

# PROCEEDINGS OF SPIE

## ***Third International Conference on Photonics and Optical Engineering***

**Ailing Tian**  
*Editor*

**5–8 December 2018**  
**Xi'an, China**

*Organized by*  
Xi'an Institute of Optics and Precision Mechanics (China)  
Xi'an Technological University, State Key Laboratory of Transient Optics and Photonics (China)

*Cooperating Organizations*  
SPIE  
Nanyang Technological University (Singapore)  
Centre for Optical and Laser Engineering (Singapore)  
Xi'an Jiaotong University (China)  
Acta Photonica Sinica (China)

*Sponsored by*  
Chinese Optical Society (China)  
Shaanxi Optical Society (China)  
Optics and Photonics Society of Singapore (Singapore)  
High-speed Photography and Photonics Committee of Chinese Optical Society (China)

*Published by*  
SPIE

**Volume 11052**

Proceedings of SPIE 0277-786X, V. 11052

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

Third International Conference on Photonics and Optical Engineering, edited by Ailing Tian, Proc. of SPIE  
Vol. 11052, 1105201 · © 2019 SPIE · CCC code: 0277-786X/19/\$18 · doi: 10.1117/12.2527794

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 [SPIDigitalLibrary.org](http://SPIDigitalLibrary.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 *Third International Conference on Photonics and Optical Engineering*, edited by Ailing Tian, Proceedings of SPIE Vol. 11052 (SPIE, Bellingham, WA, 2019) Seven-digit Article CID Number.

ISSN: 0277-786X  
ISSN: 1996-756X (electronic)

ISBN: 9781510627796  
ISBN: 9781510627802 (electronic)

Published by

**SPIE**

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

[SPIE.org](http://SPIE.org)

Copyright © 2019, 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](http://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/19/\$18.00.

Printed in the United States of America.

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

**SPIE. DIGITAL  
LIBRARY**

[SPIDigitalLibrary.org](http://SPIDigitalLibrary.org)

---

**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

|     |                             |
|-----|-----------------------------|
| vii | <i>Authors</i>              |
| xi  | <i>Conference Committee</i> |

| SESSION 1 | THIRD INTERNATIONAL CONFERENCE ON PHOTONICS AND OPTICAL ENGINEERING  |
|-----------|--|
| 11052 02  | <b>Detection method for the dynamic signal in light screen array based on constant false alarm rate [11052-4]</b>                            |
| 11052 03  | <b>Based on embedded ARM board advanced high-speed galvanometer control system [11052-5]</b>   |
| 11052 04  | <b>Structure design and analysis of the secondary mirror bracket for all day star orientation instrument [11052-6]</b>                       |
| 11052 05  | <b>Imaging human skin morphology with polarization parameters indirect microscopic method [11052-7]</b>                                      |
| 11052 06  | <b>InP photoconductive semiconductor switches generated ultra-short electrical pulse [11052-19]</b>  |
| 11052 07  | <b>Modeling and analysis of image rotation for the AIMS solar optical telescope [11052-20]</b>   |
| 11052 08  | <b>Study on spectral characteristics of polarization maintaining fiber Bragg grating under lateral pressure [11052-21]</b>                   |
| 11052 09  | <b>Time delay retrieval via the slope of spatial-spectral interference fringe for short pulses [11052-22]</b>                                |
| 11052 0A  | <b>Transport-of-intensity equation (TIE) based phase imaging in a confocal laser scanning microscope [11052-23]</b>                          |
| 11052 0B  | <b>Multimodality endoscopic imaging technology for visualization of layered architecture and vasculature [11052-26]</b>                      |
| 11052 0C  | <b>Optical system design for wide-angle airborne mapping camera with diffractive optical element [11052-27]</b>                              |
| 11052 0D  | <b>A high integration 3D temperature controllable micro-reactor fabricated by femtosecond laser wet etching [11052-28]</b>                   |
| 11052 0E  | <b>Dependence of structure on SBS slow light in double-clad As<sub>2</sub>Se<sub>3</sub> chalcogenide photonic crystal fibers [11052-29]</b> |
| 11052 0F  | <b>An atomic magnetic gradiometer with 1/τ uncertainty property based on the self-sustaining method [11052-30]</b>                           |

|          |   |
|----------|---|
| 11052 OG | <b>Freeway variable speed limit system based on traffic meteorological environment monitoring [11052-31]</b>  |
| 11052 OH | <b>Angular micro-vibration test of an agile satellite high resolution camera based on liner accelerometer [11052-33]</b>  |
| 11052 OI | <b>Spectroscopic system design and analysis of solar-blind wavelength high spectral resolution Rayleigh lidar for atmosphere temperature measurement [11052-34]</b> |
| 11052 OJ | <b>Fabrication of close-packed microlens array with superhydrophobicity and high imaging performance [11052-35]</b>   |
| 11052 OK | <b>Research on the measurement accuracy of different laser spot center location [11052-38]</b>  |
| 11052 OL | <b>Wavelength tuning of type-II "W" quantum well of interband cascade laser [11052-40]</b>  |
| 11052 OM | <b>Single-mode distributed Bragg reflector lasers at 2.08 <math>\mu\text{m}</math> [11052-41]</b>   |
| 11052 ON | <b>Thermal control design and analysis of a zoom TV optical mechanical system [11052-42]</b>  |
| 11052 OO | <b>Evaluation on mirror seeing for AIMS solar telescope [11052-43]</b>  |
| 11052 OP | <b>Research on the beam quality of diode lasers based on Wigner distribution function [11052-44]</b>  |
| 11052 OQ | <b>Output power improvements of antimonide quantum well laser diodes by rapid thermal annealing on the cavity coating films [11052-46]</b>                          |
| 11052 OR | <b>Thermal effect analysis for one-dimensional photonic crystal in high power fiber laser [11052-50]</b>  |
| 11052 OS | <b>Broadband and low confinement loss photonic crystal fibers supporting 48 orbital angular momentum modes [11052-52]</b>   |
| 11052 OT | <b>Room temperature continuous wave operation of GaSb-based semiconductor disk laser near 2 <math>\mu\text{m}</math> [11052-53]</b>                                 |
| 11052 OU | <b>Athermalization for the supporting structure of space camera primary and secondary mirrors [11052-58]</b>  |
| 11052 OV | <b>Athermalization optical design of dual-wavelength infrared optical system with double-layer harmonic elements [11052-60]</b>                                     |
| 11052 OW | <b>Design and experimental study of the high uniformity semiconductor linear laser light source [11052-62]</b>  |
| 11052 OX | <b>Aliasing reduction for channeled spectropolarimetry based on super-resolution technique [11052-66]</b>   |
| 11052 OY | <b>Optimum design of micro-concave structure of needle valve body based on ANSYS simulation analysis [11052-67]</b>   |

|          |  |
|----------|--|
| 11052 0Z | <b>Efficient sparse subspace clustering for polarized hyperspectral images</b> [11052-68]  |
| 11052 10 | <b>A spatial moving target recognition algorithm based on full information vector</b> [11052-72]   |
| 11052 11 | <b>3D microtransformers with air core inside fused silica</b> [11052-75]   |
| 11052 12 | <b>1.3<math>\mu</math>m InAs/InGaAs QD laser steady output power over 1.07 W</b> [11052-77]  |
| 11052 13 | <b>Nanosecond level passively Q-switched Ti:Sapphire laser using MoS<sub>2</sub> as a saturable absorber</b> [11052-80]                                  |
| 11052 14 | <b>Zonal wave-front estimation from phase derivative measurements on unconnected domain</b> [11052-86]   |
| 11052 15 | <b>Thermal vacuum optical performance test system for space laser communication terminal</b> [11052-90]  |
| 11052 17 | <b>Image enhancement based on contourlet transform</b> [11052-93]  |
| 11052 18 | <b>The design of laser communication terminal test and evaluation station</b> [11052-95]   |
| 11052 19 | <b>Experimental realizing image encryption based on optical chaos</b> [11052-98]   |
| 11052 1A | <b>Metal surface detection using division-of-focal-plane imaging polarimetry</b> [11052-99]  |
| 11052 1B | <b>Study on the influence of aerosol macroscopic characteristics on backscattering signals</b> [11052-103]   |
| 11052 1C | <b>Strip-based parallel beam projection model for under-sampling CT system</b> [11052-104]   |
| 11052 1D | <b>Design of high-accuracy corner cube retroreflector array</b> [11052-106]  |
| 11052 1E | <b>Tuning localized surface resonances in graphene based Au nanosphere dimer antenna</b> [11052-111]   |
| 11052 1F | <b>Road meteorological condition sensor based on multi-wavelength light detection</b> [11052-113]  |
| 11052 1G | <b>Design and analysis for laser radar system with off-axis parabolic rotating surfaces and a hyperbolic plane-convex lens configuration</b> [11052-117] |
| 11052 1H | <b>The calculation and realization of the visibility between patches of complex 3D scene based on super-computation</b> [11052-118]                      |
| 11052 1I | <b>Sparse aperture masking technique on measurement of star diameter</b> [11052-120]   |
| 11052 1J | <b>Fabrication of a high-fill-factor microlens array using different thermal reflow process</b> [11052-121]  |

|          |  |
|----------|--|
| 11052 1K | <b>Light field Fourier ptychographic microscopy [11052-122]</b>  |
| 11052 1L | <b>Glass preparing and integrating technology in x-ray grazing incidence optics [11052-123]</b>                                  |
| 11052 1M | <b>CGAN for simulation and digital image correction of aero transmission effect and aero heat radiation effect [11052-127]</b>   |
| 11052 1N | <b>Generation and development of polarization speckle based on random walks of polarization phasor (Invited Paper) [11052-1]</b> |
| 11052 1O | <b>Non-synchronous processing method base on distributed later warning signal [11052-131]</b>                                    |
| 11052 1P | <b>Development status of optical phased array beam steering technology [11052-135]</b>   |
| 11052 1Q | <b>Stability analysis of ion beam figuring removal function based on line scan [11052-138]</b>                                   |
| 11052 1R | <b>Beam nonuniformity compensating by the programmable spatial shaper for the integration test bed [11052-140]</b>               |
| 11052 1S | <b>Theoretical and experimental research on Ce:YAG crystals for use in blue laser diode illumination [11052-126]</b>             |
| 11052 1T | <b>Defect scattering microscopic imaging based on light source characteristics [11052-130]</b>                                   |
| 11052 1U | <b>Research on pneumatic control technology of medium and large diameter double-sided polishing machine [11052-133]</b>          |
| 11052 1V | <b>Calculation and hue mapping of AoP in polarization imaging [11052-134]</b>  |
| 11052 1W | <b>Enhanced schlieren imaging applied in heat and air jet visualizations: a wave propagation-based model [11052-137]</b>         |

# 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.

|                                 |                                 |
|---------------------------------|---------------------------------|
| Almoro, Percival F., 1W         | Gui, Fengji, 0R, 0S, 1G         |
| An, Fei, 0C                     | Guo, Rongli, 1V                 |
| Bai, Lang, 02                   | Guo, Yi, 15                     |
| Bian, Hao, 0J                   | Han, Bing, 17                   |
| Bu, Fan, 1D                     | Hanson, Steen G., 1N            |
| Caiyang, Weinan, 0R, 0R, 0S, 1G | Hao, Hui-ming, 12               |
| Cao, Biao, 1G                   | Hao, Sanfeng, 0C                |
| Cao, Duzun, 05                  | He, Wensen, 1G                  |
| Cao, Fenghui, 08                | He, Yifan, 1I                   |
| Cao, Minghua, 0E                | Hou, Shanglin, 0E               |
| Cao, Yinhua, 0P                 | Hou, Xun, 0D, 0J, 1E            |
| Cao, Yuxuan, 0Y                 | Hu, Bilong, 09                  |
| Chen, Bo, 1R                    | Hu, Dandan, 15                  |
| Chen, Chunyu, 08                | Hu, Haofeng, 1A                 |
| Chen, Dachuan, 02               | Hu, Xinrong, 18                 |
| Chen, Ding, 02                  | Hua, Dengxin, 0I                |
| Chen, Feng, 0D, 11, 1E          | Huang, Shu-Shan, 0L, 0M, 0Q, 0T |
| Chen, Jun, 03                   | Huang, Xiaojun, 09              |
| Chen, Lin, 1R                   | Jiang, Dongbin, 09              |
| Chen, Peng, 1B                  | Jiang, Ping, 0R, 0S, 1G         |
| Chen, Zhengyi, 0Z               | Jie, Yongjie Jie, 04            |
| Chen, Zhongping, 0B             | Kang, Fuzeng, 0V                |
| Cheng, Guanghua, 13             | Kang, Heng, 0G, 1F              |
| Cui, Kai, 0H                    | Kong, Xiangying, 1A             |
| Dong, Rongguang, 07             | Kuang, Cuifang, 1K              |
| Dong, Yanhong, 1E               | Lankanath, Dayantha, 1E         |
| Dong, Yue, 1V                   | Lee, Tim K., 1N                 |
| Du, Guangqing, 1E               | Lei, Jingli, 0E                 |
| Du, Xiaoping, 1B                | Li, Chenyang, 1H                |
| Du, Yun, 10                     | Li, Guangying, 13               |
| Duan, Jinwei, 0D, 11            | Li, Haifeng, 1K                 |
| E., Kewei, 14, 15, 18           | Li, Jing, 0P                    |
| Fan, B. L., 0F                  | Li, Jing, 14, 15, 18            |
| Fan, Huanrong, 1E               | Li, Kun, 14, 15                 |
| Fan, Yangyu, 0V                 | Li, LanTing, 1P                 |
| Fang, Junli, 10                 | Li, Ligang, 1H                  |
| Feng, Bin, 1V                   | Li, Lijun, 0E                   |
| Feng, Jian, 0T                  | Li, Lili, 19                    |
| Feng, Shi, 1Q                   | Li, Linsen, 1L                  |
| Gao, Aihua, 1T                  | Li, Mengyang, 14                |
| Gao, Bo, 0N                     | Li, Ming, 1K                    |
| Gao, Fei, 0I                    | Li, Minjing, 0J                 |
| Gao, Peng, 0A                   | Li, Ping, 1R                    |
| Gao, XiangXiang, 1O             | Li, Sen, 1R                     |
| Gao, Xiong, 0H                  | Li, Shichun, 0I                 |
| Gao, Yongshen, 0V               | Li, Shuxiu, 0H                  |
| Gong, Yinbing, 07               | Li, Xiaobo, 1A                  |
| Guan, Jiaoyang, 0W              | Li, Xiaojing, 1Q                |
| Guan, Zijian, 1A                | Li, Xiaoxiao, 0E                |

Li, Yan, 0B  
 Li, Yao, 1L  
 Li, Yichao, 0V  
 Li, Yicheng, 1K  
 Li, Yongfang, 0G  
 Li, Yude, 1C  
 Li, Zhiguo, 0H  
 Liang, Shuai, 1M  
 Liang, Yue, 1R  
 Lin, Shangmin, 04, 0U, 1D  
 Liu, ZhaoTao, 1O  
 Liu, Bocheng, 19  
 Liu, Feng, 1E  
 Liu, Guizhong, 10  
 Liu, Guoyan, 05  
 Liu, Huan, 13  
 Liu, Jie, 04, 0U, 1D  
 Liu, Kai, 18  
 Liu, Kaixu, 08  
 Liu, Meiyang, 04, 0U, 10, 1D  
 Liu, Shangkuo, 14, 15  
 Liu, Tiegeng, 1A  
 Liu, Weiguo, 1T  
 Liu, Yang, 04, 0U, 1D  
 Liu, Yong-an, 1L  
 Liu, Youqiang, 0P, 0W, 1S  
 Liu, Zhe, 1L  
 Liu, Zhiguo, 1C  
 Luo, Weiping, 03  
 Lv, Guoyun, 0V  
 Ma, Dan, 0Y  
 Ma, Xinxu, 1F  
 Mao, Xiang-long, 07, 0O  
 Mei, Hanxue, 1C  
 Mu, Jie, 09  
 Ni, Hai-Qiao, 0L, 12  
 Ni, Jinping, 02  
 Ni, Wei, 1H  
 Nie, Fengming, 1Q  
 Ning, Jianglan, 17  
 Niu, Qifeng, 1P  
 Niu, Ye, 0S  
 Niu, Zhi-Chuan, 0L, 0M, 0Q, 0T, 12  
 Oca, Gilbert M., 1W  
 Pan, Kai, 1C  
 Qiang, Pengfei, 1L  
 Qin, Wenbin, 0P  
 Qin, Wengang, 1T  
 Qin, Yan, 0S  
 Qiu, Yuntao, 0P  
 Qu, Rui, 0N  
 Ren, Wenyi, 17  
 Ruan, Chi, 0G, 1F  
 Shan, Chao, 0D, 11  
 Shan, Zebiao, 1U  
 Shang, Jin-Ming, 0L, 0M, 0Q, 0T  
 Shao, Fu-Hui, 0L, 0M, 12  
 Shao, Jiangfeng, 0I  
 Sheng, Lizhi, 1L  
 Shi, Hongwei, 1P, 1U

Shi, Kui, 0N  
 Song, HaiPing, 1O  
 Song, Tingting, 19  
 Song, Xuding, 0O  
 Song, Yishuo, 1B  
 Su, Jingqin, 09  
 Su, Tong, 1L  
 Su, Xiang-Bin, 12  
 Su, Yi Bo, 1M  
 Sun, Tianxi, 1C  
 Sun, Yudan, 08  
 Sun, Zhe, 13  
 Takeda, Mitsuo, 1N  
 Tang, Jun, 1R  
 Tong, Cun-Zhu, 0T  
 Uddin, Noor, 1E  
 Wang, Chunyang, 1P, 1Q, 1U  
 Wang, Congcong, 1S  
 Wang, Dasen, 1P, 1Q, 1U  
 Wang, Dongye, 0E  
 Wang, Feng, 04  
 Wang, Hao, 0V  
 Wang, Hu, 04, 0U, 1D  
 Wang, Huan, 0N  
 Wang, Hui, 1A  
 Wang, Huiqin, 0E  
 Wang, Jinbang, 1C  
 Wang, Jun, 0I  
 Wang, Junyi, 0R  
 Wang, L. J., 0F  
 Wang, Li, 0I  
 Wang, Peng, 0O  
 Wang, S. G., 0F  
 Wang, Wei, 1N  
 Wang, Wenyi, 1R  
 Wang, Xiao, 09  
 Wang, Xiaodong, 09  
 Wang, Yanqiang, 1I  
 Wang, Yuntao, 1F  
 Wang, Zhengfeng, 14, 15, 18  
 Wang, Zhiyong, 1S  
 Wang, Zhong Yang, 1M  
 Wei, Xiaofeng, 1R  
 Wei, Yafei, 0P  
 Wei, Yong, 05  
 Wen, Desheng, 10  
 Wen, Ruixin, 1K  
 Wu, Changmao, 1H  
 Wu, Dan, 17  
 Wu, Liquan, 0U  
 Xia, Yanwen, 1R  
 Xia, Yongbo, 0O  
 Xiang, BinBin, 0U  
 Xie, Na, 09  
 Xie, Sheng-Wen, 0L, 0M, 0Q, 0T  
 Xie, Yiyuan, 19  
 Xie, Yongjie, 0U, 1D  
 Xie, Yongjun, 07, 0O  
 Xing, YanBin, 1O  
 Xiong, Chunhua, 06

Xu, Songbo, 07, 0O  
 Xu, Ying-Qiang, 0L, 0M, 0Q, 12  
 Xu, Zhengwei, 1H  
 Xue, Xun, 14, 15, 18  
 Xue, Yaoke, 04, 0U, 1D  
 Yan, Tingyu, 0X  
 Yang, Biao, 1J  
 Yang, Cheng-Ao, 0L, 0M, 0Q, 0T  
 Yang, Fei, 1T  
 Yang, Guihua, 08  
 Yang, Qing, 0D, 0J, 11, 1E  
 Yang, Yongqing, 0H  
 Yao, Shun, 0W  
 Ye, Yichen, 19  
 Yi, Hongwei, 10  
 Yu, Hongyan, 0W  
 Yuan, Ye, 0L, 0M, 0Q, 0T  
 Zeng, Fa, 1R  
 Zeng, Xiaoming, 09  
 Zhang, Chunmin, 0X, 0Z, 15, 1I  
 Zhang, Faqiang, 1V  
 Zhang, Gaopeng, 0N  
 Zhang, Hongmei, 0W  
 Zhang, Jian, 0C  
 Zhang, Jie, 0K  
 Zhang, Jie, 15  
 Zhang, Jihu, 1H  
 Zhang, Shuang, 1C  
 Zhang, Shuo, 1U  
 Zhang, Tao, 07  
 Zhang, Tian Xu, 1M  
 Zhang, Xiaoning, 0P  
 Zhang, Xu, 1Q  
 Zhang, Yi, 0L, 0M, 0Q, 0T, 12  
 Zhang, Yu, 0L, 0M, 0Q, 0T, 12  
 Zhang, Yue, 0N  
 Zhang, Yuhao, 1H  
 Zhang, Zhi, 0N  
 Zhao, Fan, 0P  
 Zhao, Feng, 1V  
 Zhao, Huiying, 0Y  
 Zhao, Jianke, 14, 15, 18  
 Zhao, Jiguang, 1B  
 Zhao, Jincui, 05  
 Zhao, Junpu, 1R  
 Zhao, Liangxiao, 0C  
 Zhao, Lin, 1A  
 Zhao, Ming, 1S  
 Zhao, Q., 0F  
 Zhao, Qiang, 0Y  
 Zhao, Runchang, 1R  
 Zheng, Juanjuan, 0A  
 Zheng, Kuixing, 1R  
 Zheng, Shuhao, 0D, 0J  
 Zheng, Zhiqi, 0H  
 Zhong, Ling, 1K  
 Zhou, Jinyun, 1J  
 Zhou, Kainan, 09  
 Zhou, Miaofang, 1G  
 Zhou, Peng, 1C

Zhou, Yan, 14  
 Zhu, Changming, 1B  
 Zhu, JingJing, 1O  
 Zhu, Qihua, 1R  
 Zhu, Xueliang, 0Y  
 Zong, Zhaoyu, 1R  
 Zuo, Chao, 0A  
 Zuo, Yanlei, 09



## Conference Committees

### *Conference Chairs*

**Wei Zhao**, Xi'an Institute of Optics and Precision Mechanics,  
Chinese Academy of Sciences (China)  
**Weiguo Liu**, Xi'an Technological University (China)  
**Xuelong Li**, Xi'an Institute of Optics and Precision Mechanics,  
Chinese Academy of Sciences (China)  
**Baoli Yao**, Xi'an Institute of Optics and Precision Mechanics,  
Chinese Academy of Sciences (China)  
**Anand Asundi**, Optics and Photonics Society of Singapore  
(Singapore)

### *Advisory Committee*

**Xun Hou**, Xi'an Institute of Optics and Precision Mechanics,  
Chinese Academy of Sciences (China)  
**Songlin Zhuang**, University of Shanghai for Science and Technology  
(China)  
**Wenqing Liu**, Anhui Institute of Optics and Precision Mechanics,  
Chinese Academy of Sciences (China)  
**Qihuang Gong**, Peking University (China)  
**Lijun Wang**, Changchun Institute of Optics, Fine Mechanics and  
Physics, Chinese Academy of Sciences (China)  
**Ying Gu**, The General Hospital of the People's Liberation Army (China)  
**Jiubin Tan**, Harbin Institute of Technology (China)  
**Tony Wilson**, University of Oxford (United Kingdom)  
**Andreas Zumbusch**, Universität Konstanz (Germany)

