndall National Institute (Ireland); Dawei Di, Zhejiang Univ. (China); Qianggao Hu, Accelink Technologies Co., Ltd. (China); Weisheng Hu, Shanghai Jiao Tong Univ. (China); Yongzheng Huang, Beijing Univ. of Posts and Telecommunications (China); Jimin Li, Institute of Semiconductors (China); Ming Li, Institute of Semiconductors (China); Wei Li, Institute of Semiconductors (China); Xianjie Li, China Electronics Technology Group Corp. (China); Ning Liu, Huawei Technologies Co., Ltd. (China); Wenhan Liu, Univ. of Science and Technology of China (China); Yong Liu, Univ. of Electronic Science and Technology of China (China); Xiaoyu Ma, Institute of Optics and Electronics (China); Frank Hudson Peters, Tyndall National Institute (Ireland); Edwin Y. Pun, City Univ. of Hong Kong (Hong Kong, China); Hong-Bo Sun, Jilin Univ. (China); Ji Wang, Changchun Institute of Optics, Fine Mechanics and Physics (China); Shawn Wang, Luxtera, Inc. (USA); Yixin Wang, Institute for Infocomm Research (Singapore); Guang-Qiong Xia, Southwest Univ. (China); Kun Xu, Beijing Univ. of Posts and Telecommunications (China); Zhaowen Xu, Institute for Infocomm Research (Singapore); Lianshan Yan, Southwest Jiaotong Univ. (China); Jinlong Yu, Tianjin Univ. (China); Siyuan Yu, Univ. of Bristol (United Kingdom); Li Zeng, Huawei Technologies Co., Ltd. (China); Baoping Zhang, Xiamen Univ. (China); Guo-yi Zhang, Peking Univ. (China); Shangjian Zhang, Univ. of Electronic Science and Technology of China (China); Xingliang Zhang, Wuhan National Lab. for Optoelectronics (China); Zhiping Zhou, Peking Univ. (China); Xihua Zou, Southwest Jiaotong Univ. (China)

Recent advances in semiconductor lasers are resulting in improvements in power, spatial brightness, spectral brightness, and wavelength ranges from the UV to the mid-IR. These advances led to better performance and reduced cost in diode pumped laser systems and opened the door for new direct diode applications including materials processing, metrology, printing, display, biomedical imaging, Raman spectroscopy, remote sensing, etc. This conference intends to cover the following, and related topics:
• laser diode reliability and test
• integrated optoelectronic devices
• narrow linewidth lasers
• frequency-stabilized lasers
• high-speed lasers
• optical frequency comb
• fabrication and packaging technologies
• vertical-cavity surface-emitting laser (VCSEL) sources and their applications
• device physics and simulation
• modeling and design
• characterization technologies for laser diodes
• high brightness laser diodes
• quantum cascade lasers
• subsystem using laser diodes
• blue-green laser technology
• novel lasers and devices
• applications of laser diodes.
Laser processing and manufacturing has become an enabling high technology. It offers unprecedented versatility and range in terms of feature size (nano to macro), material type (metals and non-metals, inorganics and organics), phase (bulk to porous, homogenous to graded compositions), and processing options (subtractive to additive manufacturing, physical to chemical modification).

During the last decade there have been significant advances on laser processing and manufacturing research and development including laser welding of both similar or dissimilar materials, laser additive manufacturing of metals and non-metals, laser drilling and cutting of compositions and glasses, laser surface microstructuring for blackening and hydrophobic/hydrophilicity, and laser nanofabrication of bulk material and surfaces (polymers, semiconductors, glasses, and metals).

The primary goal of this conference is to provide a forum for professionals in materials science, laser processing physics/chemistry, mechanical engineering, design tools, software modeling, characterization and metrology to share and discuss the latest advances in the field of laser processing and manufacturing.

Topics include, but are not limited to:
- laser-material interaction, modeling and simulation
- laser welding and joining
- laser cladding and remanufacturing
- laser additive manufacturing and 3D printing
- laser cutting and drilling
- laser re-melting, alloying, polishing, cleaning, shock peening
- laser micro and nano fabrication
- ultrafast laser processing
- laser-based hybrid/combined processing and manufacturing
- industrial applications of laser processing and manufacturing technologies.

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Laser Additive Manufacturing and Laser Peening (PA104)

Conference Chairs: Yongfeng Lu, Univ. of Nebraska-Lincoln (USA); Yuji Sano, ImPACT (Japan); Hongjiang Chen, GE Global Research (USA)

Program Committee: Kevin P. Chen, Univ. of Pittsburgh (USA); Bai Cui, Univ. of Nebraska-Lincoln (USA); Bo Gu, Bos Photonics (USA); Yongxiang Hu, Shanghai Jiao Tong Univ. (China); Naotada Okada, Toshiba Corp. (Japan); Tomokazu Sano, Osaka Univ. (Japan); Koji Sugioka, RIKEN Ctr. for Advanced Photonics (Japan); Maocai Wang, Institute of Metal Research (China); Xiaoyan Zeng, Huazhong Univ. of Science and Technology (China); Qingmao Zhang, South China Normal Univ. (China); Yongkang Zhang, Guangdong Univ. of Technology (China)

Through the flexible interactions between lasers and materials layer by layer, laser additive manufacturing has become one of the most convenient and critical technologies for manufacturing as well as other related industries such as biomedical and aerospace engineering. Recent advancing on novel types of printing materials and methods has made laser additive manufacturing technology and its applications extremely attractive. On the other hand, laser peening has a potential to reduce surface roughness of laser additive manufactured materials, eliminate near-surface porosities, and introduce compressive residual stresses and beneficial microstructure evolution which lead to recovery of mechanical properties of parts and structures formed by laser additive manufacturing. This conference will provide a remarkable opportunity for experts and scholars to present their recent research on laser additive manufacturing, laser peening, complementary use of both technologies, and their applications. The solicited exemplary topics include, but are not limited to:

- recent research on laser additive manufacturing technologies
- dynamic observation and analysis of laser additive manufacturing
- new phenomena and mechanisms
- novel laser 3D printing methods and materials
- novel laser printing designs for laser additive manufacturing
- upgrade and improvement of devices
- applications in related industries
- novel manufacturing algorithms and protocols
- research on multi-material laser additive manufacturing
- novel techniques for key elements in optical systems such as laser sources
- novel post-processing techniques for products such as laser peening
- recent research on laser peening and laser peening technologies
- novel processes of laser peening such as using femto- or pico-second lasers
- novel laser and optical technologies enhancing productivity or applicability of laser peening
- distortion and residual stress control by laser peening
- improvement of mechanical or chemical properties of 3D printed materials by laser peening
- complementary use of laser additive manufacturing and laser peening technologies.

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Optoelectronic Devices and Integration VIII (PA105)

Conference Chairs: Xuping Zhang, Nanjing Univ. (China); Baojun Li, Jinan Univ. (China); Changyuan Yu, The Hong Kong Polytechnic Univ. (Hong Kong, China); Xiniang Zhang, Wuhan National Lab. for Optoelectronics (China)

Conference Co-chair: Daoxin Dai, Zhejiang Univ. (China)

Program Committee: Dayan Ban, Univ. of Waterloo (Canada); Zhongping Chen, Beckman Laser Institute and Medical Clinic (USA); Ho-Pui Ho, The Chinese Univ. of Hong Kong (Hong Kong, China); Jan Ingenhoff, Ionexphotonics Inc. (Canada); Zhongcheng Liang, Nanjing Univ. of Posts and Telecommunications (China); Xuexun Lu, Univ. of Massachusetts Lowell (USA); Ali Masoudi, Univ. of Southampton (United Kingdom); Hai Ming, Univ. of Science and Technology of China (China); Gang-Ding Peng, The Univ. of New South Wales (Australia); Yaocheng Shi, Zhejiang Univ. (China); Yuan Shi, Agilecom Photonic Solutions Inc. (USA); Anna K. Swan, Boston Univ. (USA); Frank Vollmer, Max-Planck-Institut für die Physik des Lichts (Germany); Daniel M. Wasserman, The Univ. of Texas at Arlington (USA); Lixin Xu, Univ. of Science and Technology of China (China); Yang Yang, Zhejiang Univ. of Technology (China); Ningmu Zou, Advanced Micro Devices, Inc. (USA)

Optoelectronic devices are being used in a wide array of applications in telecommunications, solar cells, scientific instrumentation, data storage, automotive, and military applications. Photonic design and simulation methods are a prerequisite for a fundamental understanding of advanced photonic structures as well as for the development of new photonic devices and applications. Research on new materials, processes and design are giving rise to optoelectronic devices with higher efficiencies, denser integration, and better reliabilities. With the new breakthroughs in organic photonic devices, vertical-cavity surface-emitting lasers, semiconductor photodetectors and optoelectronic integrated circuits, new package designs and reliability methodologies must be developed as these devices increase in functionality and integration.

This conference is intended to provide a forum for the interchange of ideas on optoelectronic device at different levels, including design, simulation, fabrication, integration, and applications. The topics of this conference are broad and will cover, but not limited to, the following topics:

- physics and simulation of optoelectronic devices
- devices for photonic applications
- fiber and guided-wave lasers and amplifiers
- organic photonic materials and devices
- terahertz and gigahertz electronics and photonics
- synthesis and photonics of nanoscale materials
- emerging optoelectronic applications
- vertical-cavity surface-emitting lasers
- polarization maintained/scrambled laser
- semiconductor photodetectors
- reliability of optical fiber components, devices, systems, and networks
- micro-optics and photonic interconnects
- multifunctional components, and arrayed devices
- optoelectronic hybrid and monolithic integration
- integrated optics and photonic integrated circuits
- photonics packaging and integration
- surface plasmon nanolithography, plasmonic waveguide and devices
- reliability of optical fiber components, devices, systems, and networks
- micro-optics and photonic interconnects
- multifunctional components, and arrayed devices
- optoelectronic hybrid and monolithic integration
- integrated optics and photonic integrated circuits
- photonics packaging and integration
- surface plasmon nanolithography, plasmonic waveguide and devices

Save the date

ABSTRACTS DUE: 8 May 2019
AUTHOR NOTIFICATION: 8 July 2019
MANUSCRIPT DUE DATE: 25 September 2019

The contact author will be notified of acceptance by email.

Submit your abstract today: www.spie.org/PA19call
We encourage you to submit abstracts and papers on the following and related topics:

- aberration theory and image analysis
- aspheric fabrication and metrology
- astronomical optics
- asymmetric optics
- computational optics
- conformal optics
- development in local and global optimization methods
- diffractive optics
- freeform optics: design, fabrication, and testing
- gradient index optics
- illumination optics
- information optics and photonics
- interferometry
- light field display and imaging
- liquid optics
- lithographic optics
- metasurface optics
- micro- and nano-optics
- new fabrication and testing developments
- novel display systems
- novel devices based on subwavelength structures
- novel lens designs
- optical instrument design
- optical systems for visualization, virtual and augmented reality
- plastic and molded optics
- polarization and coherence in optical design
- spaceborne optics
- stray light analysis
- testing and alignment of optical surfaces and elements
- tolerance generation and application
- UV optics
- varifocal/multifocal optics
- waveguide optics
- wavefront modulation
- zoom optics and multi-configuration optics.

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Advanced Optical Imaging Technologies II (PA107)

Conference Chairs: Xiaocong Yuan, Shenzhen Univ. (China); P. Scott Carney, Univ. of Rochester (USA); Kebin Shi, Peking Univ. (China); Michael G. Somekh, Shenzhen Univ. (China)

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Through non-invasive interaction between light and matter, optical imaging has become one of the most favorable and critical research tools for scientific communities where a variety of topics ranging from fundamental biomedical/material science to advanced imaging applications are developed. Recent advancements on more diverse imaging contrast mechanisms as well as higher spatial-temporal resolution have made advanced optical imaging technologies and their applications one of the most attractive scientific fields. This conference will provide a remarkable opportunity for scientists to present their recent progresses on exploring novel optical imaging techniques and their applications. The solicited exemplary topics include, but are not limited to:

- high-resolution fluorescence and label-free imaging technologies
- nonlinear optical imaging techniques
- holographic imaging, tomographic diffractive microscopy
- near-field and plasmonics-based imaging technologies
- photo-acoustic microscopy
- photothermal imaging techniques
- computational and compressive sensing imaging technologies
- time-resolved imaging technologies such as FLIM and transient-absorption microscopy
- imaging applications in biomedical and material sciences
- quantum imaging technologies
- novel techniques for key elements in optical imaging systems such as detection and laser sources
- novel imaging algorithms and protocols.

Optoelectronic Imaging and Multimedia Technology VI (PA108)

Conference Chairs: Qionghai Dai, Tsinghua Univ. (China); Tsutomu Shimura, The Univ. of Tokyo (Japan); Zhongrong Zheng, Zhejiang Univ. (China)

Program Committee: Moshe Ben-Ezra, MIT Media Lab. (USA); Xudong Chen, National Univ. of Singapore (Singapore); Ya Cheng, Shanghai Institute of Optics and Fine Mechanics (China); Jinwei Gu, Huawei Technologies Co., Ltd. (USA); Yo-Sung Ho, Wgangju Institute of Science and Technology (Korea, Republic of); Bormin Huang, Univ. of Wisconsin-Madison (USA); Matthias B. Hullin, Rheinische Friedrich-Wilhelms-Univ. Bonn (Germany); Ivo Ihrke, INRIA Bordeaux (France); Yoshiaki Kanamori, Tohoku Univ. (Japan); C. C. Jay Kuo, The Univ. of Southern California (USA); Kyros Kutulakos, Univ. of Toronto (Canada); Wanqing Li, Univ. of Wollongong (Australia); Yuan Luo, National Taiwan Univ. (Taiwan, China); Yifan Peng, Stanford Univ. (USA); Imari Sato, National Institute of Informatics (Japan); Tokyo Institute of Technology (Japan); Yoichi Sato, The Univ. of Tokyo (Japan); Yoav Yosef Scheckner, Technion-Israel Institute of Technology (Israel); John T. Sheridan, Univ. College Dublin (Ireland); Guangming Shi, Xidian Univ. (China); Lei Tian, Boston Univ. (USA); Feng Wu, Univ. of Science and Technology of China (China); Bo Yang, Univ. of Shanghai for Science and Technology (China); Jingyi Yu, Univ. of Delaware (USA); Xiaolin Zhang, Shanghai Institute of Microsystem and Information Technology (China)

The areas of optoelectronic systems for image/video acquisition and their applications have expanded rapidly in recent years. Advanced optoelectronic sensors, novel programmable optical modulators, combined with smart computational theories and algorithms, produce novel optoelectronics imaging systems that expand the spatial and temporal dimension for image/video acquisition. Multimedia and data acquired by these new optoelectronic systems impose new challenges in analysis and processing. This conference will provide an international forum for the discussion of the state-of-the-art techniques of optoelectronic system and multimedia processing. Invited talks will be presented by leading scientists in the relevant fields. We are soliciting papers in all relevant areas including, but not limited to, the following:

- advanced sensing systems and applications
- high-speed and high-resolution imaging
- multidimensional multiscale imaging
- multispectral and hyperspectral imaging
- ultrasonic, PET, MRI, X-ray imaging
- micro- and nano-optical imaging
- adaptive optics system
- 3D Image/video system
- novel display technique and applications
- computational imaging
- tomographic imaging
- time-of-flight imaging
- ghost imaging
- scattering robust imaging
- optical information processing
- image/video analysis, processing, and retrieval
- machine vision methods, architectures, and applications
- advancement in shape-from-x method.
Holography, Diffractive Optics, and Applications IX (PA109)

Conference Chairs: Yunlong Sheng, Univ. Laval (Canada); Changhe Zhou, Shanghai Institute of Optics and Fine Mechanics (China); Liangcai Cao, Tsinghua Univ. (China)

Program Committee: Linsen Chen, Soochow Univ. (China); Chunlei Du, Chongqing Institute of Green and Intelligent Technology (China); Min Gu, RMIT Univ. (Australia); Byoungho Lee, Seoul National Univ. (Korea, Republic of); Haifeng Li, Zhejiang Univ. (China); Junchang Li, Kunming Univ. of Science and Technology (China); Ai Qun Liu, Nanyang Technological Univ. (Singapore); Hai Ming, Univ. of Science and Technology of China (China); Xiang Peng, Shenzhen Univ. (China); Ting-Chung Poon, Virginia Polytechnic Institute and State Univ. (USA); Ching-Cherng Sun, National Central Univ. (Taiwan, China); Xudai Tan, Beijing Institute of Technology (China); Peter W.M. Tsang, City Univ. of Hong Kong (Hong Kong, China); Vladimir Yurievich Venediktov, Saint Petersburg Electrotechnical Univ. “LETI” (Russian Federation), Saint Petersburg State Univ. (Russian Federation); Chinhua Wang, Soochow Univ. (China); Baoli Yao, Xi’an Institute of Optics and Precision Mechanics (China); Toyohiko Yatagai, Utsunomiya Univ. Ctr. for Optical Research & Education (Japan); Chongxiu Yu, Beijing Univ. of Posts and Telecommunications (China); Xiao-Cong Yuan, Shenzhen Univ. (China); Jianlin Zhao, Northwestern Polytechnical Univ. (China)

Papers are solicited on, but not limited to, the following topics. We look forward to meeting you in the historic and beautiful city of Hangzhou, China.

TOPICS:
- holographic optics
- diffractive and micro-optics
- computer generated holograms
- digital holography
- spatial light modulators
- meta-surface holography
- compressive holography
- 3D imaging and 3D display
- optical metrology
- holographic interferometry
- phase microscopy
- polarization imaging
- x-ray to terahertz wave holography
- computational imaging
- full-field tomography
- document and product anti-counterfeiting
- volume holograms, optical memory, and storage
- sub-wavelength optics
- plasmonics optics
- information optics
- photonics crystals
- optical holographic tweezers
- optics for life science applications
- 3D holographic microscopy
- 3D optical remote sensing

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ABSTRACTS DUE: 8 May 2019
AUTHOR NOTIFICATION: 8 July 2019
MANUSCRIPT DUE DATE: 25 September 2019

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Optical Metrology and Inspection for Industrial Applications VI (PA110)

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Papers on the following and related topics are solicited for this conference:
- absolute testing for metrology
- application of interferometric techniques in LED industry
- machine/robot vision methods, architectures and applications
- lighting methods and systems for inspection
- surface inspection methods and applications
- dynamic measurement
- special optical systems for inspection and measurements
- 2D and 3D machine vision methods and applications
- 3D data manipulation
- LIGO detection
- freeform testing
- super-high accurate measurement for smooth surfaces
- micro- and nano-scale measurement methods
- structured light methods and applications
- phase shifting methods applied to industrial inspection
- optical methods for dimensional and surface metrology
- mechanic-optics and photonics for metrology and inspection
- system calibration and error analysis
- spherical and aspherical measurements
- color metrology of manufactured goods
- on-line and process control measurements
- fringe projection measurement
- on-machine tool measurements of shape and finish
- high-resolution and high-speed inspection applications.
During the last decade there have been significant scientific advances and technology developments in diagnosis, treatment and health care using light. Optical methods are generally noninvasive and sensitive to unique tissue contrast (absorption, scattering, bi-refringence, fluorescence, and nonlinear signal generation etc.) that complements other biomedical diagnostic technologies. Optically based instruments/devices can be extremely compact and cost effective, suitable for home, clinic and global health care. The field of biomedical photonics is highly multidisciplinary and has been attracting more and more researchers from physics, chemistry, electrical engineering, biomedical engineering, computer science, nanotechnology and many other disciplines. The past few years have also witnessed the integration of biomedical photonics with other technologies, such as photo-acoustics, optics-molecular and nano-biophotonics (nano-scale imaging, nano-particles and molecular probes for biomedical applications). The objective of this conference is to promote cross-disciplinary, institutional, and international collaborations. The topics of this conference are broad and will cover (but are not limited to) the following:

- tissue optics, light-tissue/cell interaction (fundamental theories and new methodologies for diagnosis and therapy)
- photon therapeutics (photo dynamic therapy, low-level red light therapy, laser surgery and other photo therapy)
- biomedical spectroscopy (reflectance, fluorescence, Raman, single molecule spectroscopy) fluorescence imaging, multiphoton microscopy, multidimensional microscopy
- novel microscopy and endoscopy (confocal, nonlinear, super resolution, OCT, multidimensional)
- translational optical techniques for clinical medicine (diagnosis devices, implantable devices, point of care devices)
- multimodal biomedical imaging (photo-acoustic imaging, optical-MRI, optical PET)
- nano/biophotonics (nano-scale imaging, nanoparticles and molecular probes for biomedical applications).

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Conference Chairs: Tiegen Liu, Tianjin Univ. (China); Gang-Ding Peng, The Univ. of New South Wales (Australia); Zuyuan He, Shanghai Jiao Tong Univ. (China)

Program Committee: Xiaoyi Bao, Univ. of Ottawa (Canada); Kin-Seng Chiang, City Univ. of Hong Kong (Hong Kong, China); Brian Culshaw, Univ. of Strathclyde (United Kingdom); Xudong Fan, Univ. of Michigan (USA); Claire Gu, Univ. of California, Santa Cruz (USA); Bai-Ou Guan, Jinan Univ. (China); Huizhu Hu, Zhejiang Univ. (China); Rene Landgraf, Fraunhofer-Institut für Photonische Mikrosysteme (Germany); Deming Liu, Huazhong Univ. of Science and Technology (China); Niels Neumann, Fraunhofer-Institut für Photonische Technologien, leveraging on the latest developments in real-time photonic monitoring, data management, and analytics.

The areas of photonic sensors and their applications have expanded rapidly in recent years. Photonic sensors, especially fiber-optic sensors, are widely used for measurement of various physical and chemical parameters in many fields. Recent developments in fiber gratings, micro-structured optical fibers, specially-doped optical fibers, and planar waveguide devices, etc., provide great potential and solutions for a variety of sensing applications that conventional sensors cannot handle. This topical conference will provide an international forum for the most recent and interesting technical issues concerning photonic sensors and their applications, including novel sensor devices, advanced sensing methods and sensor systems, innovative sensor integration and multiplexing techniques, and new applications and field tests. There will be a number of invited talks presented by leading scientists in the field of photonic sensors. Papers focused on the following and related topics are welcome:

- optical sensors based on fiber gratings, photonic crystal fibers, planar/integrated waveguides, etc.
- optical sensors for chemical, environmental, biological, medical, and other applications
- discrete and distributed optical sensors, as well as optical sensor systems and networks
- new fibers, smart structures, and materials for optical sensing
- passive and active devices for optical sensing
- new physics, principles, and modeling related to optical sensing
- applications, field tests, and standardizations of optical sensing technologies.

Real-time Photonic Measurements, Data Management, and Processing IV (PAI13)

Conference Chairs: Ming Li, Institute of Semiconductors (China); Bahram Jalali, Univ. of California, Los Angeles (USA); Mohammad Hossein Asghari, Loyola Marymount Univ. (USA), Tachyonics Inc. (United States)

Program Committee: Hongwei Chen, Tsinghua Univ. (China); Xiangfei Chen, Nanjing Univ. (China); Hao Chi, Zhejiang Univ. (China); Yitang Dai, Tsinghua Univ. (China); Christophe Dorrer, Univ. of Rochester (USA); Shiming Gao, Zhejiang Univ. (China); Xiaoshun Jiang, Nanjing Univ. (China); Chanju Kim, Advanced Photronics Research Institute (Korea, Republic of); Yasushi Kondo, Shimadzu Corp. (Japan); Hongpu Li, Shizuoka Univ. (Japan); Yong Liu, Univ. of Electronic Science and Technology of China (China); Asad M. Madni, Univ. of California, Los Angeles (USA); Kayvan R. Niazi, NanWorks, LLC (USA); Tatsutoshi Shioda, Saitama Univ. (Japan); Daniel R. Solli, Occidental College (USA); Yikai So, Shanghai Jiao Tong Univ. (China); Kevin K. Tsia, The Univ. of Hong Kong (Hong Kong, China); Sergei K. Turitsyn, Aston Univ. (United Kingdom); Chao Wang, Univ. of Kent (United Kingdom); Jian Wang, Huazhong Univ. of Science and Technology (China); Ming Wang, Nanjing Normal Univ. (China); Xu Wang, Heriot-Watt Univ. (United Kingdom); Kun Xu, Beijing Univ. of Posts and Telecommunications (China); Lianshan Yan, Southwest Jiaotong Univ. (China); Atio Yazaki, Hitachi, Ltd. (Japan); Changyuan Yu, The Hong Kong Polytechnic Univ. (Singapore); Xinliang Zhang, Wuhan National Lab. for Optoelectronics (China); Xiaoping Zheng, Tsinghua Univ. (China); Xiaohua Zou, Southwest Jiaotong Univ. (China)

Real-time photonic measurement of fast non-repetitive events is arguably the most challenging problem in the fields of instrumentation and measurement. The challenge is performing fast continuous single-shot measurements for applications ranging from sensing, spectroscopy, and imaging. Some of the examples applications include the study of optical rogue waves, detection of rare cancer cells in blood, industrial inspection and machine vision. Notwithstanding the sensitivity and speed limitations of single-shot real-time measurements, such instruments also create a big data problem. Owing to their high measurement rate, they produce a firehose of data that overwhelms even the most advanced computers. This necessitates innovations in data management and in-line processing techniques.

The aim of this conference is to create a forum for presentation of the latest developments in real-time photonic instruments, data management and real-time processing, and to create a forum for exchange of ideas in this new and exciting field of photonic instrumentation.

This conference intends to cover the following, and related topics:
- real-time optical imaging and spectroscopy
- real-time process photonic monitoring
- ultrafast optical signal characterization
- real-time photonic data processing systems
- computationally efficient algorithms
- photonic data compression
- photonic techniques for big data visualization and analytics.
Plasmonics IV (PA115)

Conference Chairs: Hongxing Xu, Wuhan Univ. (China); Satoshi Kawata, Osaka Univ. (Japan); David J. Bergman, Tel Aviv Univ. (Israel); Min Qiu, Westlake Univ. (China)

Program Committee: Che Ting Chan, Hong Kong Univ. of Science and Technology (Hong Kong, China); Hongshen Chen, Zhejiang Univ. (China); Zheyu Fang, Peking Univ. (China); Rice Univ. (United States); Francisco Javier Garcia de Abajo, ICFO - Institut de Ciències Fotòniques (Spain); Min Gu, RMIT Univ. (Australia); Xin Guo, Zhejiang Univ. (China); Minghui Hong, National Univ. of Singapore (Singapore); Zhi-Yuan Li, Institute of Physics (China); Ai Qun Liu, Nanyang Technological Univ. (Singapore); Peter Nordlander, Rice Univ. (USA); Ruwen Peng, Nanjing Univ. (China); Atsushi Taguchi, Osaka Univ. (Japan); Din Ping Tsai, Research Ctr. for Applied Sciences - Academia Sinica (Taiwan, China); Jianfang Wang, The Chinese Univ. of Hong Kong (Hong Kong, China); Hong Wei, Institute of Physics (China); Jianbing Zhu, Nanjing Univ. (China); Xing Zhu, Peking Univ. (China)

The SPIE/COS Photonics Asia 2019 conference on Plasmonics will bring together plasmonics experts from across the globe, both junior and senior, from academia and industry, to share their latest results and set the agenda for future developments in the field. Papers are solicited on the following and related topics:

- active plasmonics
- plasmonic metamaterials and metasurfaces
- plasmonic antennas
- graphene plasmonics
- quantum plasmonics
- thermal plasmonics
- plasmonic-enhanced spectroscopy
- plasmonic-enhanced light harvesting
- near-field optics and related applications
- plasmonics in medicine and biology
- plasmonic circuits
- plasmonic-assisted chemical reactions and hot electron generations
- chiral plasmonics.
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Quantum and Nonlinear Optics VI (PA116)

Conference Chairs: Qihuang Gong, Peking Univ. (China); Guang-Can Guo, Univ. of Science and Technology of China (China); Byoung Seung Ham, Gwangju Institute of Science and Technology (Korea, Republic of)

Program Committee: Yiping Cui, Southeast Univ. (China); Luming Duan, California Institute of Technology (USA); Qiongyi He, Peking Univ. (China); Osamu Hirota, Tamagawa Univ. (Japan); François Kajzar, Univ. Politehnica of Bucharest (Romania); Ursula Keller, ETH Zurich (Switzerland); Dai-Sik Kim, Seoul National Univ. (Korea, Republic of); Jianwei Pan, Univ. of Science and Technology of China (China); Kunchi Peng, China International Science and Technology Cooperation (China); Kebin Shi, Peking Univ. (China); Mankei Tsang, National Univ. of Singapore (Singapore); Dawei Wang, Zhejiang Univ. (China); Jianwei Wang, Peking Univ. (China); Jingjun Xu, Nankai Univ. (China); Zuyan Xu, Technical Institute of Physics and Chemistry (China); Toyohiko Yatagai, Utsunomiya Univ. Ctr. for Optical Research & Education (Japan); Victor N. Zadkov, M.V. Lomonosov Moscow State Univ. (Russian Federation); Weiping Zhang, East China Normal Univ. (China)

Information security concerns and explosive data transmission and storage have led to exciting new developments and advances in quantum cryptography, quantum communication, nonlinear optics, optical data storage, optical communication etc. We encourage you to submit abstracts and papers on the following and related topics:
• quantum cryptography and quantum communication
• entanglement photon resource
• long-distance quantum network
• quantum measurement and quantum computations
• high intensity and relativistic nonlinear optics
• novel nonlinear materials and structures
• nonlinear optics in waveguides
• optical coherent transient phenomena
• nonlinear frequency conversion and nonlinear spectroscopy
• optical data storage and associative memories
• nonlinear fiber optics
• phase-controlled nonlinear optical processes
• ultrafast nonlinear optics
• nonlinear plasmonics and nanophotonics
• quantum sensing and metrology
• quantum electrodynamics
• matter-light entanglement
• optical field engineering in quantum and nonlinear optics
• integrated quantum information and computation.
Infrared, Millimeter-Wave, and Terahertz Technologies VI (PA117)

Conference Chairs: Cunlin Zhang, Capital Normal Univ. (China); Xi-Cheng Zhang, Univ. of Rochester (USA); Masahiko Tani, Univ. of Fukui (Japan)

Program Committee: Derek Abbott, The Univ. of Adelaide (Australia); Peter A. R. Ade, Cardiff Univ. (United Kingdom); Yi Cai, Kunming Institute of Physics (China); Jun-Cheng Cao, Shanghai Institute of Microsystem and Information Technology (China); Hou-Tong Chen, TheCtr. for Integrated Nanotechnologies (USA); Jian Chen, Nanjing Univ. (China); Yuping Cui, Tianjin Jinhang Institute of Technology Physics (China); Jianming Dai, Tianjin Univ. (USA); Haewook Han, Pohang Univ. of Science and Technology (Korea, Republic of); Jiaoguang Han, Ctr. for Terahertz Waves of Tianjin Univ. (China); Zhi Hong, China Jiliang Univ. (China); Biaobing Jin, Nanjing Univ. (China); Weiqi Liu, Institute of Semiconductors, CAS (China); Fei-jun Song, Daheng New Epoch Technology, Inc (China); Fei-jun Song, Daheng New Epoch Technology, Inc (China); Fei-jun Song, Daheng New Epoch Technology, Inc (China); Fei-jun Song, Daheng New Epoch Technology, Inc (China); Fei-jun Song, Daheng New Epoch Technology, Inc (China);

Papers on the following and related topics are solicit-ed for this conference:

- infrared detectors and focal plane array
- uncooled infrared imaging devices and systems
- infrared spaceborne remote sensing
- hyperspectral airborne remote sensing
- infrared image processing
- testing and calibration
- communication and radar
- waveguide and optics
- spectroscopy and imaging
- high field THz generation and nonlinear physics
- novel THz generation and detection
- THz photonic devices
- interaction of THz radiation with matter
- THz for biomedical applications
- nondestructive sensing and imaging
- bright THz source
- remote THz sensing
- THz components
- THz metamaterials
- light field imaging.

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