PROCEEDINGS OF SPIE

AOPC 2017: Optical Sensing and Imaging Technology and Applications

Yadong Jiang Haimei Gong Weibiao Chen Jin Li Editors

4–6 June 2017 Beijing, China

Sponsored by
SPIE
Chinese Society for Optical Engineering (China)

Organized by

Chinese Society for Optical Engineering (China)
Photoelectronic Technology Committee, Chinese Society of Astronautics (China)
Department of Cooperation and Coordination for Industry, Academe and Research, CHIA (China)
Science and Technology on Low-light-level Night Vision Laboratory (China)
Science and Technology on Electro-Optical Information Security Control Laboratory (China)

Published by SPIE

Part One of Two Parts

Volume 10462

Proceedings of SPIE 0277-786X, V. 10462

SPIE is an international society advancing an interdisciplinary approach to the science and application of light.

AOPC 2017: Optical Sensing and Imaging Technology and Applications, edited by Yadong Jiang, Haimei Gong, Weibiao Chen, Jin Li, Proc. of SPIE Vol. 10462, 1046201 · © 2017 SPIE CCC code: 0277-786X/17/\$18 · doi: 10.1117/12.2297053

The papers in this volume were part of the technical conference cited on the cover and title page. Papers were selected and subject to review by the editors and conference program committee. Some conference presentations may not be available for publication. Additional papers and presentation recordings may be available online in the SPIE Digital Library at SPIEDigitalLibrary.org.

The papers reflect the work and thoughts of the authors and are published herein as submitted. The publisher is not responsible for the validity of the information or for any outcomes resulting from reliance thereon.

Please use the following format to cite material from these proceedings:

Author(s), "Title of Paper," in AOPC 2017: Optical Sensing and Imaging Technology and Applications, edited by Yadong Jiang, Haimei Gong, Weibiao Chen, Jin Li, Proceedings of SPIE Vol. 10462 (SPIE, Bellingham, WA, 2017) Seven-digit Article CID Number.

ISSN: 0277-786X

ISSN: 1996-756X (electronic)

ISBN: 9781510614055

ISBN: 9781510614062 (electronic)

Published by

SPIF

P.O. Box 10, Bellingham, Washington 98227-0010 USA Telephone +1 360 676 3290 (Pacific Time) · Fax +1 360 647 1445

SPIE.org

Copyright © 2017, Society of Photo-Optical Instrumentation Engineers.

Copying of material in this book for internal or personal use, or for the internal or personal use of specific clients, beyond the fair use provisions granted by the U.S. Copyright Law is authorized by SPIE subject to payment of copying fees. The Transactional Reporting Service base fee for this volume is \$18.00 per article (or portion thereof), which should be paid directly to the Copyright Clearance Center (CCC), 222 Rosewood Drive, Danvers, MA 01923. Payment may also be made electronically through CCC Online at copyright.com. Other copying for republication, resale, advertising or promotion, or any form of systematic or multiple reproduction of any material in this book is prohibited except with permission in writing from the publisher. The CCC fee code is 0277-786X/17/\$18.00.

Printed in the United States of America.

Publication of record for individual papers is online in the SPIE Digital Library.



Paper Numbering: Proceedings of SPIE follow an e-First publication model. A unique citation identifier (CID) number is assigned to each article at the time of publication. Utilization of CIDs allows articles to be fully citable as soon as they are published online, and connects the same identifier to all online and print versions of the publication. SPIE uses a seven-digit CID article numbering system structured as follows:

- The first five digits correspond to the SPIE volume number.
- The last two digits indicate publication order within the volume using a Base 36 numbering system employing both numerals and letters. These two-number sets start with 00, 01, 02, 03, 04, 05, 06, 07, 08, 09, 0A, 0B ... 0Z, followed by 10-1Z, 20-2Z, etc. The CID Number appears on each page of the manuscript.

Contents

xv Authors

xxi Conference Committee

xxiii Introduction

Part One

OPTICAL SENSING AND IMAGING TECHNOLOGY AND APPLICATIONS

10462 02	Coarse-to-fine geometric and photometric image registration [10462-1]
10462 03	Single-image super-resolution based on sparse kernel ridge regression [10462-16]
10462 04	Particle detection of quartz sandstone by using terahertz time-domain spectroscopy [10462-18]
10462 05	Denoising algorithm in dual-wavelength images of retinal oximetry using variance stabilizing transform and cross dual domain filter [10462-19]
10462 06	Research on active and passive detection for space debris [10462-20]
10462 07	Calibration of polarization and adjustment error of high-NA spherical surface testing in point diffraction interferometry [10462-21]
10462 08	Extremally similar regions sifting for moving object segmentation in infrared videos [10462-22]
10462 09	A new method to estimate SNR of remote sensing imagery [10462-23]
10462 0A	The improved deconvolution video restoration technology based on the infrared detection system [10462-24]
10462 OB	Bayesian multi-frame super-resolution of differently exposed images [10462-25]
10462 OC	Hyperspectral face recognition based on spatio-spectral fusion and local binary pattern [10462-27]
10462 0D	Identification of conveyor belt injury based on image texture SVM classification method [10462-28]
10462 OE	Target interpretation of visible light image and infrared image fusion method [10462-29]
10462 OF	Denoising processing of MIE-polarization lidar signal using wavelet [10462-30]

10462 0G	A method of gaze estimation for wearable multi-camera devices using stereo vision [10462-31]
10462 OH	Design and implementation of multi-spectral multi-axis parallel calibration system [10462-32]
10462 OI	Objective lens design of polarization imaging in haze environment [10462-33]
10462 OJ	A fast approach against large foreground motion in real-time image stabilization [10462-34]
10462 OK	Long focal length large aperture optical passive athermalization MWIR optical system [10462-35]
10462 OL	Discussion on the optimal deconvolution for electro-optical imaging systems [10462-37]
10462 OM	Dual channel and fast response optical fiber temperature detection system based on Raman scattering [10462-39]
10462 ON	Salt-and-pepper noise removal in polarization optics imaging [10462-40]
10462 00	Design of a visible optical passive ranging system based on micro main board [10462-41]
10462 OP	Design of inspection system for surface defects on industrial parts under complex background [10462-42]
10462 0Q	LOS stabilization model for ship swaying based on subdivision iterative algorithm [10462-44]
10462 OR	Spectrum analysis on geological profile: a case study of Luzong area in Anhui China [10462-45]
10462 OS	An improved high-accuracy centroid detection method for Shack-Hartmann wavefront sensor [10462-46]
10462 OT	Sea ice features extraction near the South Shetland Islands with Sentinel-1 SAR data [10462-47]
10462 OU	Study of infrared and UV dual color warning system based on lobster-eye optics [10462-48]
10462 OV	Research of ship scene simulation based on SE-Workbench-EO [10462-49]
10462 OW	Design of 1024x3 ROIC with TDI for scanning type IRFPA imaging [10462-50]
10462 0X	3D discriminative feature selection for mid-level representation [10462-51]
10462 OY	Laser radar range profile analysis and simulation [10462-52]
10462 OZ	Object tracking via Spatio-Temporal Context learning based on multi-feature fusion in stationary scene [10462-54]
10462 10	Violent video detection based on MoGLOH feature [10462-55]

10462 11	On the evaluation method of anti-ship missile against passive compound jamming [10462-56]
10462 12	A star image registration algorithm based on joint feature matching [10462-57]
10462 13	Correction of over-exposure using dark channel prior and image fusion technique [10462-58]
10462 14	Design of a four-quadrant detector for the laser seeker of guided gun-launched projectile [10462-59]
10462 15	Adaptive neural network non-uniformity correction algorithm for infrared focal plane array based on bi-exponential edge-preserving smoother [10462-60]
10462 16	Method for reducing the degradation effects of EMI wire grid on the optic performance [10462-62]
10462 17	Dispersion compensation of linear frequency modulated wave based on SSB modulation and pre-distortion [10462-63]
10462 18	Design of a bulk acoustic wave filter for wi-fi band [10462-64]
10462 19	Analysis on gamma irradiation sensing mechanisms of thin film bulk acoustic resonators [10462-65]
10462 1A	Automatic position and guidance system for space manipulator operation based on videometrics [10462-66]
10462 1B	High precision measurement method of laser divergence angle based on CCD imaging [10462-69]
10462 1C	Nonlinear changes of chlorophyll-a fluorescence with laser induced saturation [10462-70]
10462 1D	Design of flame detection video camera system based on DSP [10462-72]
10462 1E	A terahertz image super-resolution reconstruction algorithm based on the deep convolutional neural network [10462-73]
10462 1F	Visibility-enhanced dual-band infrared image fusion based on nonsubsampled contourlet transform [10462-74]
10462 1G	Transmission characteristics of terahertz laser in underdense plasmas generated by DC discharge [10462-75]
10462 1H	Accurate solution of oblique reference wave for tilt phase aberration correction in digital off-axis holography [10462-76]
10462 11	Two distortion correcting methods for fisheye images [10462-77]
10462 1J	External calibration experiments of airborne millimeter-wave cloud radar using corner reflectors [10462-78]

10462 1K	A method for remote sensing image restoration using gyroscope sensor [10462-79]
10462 1L	A robust evaluation method for motion distortion of TDICCD image [10462-81]
10462 1M	Design of imaging circuitry of space CCD camera based on FPGA [10462-82]
10462 1N	Infrared image simulation for dynamic decoy [10462-83]
10462 10	Enhancing uniform intensity distribution in 4D light field data of plenoptic camera [10462-84]
10462 1P	SURE-based optimization of image restoration for optical sensing [10462-85]
10462 1Q	Performance analysis of multi-Gaussian beams steered by rotational Risley-prism-array [10462-86]
10462 1R	Classification and quality evaluation of ginned cotton based on color image fusion technique [10462-87]
10462 1S	Study on train wheel tread detects detection and classification [10462-89]
10462 1T	Ocean color retrieval based on time-series data during a red tide [10462-90]
10462 1U	The application of image super-resolution reconstruction based on compressed sensing in the intelligent mobile terminal $[10462\text{-}94]$
10462 1V	SOPC-based real-time spots detection and ordering for an artificial compound eye of 3D object detection [10462-95]
10462 1W	Polarization characteristics of the paint plate based on single reflection [10462-96]
10462 1X	A compact finger-vein identification system based on infrared imaging [10462-99]
10462 1Y	Measurement of temporal and spatial distribution of smoke concentration field based on image processing [10462-101]
10462 1Z	Stray light correction of array spectroradiometer in ultraviolet band using lasers and filters [10462-102]
10462 20	Study on image quality assessment under foggy condition [10462-103]
10462 21	Underwater linear object detection based on optical imaging [10462-104]
10462 22	Characteristic research on terahertz radar: cross-section measurement and imaging [10462-106]
10462 23	The application of wavelet transform in processing the signal of solar spectrograph [10462-108]
10462 24	Polarization image enhancement based on depth image segmentation in haze weather [10462-109]

10462 25	Target tracking of structure algorithm based on skeleton and corner for extended objects [10462-110]
10462 26	Fast image haze-removal algorithm based on mixed filter [10462-111]
10462 27	The application of GPS positioning accuracy optimization algorithm based on support vector machine (SVM) theory in atmospheric remote sensing [10462-112]
10462 28	Control of the focal depth by annular phase-only pupil filters [10462-113]
10462 29	Hand vein image enhancement based on phase congruency [10462-114]
10462 2A	Calculation of atmospheric attenuation at 90~100GHz [10462-116]
10462 2B	Convolutional neural networks based on sparse coding for human postures recognition [10462-117]
10462 2C	Image quality improvement in optical diffraction tomography by multiple numerical propagations and separated reconstructions [10462-118]
10462 2D	Resolution-improved Fourier ptychographic microscopy using high-numerical-aperture condenser [10462-119]
10462 2E	A new image fusion and monitored control system based on Raspberry Pi and Yeelink platform [10462-120]
10462 2F	Fluorescence instrument based on direct view holographic grating prism for remote sensing [10462-121]
10462 2G	SMT stencil automatic registration based on MBR [10462-122]
10462 2H	Simulation and analysis of laser beam adaptive focusing using an extended uncooperative target in the loop [10462-124]
10462 21	Real-time haze removal by GPU acceleration based on dark channel prior algorithm [10462-125]
10462 2J	BP neural network used in recognition algorithm for star pattern [10462-126]
10462 2K	A multispectral target tracking algorithm based on particle filter [10462-127]
10462 2L	Method of student identification through college classroom surveillance videos using deep learning features and label propagation [10462-129]
10462 2M	Infrared dim and small target background suppression based on improved anisotropy filtering [10462-130]
10462 2N	Analysis of laser intensity attenuation and compensation and the influence on imaging through particle field [10462-133]
10462 20	Accurate camera calibration with color phase-shifting wedge grating arrays [10462-134]

10462 2P	Design of multi band laser echo detection system [10462-136]
10462 2Q	Immune particle filter algorithm for target tracking based on histograms of color and oriented gradient [10462-138]
10462 2R	Adaptive learning rate method based on Nesterov accelerated gradient [10462-139]
10462 2S	Noise properties of the calculated linear polarization image [10462-140]
10462 2T	Realization of measurement method in angle intersection based on MATLAB [10462-141]
10462 2U	An improved longitude-latitude mapping algorithm for fisheye image calibration [10462-142]

Part Two

10462 2V	Comparison of two types of color transfer algorithms in YUV and Lab color spaces [10462-144]
10462 2W	An improved phase diversity wavefront sensor based on the altered exposure time of camera [10462-146]
10462 2X	A sub-µW low temperature sensitivity CMOS RC oscillator [10462-147]
10462 2Y	An optical nano-antenna structure of metallic ball array for enhancement of near-infrared photodetection [10462-150]
10462 2Z	One-parameter /1 prior in variational Bayesian super resolution [10462-151]
10462 30	Automatic fall detection using optical flow and shape context from the panorama view [10462-154]
10462 31	Centroid computing of far-field spots based on sub-aperture retro array [10462-155]
10462 32	Performance of InGaAs/InP planar infrared detector with different passivation films [10462-156]
10462 33	Cloud motion measurement from satellite images using iterative multigrid image deformation approach [10462-157]
10462 34	An optimization method for improving the accuracy of centroid computation based on Shack-Hartmann wavefront sensor [10462-159]
10462 35	Laser spot center location algorithm based on sub-pixel interpolation [10462-160]
10462 36	Aircraft relative attitude measurement based on binocular vision [10462-161]
10462 37	Taylor series-based generic demosaicking algorithm for multispectral image [10462-168]

10462 38	Study of underway salinity monitoring device based on optical refractive index measurement [10462-169]
10462 39	Visual and infrared image fusion algorithm based on adaptive PCNN [10462-170]
10462 3A	Mathematical analysis for image sampling process of CCD [10462-171]
10462 3B	An algorithm of non-continuous gray-scale histogram enhancement based on the visual characteristics [10462-172]
10462 3C	Super-resolution imaging by dual patterned nonlinear illumination [10462-178]
10462 3D	Robust multiframe images super resolution [10462-179]
10462 3E	Frequency dependence of negative differential capacitance in p-i-n InGaAs photodetector at room temperature [10462-180]
10462 3F	Analysis of time delay in the temperature control model of super-luminescent diode for FOG [10462-181]
10462 3G	Modeling and optimization of InGaAs photodetectors [10462-182]
10462 3H	Phase extraction based on iteration algorithm with crossed fringes in phase measuring deflectometry [10462-183]
10462 31	A self-adaptive remote sensing image enhancement method based on gradient and intensity histogram [10462-185]
10462 3J	Assessing the impacts of grain sizes on landscape pattern of urban green space [10462-186]
10462 3K	Study on nonlinear process of remote sensing camera imaging at visible wavelengths [10462-188]
10462 3L	High-precision attitude angle measuring system based on Talbot interferometry [10462-190]
10462 3M	Design of an off-axis reflective zoom optical system [10462-191]
10462 3N	Automated and standardized high-resolution appearance imaging system for electronic components [10462-192]
10462 30	Denoising differential column image motion lidar signal using singular value decomposition [10462-193]
10462 3P	Design on high-current pulsed electron beam modification and analysis of machining characteristics for spinel [10462-195]
10462 3Q	Design of low-light-level resolution testing and comparing system [10462-196]
10462 3R	SO ₂ differential absorption lidar system based on dye laser [10462-198]
10462 3S	Influence of haze on the performance of ground space optical communication [10462-199]

10462 3T	Research on the centroid detecting accuracy of stripe [10462-200]
10462 3U	Adaptive segmentation method based on similarity of laser point cloud topology [10462-202]
10462 3V	Design and engineering development of single-mode fiber coupling system for Laser Doppler Velocity Radar [10462-203]
10462 3W	Infrared radiation measurement technique for low-temperature target in TV (thermal-vacuum) conditions [10462-204]
10462 3X	Imaging performance comparison of novel CMOS low-light-level image sensor and electron multiplying CCD sensor [10462-206]
10462 3Y	Design of cryogenic area blackbody in vacuum chamber [10462-207]
10462 3Z	Study on time-frequency characteristics of transient response of the dynamic gratings in erbium-doped fiber [10462-208]
10462 40	Method and apparatus for measurement parameters of wheel set based on 1D laser sensor and magnetic grid sensor [10462-210]
10462 41	The waveguide effect on the diffraction wave in pinhole point diffraction interferometer [10462-211]
10462 42	Dual plane on-axis digital holography with dual wavelength phase unwrapping [10462-212]
10462 43	Study on the irradiation precision analysis and index decomposition technology of photoelectric system [10462-213]
10462 44	Study on the distribution of biomolecules in different layers of porous silicon microcavity biosensor [10462-214]
10462 45	Color image super-resolution algorithm based on SVM classified learning [10462-215]
10462 46	Uncertainty analysis of spectral radiance scale realization [10462-216]
10462 47	The application of bioinspired photosensitivity enhancer on space remote sensing [10462-218]
10462 48	Modeling and simulation of corner-cube reflector: effect on coaxiality detection accuracy [10462-221]
10462 49	Automatic detection of cloud in high-resolution remote sensing images based on adaptive SLIC and MFC [10462-223]
10462 4A	Algorithm based on wavelet transform applied in the Space Infrared Image [10462-224]
10462 4B	An adaptive multi-threshold image segmentation algorithm based on object-oriented classification for high-resolution remote sensing images [10462-225]

10462 4C	Temporal high-pass filter non-uniformity correction based on guided bilateral filter for IRFPA [10462-228]
10462 4D	Positive absorption constraint based ptychographical algorithm with fast convergence rate [10462-233]
10462 4E	A novel algorithm for maneuvering target detection under the high energy laser irradiating [10462-235]
10462 4F	Modeling and simulation of celestial background for dual-star-sensor testing [10462-236]
10462 4G	An introduction of resistive arrays and packaging technology [10462-238]
10462 4H	Design and implementation of ultraviolet imager for corona discharge detection based on solar-blind AlGaN focal plane arrays [10462-239]
10462 41	Research on laser spot location algorithm in weak turbulence [10462-241]
10462 4J	Improvement of responsivity of GaN-based p-i-n ultraviolet photodetector by inserting a delta doped layer in active region [10462-242]
10462 4K	Multi-focus image fusion using spatial frequency and discrete wavelet transform [10462-243]
10462 4L	An algorithm for object recognition in hyperspectral remote sensing images and its application to lithologic feature extraction [10462-244]
10462 4M	A method of plenoptic imaging with high resolution in turbulent atmosphere [10462-245]
10462 4N	Linear verification of model-based wavefront sensorless adaptive optics system [10462-246]
10462 40	Self-adaptive histogram equalization image enhancement based on canny operator [10462-247]
10462 4P	Comparative studies of wavelet threshold and complementary ensemble empirical mode decomposition in the denoising of differential column image motion lidar [10462-248]
10462 4Q	An optimized acquisition approach exploiting geometrical calibration in x-ray cone-beam computed tomography [10462-249]
10462 4R	An efficient iterative super-resolution technology for coded aperture imaging [10462-250]
10462 4S	Optical system design of space fisheye lens and performance analysis [10462-251]
10462 4T	A novel remote sensing image fusion scheme based on NSCT and compressed sensing [10462-252]
10462 4U	Fast triangle star identification algorithm based on uncertain sign [10462-253]
10462 4V	Texture aware learning-based image fusion method for fixed focal-length cameras [10462-256]

10462 4W	Infrared image watermarking based on the discrete shearlet transform [10462-257]
10462 4X	Progress in ultrasonic bonding wire process and quality evaluation of bonding point [10462-260]
10462 4Y	Mixed pulse-Gaussian denoising algorithm for improving image quality in assembly inspection of nuclear power plants [10462-261]
10462 4Z	Design of ultra-low-power readout circuit for UV GaN focal plane array [10462-262]
10462 50	Small target detection in infrared image using convolutional neural networks [10462-264]
10462 51	High dynamic infrared image compressive enhancement based on fast local Laplacian filters [10462-267]
10462 52	Topological derivative improved partial differential equation for infrared spectral data denoising [10462-269]
10462 53	The preliminary discussion of bandwidth correction methods for spectral irradiance measurement of deuterium lamp [10462-272]
10462 54	Optical design of wide-angle catadioptric lens for LWIR earth sensors [10462-274]
10462 55	Kernel regression based infrared image non-uniformity correction [10462-275]
10462 56	A modified topological derivative based background suppression for infrared dim small target detection [10462-277]
10462 57	Infrared/radar data fusion and tracking algorithm based on the multi-scale model [10462-278]
10462 58	Infrared image enhancement method for color transfer and contrast equalization in image registration [10462-283]
10462 59	Motion estimation of sequence image based on feature extraction of extended objects [10462-284]
10462 5A	Extraction of low contrast optical spot in cloudy weather and influence on atmospheric coherence length data [10462-291]
10462 5B	Hyperspectral anomaly detection based on machine learning and building selection graph [10462-293]
10462 5C	A star pattern identification algorithm based on wheel code feature [10462-294]
10462 5D	Improved automatic exposure algorithm for the stereoscopic panoramic camera in space application [10462-295]
10462 5E	Linear-mode linear arrays 16 pixel silicon avalanche photodiodes with high gain and low noise readout [10462-298]
10462 5F	Influence of image sequence distortion on infrared target detection [10462-299]

10462 5G	Image restoration from sequences under atmospheric turbulence effects [10462-300]
10462 5H	Theoretical and experimental study on the block compressive imaging [10462-301]
10462 51	Comparison of non-scanning laser 3D imaging using Geiger-mode APD array and linear APD or APD array [10462-302]
10462 5J	Study on calculating methods of forest fire area for dynamic disaster assessment based on infrared image [10462-303]
10462 5K	Forest fire real-time monitoring and emergency treatment system design [10462-304]
10462 5L	The research for calibration technology of ultraviolet-vacuum ultraviolet imaging spectrometer [10462-470]

Authors

Numbers in the index correspond to the last two digits of the seven-digit citation identifier (CID) article numbering system used in Proceedings of SPIE. The first five digits reflect the volume number. Base 36 numbering is employed for the last two digits and indicates the order of articles within the volume. Numbers start with 00, 01, 02, 03, 04, 05, 06, 07, 08, 09, 0A, 0B...0Z, followed by 10-1Z, 20-2Z, etc.

Ai, Xia, 1G Bai, Fang, 51 Bai, Jian, 3L Bai, Xiangzhi, 3N Bao, Rima, 04 Bu, Haibina, 4Q Cai, Bolin, 20 Cai, Tongchen, 5J Cai, Wenlin, 4A Cao, Rui, 2T Cao, Zheng, 3Q Cen, Zhaofeng, 1E, 11 Chai, Zhi, 39 Chen, Enguo, 2U Chen, Feng, 1Q Chen, Huimin, 1Y Chen, Jian, 5E Chen, Jianbiao, 0Y Chen, Jun, 3E, 3G Chen, Junyao, 38 Chen, Junzhang, 3N Chen, Pengyu, 3H Chen, Qian, 2D Chen, Shanyong, 3P Chen, Tieqiao, 31 Chen, Wei-biao, 1C Chen, Xiangcheng, 1V Chen, Xiaomei, 2P Chen, Yafeng, 3R Chen, Yong-hua, 1C Chen, Yuankai, 07, 41 Chen, Yu-dan, 0H, 3F Chen, Yueting, 0J, 13, 15, 1K, 1L, 4V

Chen, Zhihong, 45 Chen, Zhi-Yong, 1R Cheng, Wenxiong, 50, 51, 56 Cheng, Yunfei, 0Z, 10 Cheng, Zheng-dong, 0A Cheng, Zhi, 3O, 4P Chi, Shengwei, 43 Chu, Xinbo, 0U Cui, Jianying, 40 Cui, Tingwei, 1T Dai, Cai-hong, 1Z, 46, 53 Dai, Yun, 05 Dan, Lijun, 2E Deng, Honghai, 32

Di, Si, 1X Ding, Meng, 3A Dong, Li, 1Q Dong, Yanbing, 2A Dou, Wei, 54 Du, Baolin, 2P Du, Chao, 0E Du, Huiiie, 4F Du, Juan, 3L Du, Juan, 4K, 5F Du, Ya-ni, 40 Du, ZhaoHeng, 2T Duan, Yongqiang, 5D E., Kewei, 3H Fan, Chengyu, 2H Fan, Qi, 3A Fan, Wei, 0T Fan, Xiang, 0A Fan, Xiangsuo, 2M, 2Q

Fan, Xiaoli, 3Y Fang, Guoming, 0Q Feng, Chang, 4Y Feng, Huajun, OJ, 13, 15, 1K, 1L, 4V

Feng, Qibo, 40 Fu, Qiang, 01 Fu, Rongguo, 2V Fu, Shiyou, 2F Gan, Peng, 3Z

Gao, Chun-ming, 05, 4Y

Gao, Lu, 1P Gao, Wei, 2E, 5C, 5D Gao, Xinyuan, 4L Gao, Yang, 18, 19 Gao, Yang, 4F Gao, Zhen-zhen, 2K Ge, Yong-jiao, 25 Geng, Dan, 4S Geng, Li-Jie, 1R, 1S Gong, Cailan, 0T Gong, Chenglong, 4N Gong, Haimei, 2Y, 32, 4G Gong, Lian-you, 0N Gu, Jianqiang, 22 Guo, Changdong, 5E Guo, Huichao, 3U Guo, Jiachun, OR

Guo, Jin, 4J Guo, Wenping, 21, 38 Guo, Yujiao, 3Q, 3T Guo, Zhanli, 3M Guo, Zhenghua, 21

Han, Bin, 19 Han, Chao, 18 Han, Jiaguang, 22 Han, Jiatong, 37 Han, Junfeng, 48 Han, Xiang'e, 51 Han, Yong-You, 1R, 1S Han, Yu, 4Q Han, Yu-sheng, 24 He, Anzhi, 2N He, Feng, 27, 30, 4P He, Hong-xing, 0K He, Jianzheng, 1V He, Jun, 2L He, Lirong, 1K He, Mingyuan, 1J He, Si, 2S He, Suiting, OS He, Tian-bing, 25 He, XinYu, 26 He, Yan, 1C He, Yuqing, 2E He, Zhiping, 3V Hong, Lijuan, 10 Hou, Chuanxun, 28 Hou, Guangqi, 10 Hou, Zai-hong, 23, 27, 5A Hou, Zhibin, 20 Hu, Bing-liang, 2K, 36 Hu, Ge, 57 Hu, Haiying, 13, 15 Hu, Huijun, 0U Hu, Jiacheng, 0M Hu, Kai, OW, 2X Hu, Lan, 20 Hu, Leili, 2P Hu, Qiuping, 58 Hu, Shijie, 31 Hu, Shuling, 3S Hu, Shunxing, 3R Hu, Song, 4Y Hu, Yang, 1B Hu, Yong, 0T Hu, Yongming, 3Z Hu, Zhengliang, 3Z Huang, Fu-yu, 0H Huang, Jian, 3R Huang, Jiazi, OJ, 1L, 4V Huang, Jing, 32 Huang, Sheng, 23 Huang, Xiao, 3L Huang, Yongmei, 2M Huang, Zheng, 14 Huang, Zongfu, 02, 0B Ji, Ming, 43 Jia, Le, 18 Jia, Yan, 1H Jia, Zhenhong, 44 Li, Xinyang, 59

Jiang, Jing-bo, 1C Jiang, Mengdie, 4X Jiang, Peng, 0C Jiana, Tao, 2H Jiang, Yi, 3G Jin, Chengying, 3H Jin, Dongdong, 0U Jin, Jian, 1X Jin, Li, 4J Jin, Weiqi, 2S Jin, Ying, 2N Jing, Xu, 27, 30, 4P, 5A Ju, Zezhao, 5B Kan, JinYan, 54 Kan, Shengchen, 4R Kang, Chaomeng, 31, 49 Ke, Jun, 5H Kong, Fanlin, 5E Kong, Liang, 1D Kong, Qingfeng, 2W Kou, Xianguo, 5E Kuang, Yaowu, 3V Lai, Boheng, 2W Leng, Hanbing, 50, 56, 5B Li, Bin, 58 Li, Chuana, 3D Li, Chuanrong, 09 Li, Dahai, 3H Li, Fang, 1H Li, Feng, 1B Li, Guoyang, 0M Li, Hepina, 2R Li, Jianfei, 45 Li, Jiang-cao, 2J Li, Jianhua, 16, 3Y, 4A Li, Junshan, 5G Li, Lei, 4Q Li, Lin, 06, 10, 3T Li, Ling, 1Z, 46, 53 Li, Lingxiao, 15 Li, Meng-lin, 1B Li, Mengyang, 3H Li, Peizheng, 4E Li, Qi, 0J, 13, 15, 1K, 1L, 4V Li, Qingru, 3C Li, Shangyuan, 17 Li, Shi-wei, 5L Li, Si-jian, 0A Li, Tao, 2Y Li, Wei, 21, 2G Li, Wenhao, 3K Li, Xia, 2A Li, Xiangyang, 4H, 4Z Li, Xiao-Hui, 1R Li, Xiaojuan, 4H, 4Z Li, Xiao-long, 1C Li, Xiaotong, 1E, 11

Jian, Huijie, 1V

Jiang, Cheng-hao, 1B

Li, Xue, 2Y, 32

Li, Ya-hui, 4S

Li, Yan, 3B Liu, Zhaohui, 3K Li, Yanan, 1G Liu, Zhenxing, 11 Li, Yandi, 30 Lu, Jun, 3F Li, Yao, 07, 41 Lu, Lei-ji, 0N Li, Yawei, 2B Lu, Linpeng, 4R Li, Yun, 1D Lu, Pei, 1U Li, Yu-Rong, 1R, 1S Lu, Wei, 1H Lu, Xiaotian, 2S Li, Zeng, 1E Lu, Zhuanli, 31, 49, 4B Li, Zhao, 12 Li, Zhao-yang, 1F Luan, Yinsen, 2Z Li, Zheng, 3B Luo, Jing, 33 Li, Zhenhua, 2N Luo, Licheng, 0T Li, Zhifeng, 16, 4A Luo, Linshun, 2Q Liang, Dachuan, 22 Luo, Yujie, 3L Luo, Yupeng, 3L Liang, Jian'an, 2S Lv, Jin, 2V Liang, Jiyuan, 3N Liana, Ke, 14 Lv, Jun-guang, 19 Liang, Ying, 4C, 55, 5B Lv, Xiaoyi, 44 Liang, Yonghui, 02, 0B Lv, Yang, 4M Lin, Juan, 0V Ma, Haotong, 1Q, 4M Liu, Changaina, 28 Ma, Haoyu, 4V Liu, Chuanling, 58 Ma, Jing, 0V Ma, Liang, 4N Liu, Chunbo, 51 Ma, Qian, 11 Liu, Dafu, 4G Liu, Dongfang, 4F Ma, Xichao, 2C Ma, Zhen-hua, 4K, 4O Liu, Gang, 58 Mei, Chao, 3M, 4S Liu, Hao, 2A Meng, Gang, 1G, 3W Liu, Hu, 43 Meng, Qingyan, 3J Liu, Jiahang, 31, 49, 4B Min, Lei, 2Z Liu, Jianbang, 4Q Mo, Defeng, 4X Liu, Jiaqi, 16, 1G, 1P, 3W Mo, Jiaqing, 44 Liu, Jie, 0H Liu, Jin, 02, 0B Mu, Bing, 1T Mu, Chao, 4P Liu, Jun, 45 Nan, Hua, 3W, 3Y Liu, Lin, OR Liu, Meiying, 1M Ni, Zheng, 1J Ning, Yu, 4M Liu, Qi, 24 Niu, Zhenhong, 16, 4A Liu, Qing-kui, 1C Liu, Qiuwu, 3R Ouyang, Chunmei, 22 Liu, Rongiie, 1T Pan, Feng, 0E, 2C Panezai, Spozmai, 42 Liu, Shunfa, 0Q Liu, Tianjian, 3U Pang, Boqing, 2W Liu, Tong, 35 Peng, Bo, 36 Liu, Weibo, 1Y Peng, Jiantao, OL Liu, Wenjin, 2I, 2Z Peng, Zhenming, 2M Liu, Wen-long, 1D Peng, Zhuo, 29 Liu, Xiao, 1W Qi, Bo, 1Q Liu, Xiaoyong, 1U Qi, Ke-yu, 14 Liu, Xin, 16, 1G, 1P, 3W, 4A Qian, Runda, 55 Liu, Xinarun, 2A Qiao, Chunhong, 2H Liu, Xuebin, 37 Qiao, Jinping, 3P Liu, Xuewen, OB Qiao, Shan, 0Q Liu, Yachao, 0D, 0O Qin, Han-lin, 4C, 4K, 4O, 4W, 50, 51, 52, 55, 56, 5B, 5F Liu, Yang, 1M Liu, Yazhi, 59 Qin, LaiAn, 5A Liu, Yong, 2W, 2Z Qin, Ping, 1T Liu, Yong-zheng, 1D Qiu, RongSheng, 54 Liu, Yu, 4L Qu, Huiyang, 4F Liu, Yunhe, 3N Qu, Xiangju, 2N Qu, You-shan, 25 Liu, Zeguo, 0M

Ren, Aimin, 1G Ren, Ge, 1Q Ren, Jianvue, OL Rong, Bojie, 2L Rong, Lu, 42, 4D Rong, Sheng-hui, 5F Ruan, Ningjuan, 3X Ruan, Ping, 48 Ruan, YuJiao, 1Z Shan, Congmiao, 0Y Shang, Yang, 1A Shao, Haibao, 32 Shao, Sipei, OU Shao, Xiumei, 2Y, 32 Shao, Yuancheng, 5C Shen, Chao, 2E Shen, Fena, OS Sheng, Tianyu, 2V Shu, Rong, 3V Song, Daoqing, 1J Song, Ge, 48 Song, Haizhi, 5E Song, Pingjian, 1T Song, Ya-jun, 0D, 0O, 39 Song, Yang, 2N Song, Zongxi, OP, 2E, 4T, 4U, 5C Su, Yin, 3A Su, Yu-Ling, 1S Su, Yun, 47 Sui, Zhongshan, 5G Sun, Bin, 2V Sun. Bo. 2L Sun, Guang-wei, 5L Sun, GuoDong, 3O Sun, Haolin, 1U Sun, Hong-sheng, 5L Sun, Huayan, OY, 3U Sun, Jiasong, 2D, 4R Sun, Junhua, OX Sun, Lanjun, 2F Sun, Qian, 3X Sun, Quan, 4G Sun, Wei, 0E Sun, Yanfei, OF Sun, Yanmin, 4Q Sun, Yongli, 57 Sun, Yunxiao, 3J Sun, Zhenhui, 3J Tan, Guanzheng, 08 Tan, Wei, 4K, 4O Tan, Yufeng, 0Q, 1Q Tan, Yuqing, 2V Tang, Chao, 4L Tang, Xinyi, 3B Tang, Yehui, 5B

Tang, Yi-ming, 1S

Tang, Yujiao, 1U

Teng, Xichao, 33

Teng, Fei, 1U

Tian, Si, 5J, 5K

Tian, Yan, 35 Tian, Zhaoshuo, 2F Tian, Zhen, 22 Tie, Guipeng, 3P Wan, Min, 4D Wan, Peng, 4T Wan, Tongyu, 1U Wan, Ziao, 3S Wan, Zijing, 0G Wang, Bin, 4N Wang, Bingjian, 57 Wang, Caixia, 34 Wang, Chao, 47 Wang, Chaoliang, 09 Wang, Chen, 07, 41 Wang, Chunmei, 50, 51, 56 Wang, Congzheng, 4Y Wang, Dayong, 42, 4D Wang, Feilong, 31 Wang, Fengjie, 1Y Wang, Fengtao, 2E Wang, Guanghui, 4L Wang, Guilin, 3P Wang, Guiyuan, 2V Wang, Guosheng, 4J Wang, Hao, 5A Wang, Honghong, 4D Wang, Hu, 1M Wang, Jiali, 5D Wang, Jia-peng, 5L Wang, Jia-wei, 14 Wang, Jing, 4E Wang, Jingyu, 4Q Wang, Jiqiang, 4H, 4Z Wang, Jun, 4J Wang, Junjie, 3Z Wang, Ke, 3N Wang, Keyi, 1V, 2O Wang, Ling, 4H, 4Z Wang, Mingliang, 1G Wang, Ming-qing, 1H Wang, Ou, 5E Wang, Ruiyang, 3H Wang, Shanshan, 3Q, 3T Wang, Xin-Jie, 1S Wang, Shuai, 2W Wang, Shuai, 3U Wang, Shuang, Ol Wang, Tiedong, OF Wang, Wanting, 50, 51, 56 Wang, Wen, 10 Wang, Wencong, 0U Wang, Wu, 0Z, 10 Wang, Xia, 2S Wang, Xiang, 10 Wang, Xiangjun, 03, 0G Wang, Xin, 58 Wang, Xinhong, 09 Wang, Xin-Jie, 1S Wang, Yan-fei, 1Z, 46, 53

Wang, Yidong, 3E Xu, Guo-ming, 0N Wang, Yong, 1N, 24 Xu, Huan, 21 Wang, Yong, 5J, 5K Xu, Jieping, 02, 0B Wang, Yu, 1F Xu, Liang, 2N Xu, Lin, 4X Wang, Yu, 58 Wang, Yudan, 0P Xu, Meng-en, 0N Wang, Yue, 48 Xu, Pan, 3Z Wang, Yu-hang, 19 Xu, Sheng, 2U Wang, Yunxin, 42, 4D Xu, Tao, 21 Wang, Zhi, 11 Xu, Weiming, 3V Wang, Zhiliang, 32 Xu, Xiaojun, 4M Wang, Zhiqiang, 2H Xu, XiPing, 30 Wang, Zhiyong, 29 Xu, Zhenxing, 2R Wang, Zijian, 0M Xu, Zhihai, OJ, 13, 15, 1K, 1L, 4V Wei, Hong-gang, 2J Xu, Zhihao, 4D Wei, Minggui, 22 Xu, Zhiyong, 2M Wei, Xin, 4U, 5C Xue, Fang, 3X, 47 Wei, Yinpeng, 28 Xue, Feng, 1P, 4A Wen, Desheng, OP, 1M, 4U Xue, Lian, 3W, 3Y Wen, Guanyu, 01 Xue, Song, 20 Wen, Tao, 1J Xue, Xiangfeng, 20 Wen, Yan, 12 Xue, Xiaoxiao, 17 Wu, Fanlu, 03 Yan, Aqi, 3M Wu, Hao, 54 Yan, Bin, 4Q Wu, Jian, 1H Yan, Shiheng, 4E Wu, Jiarong, 4X Yan, Xiang, 4P Wu, Jie, 0V Yang, Bo, 32 Wu, Jingyao, 35 Yang, Chen, 0D, 39 Wu, Jinsha, 4C, 55 Yang, Chen, 00 Wu, Junlong, 21 Yang, Chenwei, 13, 1K Wu, Kaifena, 0V Yang, Haifeng, 45 Wu, Ling-xia, 1N Yang, Hong-tao, 3M, 4S Wu, Mingxuan, 47 Yang, Hui, OF, 20 Wu, Nana, 4W Yang, Huizhen, 4N Wu, Runhui, 1G Yang, Jin-bao, 0D, 0O, 39 Wu, Wenshuana, 1K Yang, Jixing, 54 Wu, Xuefeng, 06, 10 Yang, Kecheng, 21, 38 Wu, Yun-Zhi, 1W Yang, Ning, 2B Wu, Zhi-feng, 1Z, 46, 53 Yang, Ping, 2I, 2R, 2W, 2Z Yang, Shihong, 58 Wu, Zhikui, 04 Xi, Xiaoqi, 4Q Yang, Shuowen, 52 Xia, Min, 21, 2G Yang, Song, 3X Yang, Wenkai, 1J Xian, Yong-Li, 05 Xiang, Chunsheng, 0Q Yang, Xiao, 17 Xiang, Wending, 21 Yang, Xiaoping, 29, 45 Xiao, Bin, 1R Yang, Yongying, 07, 41 Xiao, Kai, 4Q Yang, Yuliang, 2B Xiao, Wen, 0E, 2C Yang, Yunxiu, 5E Xie, Chengjun, 26 Yao, Bo, 4W Xie, Feng, 4J Yao, Jianmin, 2U Xie, Hongxing, 2U Yao, Ling, 1W Xie, Jing, 4H, 4Z Yao, Pengfei, 2Y Xie, Xiaopeng, 3D Ye, Demao, 4E Xie, Yajin, 0J Ye, Hua, 08 Xie, Zhihua, 0C Ye, Jiesong, OF Xin, Ruishan, 2X Ye, Mao, 0W, 2X Xiong, Jinquan, 0C Yi, Xiang, 57 Xiong, Zhao, 3H Yin, Jian-ling, 0H, 3F

Xu, Bing, 2I, 2R, 2W, 2Z, 31

Xu, Fan, 25

Yin, Wenjie, 27

Yin, Xiaojun, 38

Ying, Jia-ju, 0H, 3F Yu. Fei. 1C Yu. Kai. 31, 49, 4B Yu, Kun, 54 Yu, Libo, 5E Yu, Long, 38 Yu, Qing-nan, 1H Yu, Xiaoyang, 44 Yu, Xin, 2W Yu, Yongyi, 15 Yu, Yue, 4K, 4O Yuan, Hong-wu, 1N Zeng, HongJing, 2T Zeng, Qingjie, 4C, 52, 55 Zhai, Bo, 25 Zhai, Changchao, 4D Zhai, Yu-Shena, 1R, 1S Zhan, Juntong, Ol Zhan, QianJing, 5A Zhang, Dai, 41 Zhang, Furui, 48 Zhang, Geng, 2K, 36, 37 Zhang, Han, 3C Zhang, Jiahui, 3J Zhang, Jiang, 3C Zhang, Jianlin, 2M Zhang, Jiao, 5G Zhang, Jie, 0X Zhang, Jinglin, 4X Zhang, Jingxiong, 51 Zhang, Juan, 06 Zhang, Liang, 2D Zhang, Lin-jun, 5L Zhang, Linlin, 3J Zhang, Linxia, 5H Zhana, Pena, 40 Zhang, Pengfei, 2H Zhang, Qi, 2G Zhang, Shengmao, OT Zhana, Shuai, OC Zhang, Si-long, 23, 27, 5A Zhang, Weili, 22 Zhang, Wenqi, 0T Zhang, Xiaohu, 33 Zhang, Xiaoyu, 34 Zhang, Xing, 3K Zhang, Xiongfeng, 1A Zhang, Xuanzhe, 4M Zhang, Yan, 4H, 4Z Zhang, Yanchao, 2F Zhang, Ying, 4F Zhang, Yu, 4F Zhang, Yu-guo, 5L Zhana, Zhe, 52 Zhang, Zhengyu, 3G Zhang, Zhi-Feng, 1R, 1S Zhang, Zhili, 28 Zhang, ZhiXiang, 2T

Zhao, Dong, 4W, 5F Zhao, Gongyuan, 0W Zhao, Haibo, 47 Zhao, Hui, 1M, 3D Zhao, Jie, 42 Zhao, Juyan, 1G Zhao, Ke, 58 Zhao, Qi, 41 Zhao, Qian, 16, 4A Zhao, Qingsong, 41 Zhao, Ting, 3A Zhao, Xiaofena, 28 Zhao, Xuesong, OF Zhao, Yan, 2U Zhao, Yanzhong, 0Y Zhao, Yincen, 36 Zhao, Yiqiang, 0W, 2X Zhao, Zhenli, 4X Zheng, Ming, 1H Zheng, Peiyun, 5D Zheng, Ronger, 1T Zheng, Ruibo, 4K Zheng, Xiangxiang, 44 Zheng, Xiaoping, 17 Zheng, Zhenzhen, 1K, 1L Zhou, Bing, 3F Zhou, Bingkun, 17 Zhou, Fugen, 3N Zhou, Huixin, 4C, 4K, 4O, 4W, 50, 51, 52, 55, 56, 5F Zhou, Jin-mei, 1F Zhou, Liang, 3K Zhou, Qun, 5H Zhou, Xin, 2T Zhu, Bin, OA Zhu, Bo, 09 Zhu, Jing-guo, 1B Zhu, Lei, 43 Zhu, Mengyu, 2B Zhu, Qiudong, 3Q, 3T Zhu, Zhenmin, 1U Zhuang, Xuxia, 3X Peng, Zhuo, 29 Zong, Caihui, 3D Zong, Jingguo, 52 Zou, Jijun, 5K Zou, Xin, 3Y Zuo, Chao, 2D, 4R

Conference Committees

Conference Chairs

Guangjun Zhang, Beihang University (China) **Byoungho Lee**, Seoul National University (Korea, Republic of)

Conference Committee

Desheng Jiang, Wuhan University of Technology (China)

Hequan Wu, Chinese Academy of Engineering (China)

Jianguan Yao, Tianjin University (China)

Jianwei Pan, University of Science and Technology of China (China)

Junhao Chu, Shanghai Institute of Technical Physics, CAS (China)

Junen Yao, Beihang University (China)

Lijun Wang, Changchun Institute of Optics, Fine Mechanics and Physics, CAS (China)

Lin Li, The University of Manchester (United Kingdom)

Liwei Zhou, Beijing Institute of Technology (China)

Min Gu, RMIT University (Australia)

Shibin Jiang, AdValue Photonics Inc. (United States)

Toyohiko Yatagai, Utsunomiya University (Japan)

Wei Wang, Beijing Institute of Aerospace Control Devices, CASC (China)

Weidou Ni, Tsinghua University (China)

Zuyan Xu, Technical Institute of Physics & Chemistry, CAS (China)

Program Committee

Anand Krishna Asundi, Nanyang Technological University (Singapore)

Bing Zhao, Jilin University (China)

Byoungho Lee, Seoul National University (Korea, Republic of)

Carl Nardell, Terra Bella (United States)

Chunhua Shen, The University of Adelaide (Australia)

Haimei Gong, Shanghai Institute of Technical Physics, CAS (China)

Honghai Liu, University of Portsmouth (United Kingdom)

Huaidong Yang, Tsinghua University (China)

Huijie Zhao, Beihang University (China)

Jannick Rolland, Institute of Optics, University of Rochester (United States)

Jin Lu, Tianjin Jinhang Institute of Technical Physics (China)

Jin Yu, Université Claude Bernard Lyon 1 (France)

Jinxue Wang, SPIE

Lijun Wang, Changchun Institute of Optics, Fine Mechanics and Physics,

CAS (China)

Lin Li, The University of Manchester (United Kingdom)

Lan Jiang, Tsinghua University (China)

Long Zhang, Shanghai Institute of Optics and Fine Mechanics, CAS (China)

Mengxia Xie, Beijing Normal University (China)

Min Gu, RMIT University (Australia)

Min Qiu, Zhejiang University (China)

Shibin Jiang, AdValue Photonics Inc. (United States)

Suijian Xue, National Astronomical Observatories, CAS (China)

Tsutomu Shimura, The University of Tokyo (Japan)

Wei Hang, Xiamen University (China)

Wei Wang, Beijing Institute of Aerospace Control Devices of CASC (China)

Weibiao Chen, Shanghai Institute of Optics and Fine Mechanics, CAS (China)

Wolfgang Osten, Universität Stuttgart (Germany)

Xiandeng Hou, Sichuan University (China)

Xiangping Li, Jinan University (China)

Xiaocong Yuan, Shenzhen University (China)

Xiaodi Tan, Beijing Institute of Technology (China)

Yadong Jiang, University of Electronic Science and Technology of China (China)

Yanbiao Liao, Tsinghua University (China)

Yong Bi, Academy of Opto-Electronics, CAS (China)

Yongtian Wang, Beijing Institute of Technology (China)

Zhe Wang, Tsinghua University (China)

Zhiping Zhou, Peking University (China)

Session Chairs

- Ultra-violet, visible and infrared sensing and imaging technology **Haimei Gong**, Shanghai Institute of Technical Physics, CAS (China)
- 2 Ultra-violet, visible and infrared sensing and imaging technology **Dafu Liu**, Shanghai Institute of Technical Physics, CAS (China)
- 3 Laser technology application Weibiao Chen, Shanghai Institute of Optics and fine Mechanics, CAS (China)
- 4 Laser technology application **Qing Cao**, Shanghai University (China)
- Image processing and analysisJin Lu, Tianjin Jinhang Institute of Technical Physics (China)
- 6 Image processing and analysis

 Jin Lu, Tianjin Jinhang Institute of Technical Physics (China)

Introduction

Applied Optics and Photonics China (AOPC2017) is the annual conference of the CSOE, and one of the largest academic and industry activities in the field of optical and optoelectronic technology in China. The organization committee has built a platform of academic exchanges, industry exhibitions, and cooperation negotiations in one. There are 8 technical conferences, 7 themes of the Exhibition and approximately 600 technical presentations. We sincerely hope that the research and development of optoelectronic technology are promoted, and the international cooperation between industry and the optical and optoelectronic fields are enhanced.

AOPC2017 is technically co-sponsored by the Chinese Society for Optical Engineering, the Optical Society of Korea (OSK), Optics and Photonics Society of Singapore (OPSS), European Optical Society (EOS), Optical Society of Japan (OSJ) and SPIE. There are also 60 cooperative organizers to support the conference. We received over 1209 contributions from more than 15 countries, including the United States, the United Kingdom, Germany, France, Spain, Australia, Canada, Mexico, Brazil, Japan, Korea, Thailand, Singapore, the Russian Federation, China, and more. There are more than 700 presentations published in the Proceedings of SPIE. After careful discussion, we suggested four keynote speeches which are presented by famous scientists from Germany, Australia, Japan and China. 138 excellent invited talks were presented, 45 are from outside of China. Their presentations reflect first-class research in the field of optics and photonics technology. On behalf of the Organization Committee of AOPC, I express thanks to all the invited speakers and authors for their contributions and support of the conference.

Finally, on behalf of Prof. Zhuang Songlin, and other co-chairmen, and the Organization Committee of AOPC, I would like to heartily thank our sponsors and cooperating organizers for all they have done for the conference, the participants and friends for their interests and efforts in helping us to make the conference a success, the program committee for their effective work and valuable advice, and especially the AOPC2017 Secretariat and the staff of SPIE for their tireless effort and outstanding services in preparing the conference and publishing the Proceedings.

We wish AOPC2017 great success! Hope to see you next year!

Guofan Jin