

## Technical Program

Xi'an Guangcheng Hotel

29<sup>th</sup> June 2019

New Century International Auditorium

Time	Speaker name	Title of presentation	Session Chair
8:50-8:55		Introduction of distinguished guests	Ying Ding
8:55-9:00	<b>John Marsh</b>	Welcome speech	
9:00-9:45	<b>John Marsh</b> (Keynote)	Photonic integration for the cloud: a revolution in the communication and storage of data.	
9:45-10:25	<b>Bocang Qiu</b> (Keynote)	Design and manufacture of high power semiconductor lasers	
10:25-10:50	Group photo and Tea break		
10:50-11:25	<b>Keith Wilcox</b> (Invited)	Recent Advances in Semiconductor Disk Lasers	Nelson Sze-Chun Chan
11:25-11:55	<b>Yuanyao Lin</b> (Invited)	Modelling the coherent modal interactions in Q-switched optical vortex lasers	
11:55-12:25	<b>Efrat Raz Moyal</b> (Invited)	Scribeless Cleaving for Substrate Downsize, Singulate and Cross section - Cleanroom Compatible	

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Conference Room No. 1

		Session 1 Biophotonics	Session Chair: Ce Zhang
S1-1	13:40-14:15	Real-time signal processing with graphics processing unit and hash table based logarithm calculation in swept source optical coherence tomography <b>Jun Zhang</b> (Invited)	
S1-2	14:15-14:45	AlPcS-loaded gold nanobipyramids with high two-photon efficiency for photodynamic therapy in vivo <b>Jun Liu, •Jing Wang, Xiao Xiao, Jiangfang Wang, Xiaolu Zhuo</b> (Invited)	
S1-3	14:45-15:15	Multi-channel brain neural signal sensing detection system <b>•Tao Chen, Shuo Zhang, Jiayi Wu, Xuefei Shen</b> (Invited)	
S1-4	15:15-15:30	Effect of fluorescence quenching of Coumarin 102 in 405nm/532nm CW-STED <b>•Wenxuan Zhao, Wei Zhao, Chen Zhang, Xiaoqiang Feng, Haiyun Qin, Guiren Wang, and Kaige Wang</b>	
	15:30-16:00	Tea break	

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		Session 2 Biophotonics and Lasers	Session Chair: Jun Zhang
S2-1	16:00-16:30	Labs on Chip, but not Just <b>Ce Zhang</b> (Invited)	

S2-2	16:30-17:00	Label-free molecular imaging of biomedical samples with multivariate analysis method <b>Shuang Wang</b> (Invited)
S2-3	17:00-17:15	Compact Laser Self-Mixing Interferometry Based Particle Sensor in Microfluidic System <b>•Yu Zhao, Tao Chen, Chen Zhang</b>
S2-4	17:15-17:30	High Linearity Fiber Temperature Sensor Based on DSSMS Fiber Structure <b>•Jianchang Tan, Guoying Feng, Shulin Zhang</b>
S2-5	17:30-17:45	Single-frequency Ytterbium-doped Fiber Laser <b>•Kaile Wang, Zengrun Wen, Baole Lu, Xinyuan Qi, Jintao Bai</b>

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Session 3 Semiconductor Lasers1 Session Chair: Charlie Ironside		
S3-1	13:30-14:10	Photonic Integrated Circuits as Terahertz Generation Sources <b>•Lianping Hou, John H. Marsh</b> (Invited)
S3-2	14:10-14:40	Versatile Photonic Microwave Generation Using Feedback and Injection Dynamics of Semiconductor Lasers <b>Jia-Xin Dong and •Sze-Chun Chan</b> (Invited)
S3-3	14:40-15:10	Ultra-bright single photon and entangled photon sources based on quantum dots in broadband photonic nanostructures <b>•Juntao Li, Yuming Wei, Beimeng Yao, Ying Yu, Jin Dong Song, Saimon Filipe Covre da Silva, Marcelo Davanço, Jake Iles-Smith, Kartik Srinivasan, Armando Rastelli, Jin Liu, and Xue-Hua Wang</b> (Invited)
S3-4	15:10-15:30	Low noise quantum dot mode locked lasers directly grown on a CMOS compatible silicon substrate <b>•Songtao Liu, Justin Norman, Arthur Gossard, and John Bowers</b>
	15:30-16:00	Tea break

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Session 4 GaN and Emerging Tech Session Chair: Lianping Hou		
S4-1	16:00-16:35	Micro-LED's history, current progress and future trends <b>Zheng Gong</b> (Invited)
S4-2	16:35-17:05	Progress of GaN-based blue and green laser diodes <b>•Jianping Liu, Aiqing Tian, Lei Hu, Xiaoyu Rei, Liqun Zhang, Shuming Zhang, Deyao Li, Hui Yang</b> (Invited)
S4-3	17:05-17:30	Optically pumped InGaN/GaN multiple quantum wells laser diodes selectively grown on Si (111) substrates <b>Xiaobiao Han, Yuebo Liu, Yuan Ren, Yaqiong Dai, Longkun Yang, Wanqing Yao, Jieying Xing, Zhisheng Wu, Yang Liu, •Baijun Zhang</b> (Invited)
S4-4	17:30-17:45	Back-end Heterogeneous Integration of III-V membrane APDs Using

		Transfer Printing • <b>Yifeng Song, Xiangbin Su, Charalambos Klitis, John McPhillimy, Ben Guilhabert, Haiqiao Ni, Ying Ding, Michael J. Strain, Zhichuan Niu, Marc Sorel</b>
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		<b>Session 5 Photovoltaics</b>	<b>Session Chair: Fei Gao</b>
S5-1	8:50-9:20	High Performance Single Crystalline Perovskite Optoelectronic Devices <b>Yanxia Cui</b> (Invited)	
S5-2	9:20-9:50	Perovskite – a Wonder for Photovoltaic & Optoelectronic Applications <b>Shengzhong (Frank) Liu, Dong Yang, •Yucheng Liu, Kui Zhao, Zhiwen Jin</b> (Invited)	
S5-3	9:50-10:15	Charge Photogeneration and Recombination Processes in Polymer Solar Cells • <b>Wei Zhang, Arkady Yartsev</b> (Invited)	
S5-4	10:15-10:30	Semiconductor nanowall arrays as efficient light confinement structures potentially applicable for high-performance photovoltaic devices <b>Junshuai Li</b>	
	10:30-10:50	Tea break	

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		<b>Session 6 Characterization</b>	<b>Session Chair: Xinlong Xu</b>
S6-1	10:50-11:20	Nanoanalysis of optoelectronic devices using Focused Ion Beam microscopy combined with time of flight secondary ion mass spectrometry • <b>Charles N. Ironside and William D. A. Rickard</b> (Invited)	
S6-2	11:20-11:50	Charge carrier recombination in semiconductors • <b>Arkady Yartsev, Wei Zhang, Pierre-Adrien Mante, Xiaojun Su, Xianshao Zou, Magnus Borström</b> (Invited)	
S6-3	11:50-12:20	Improvement of the properties of Cu oxide film • <b>Fei Gao, Rongrong Gao, Hao Liu, Zhou Yang, Xiaodong Hua, Xin Wu, and Shengzhong (Frank) Liu</b> (Invited)	

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		<b>Session 7 Optical Communication Lasers</b>	<b>Session Chair: Ying Ding</b>
S7-1	8:50-9:25	Super-Channel Technology for Coherent Optical Fiber Communication System <b>Yuan Shi</b> (Invited)	
S7-2	9:25-10:00	Design of a hybrid vertical cavity laser • <b>Anjin Liu, Bo Yang</b> (Invited)	
S7-3	10:00-10:30	Photonic Integration of InP-based few-mode devices • <b>Dan Lu and Lingjuan Zhao</b> (Invited)	
	10:30-10:50	Tea break	

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		<b>Session 8 Ultrafast Lasers</b>	<b>Session Chair: Bocang Qiu</b>
S8-1	10:50-11:20	Highly reliable ultrafast fiber lasers and their applications • <b>Zhiguo Lv, Zhi Yang, Feng Li, Qianglong Li, Xiaojun Yang, Yishan Wang, and Wei Zhao</b> (Invited)	
S8-2	11:20-11:35	Fiber Lasers that Generate Ultrashort Light Pulses <b>Lei Hou, •Hongyu Guo</b>	
S8-3	11:35-11:50	Generation and Control of High Coherent Supercontinuum Sources based on Photonic Crystal Fibers • <b>Wei Li, Guoying Feng, Yang Liu</b>	
S8-4	11:50-12:05	Effect of spectral filtering in mode-locked fiber lasers • <b>Zengrun Wen, Kaile Wang, Baole Lu, Xinyuan Qi, and Jintao Bai</b>	
S8-5	12:05-12:20	The generation of chirality controllable femtosecond LG01 vortex beam • <b>Shulin Zhang, Guoying Feng, Sha Wang, Shouhuan Zhou</b>	

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		<b>Session 9 Semiconductor Lasers2</b>	<b>Session Chair: Keith Wilcox</b>
S9-1	14:30-15:05	Mode Engineering of High Power Semiconductor Lasers <b>Cunzhu Tong</b> (Invited)	
S9-2	15:05-15:25	Modeling of InP-Based Coupled Cavity Semiconductor Snail Laser Diodes • <b>Xing Dai, Jack Mulcahy, Frank H. Peters</b>	
	15:25-16:00	Tea break	

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		<b>Session 10 Emerging Tech1</b>	<b>Session Chair: Arkady Yartsev</b>
S10-1	16:00-16:30	THz Technology for Two-dimensional Materials • <b>Xinlong Xu, Chuan He, Yuanyuan Huang, Lipeng Zhu</b> (Invited)	
S10-2	16:30-16:55	Fast and broadband photoresponse of few-layer GeSe field-effect transistor • <b>Hongquan Zhao, Yuhui Yang, Dahua Zhou, Xuan Shi, Yuzhi Li, Chunxiang Wang</b> (Invited)	
S10-3	16:55-17:10	Enhanced photoresponsivity in carbon quantum dots-coupled graphene/silicon Schottky-junction photodetector • <b>Xiaoxu Chen, Chao Yang, Hao Zhou, Guoying Feng, and Shouhuan Zhou</b>	

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		<b>Session 11 THz and QCL etc</b>	<b>Session Chair: Baijun Zhang</b>
S11-1	9:00-9:30	Terahertz Detectors Based on GaN High Electron Mobility Transistors • <b>Zhihong Liu, Haowen Hou, Jinghua Teng, Tomás Palacios, and Soo-Jin Chua</b> (Invited)	

S11-2	9:30-10:50	Electrical/optical modulation of Mm-wave/THz resonant tunneling diode transmitter <b>•Jue Wang, Joana S. Tavares, Abdullah Al-khalidi, Jose M. L. Figueiredo, Luis M. Pessoa, and Edward Wasige</b>
S11-3	10:00-10:15	Spectral Linewidth Reduction of Quantum Cascade Lasers by Strong Optical Feedback <b>•Binbin Zhao, Xingguang Wang and Cheng Wang</b>
S11-4	10:15-10:30	High sensitivity refractive index measuring instrument based on laser heterodyne interference <b>•Xi Ding, Guoying Feng, Shouhuan Zhou</b>
	10:30-10:50	Tea break

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Session 12 Emerging Tech2      Session Chair: Hongquan Zhao		
S12-1	10:50-11:20	Optical dual-beam lithography (ODBL) for nanofabrication: challenges and applications <b>Yaoyu Cao (Invited)</b>
S12-2	11:20-11:35	Spectrum compression employing nonlinear polarization rotation and its application in soliton self-frequency shift-based optical quantization <b>•Xuyan Zhang, Zhiyao Zhang, Lingjie Zhang, Heping Li, Yong Liu</b>
S12-3	11:35-11:50	Enhancement of near-infrared luminescence in Nd <sup>3+</sup> : NaLnF <sub>4</sub> (Ln = Y, Lu) <b>•Qinqin Shao, Guoying Feng, Hong Zhang, Shouhuan Zhou</b>
S12-4	11:50-12:05	Gradational pavement cracks segmentation using fuzzy inference system <b>•Amna Khatoon, Asad Ullah, Zhaoyun Sun, Ishfaq Ahmad</b>
S12-5	12:05-12:20	Magnitude response measurement of broadband intensity modulator employing low-speed photonic down-conversion sampling <b>•Yujia Zhang, Yangxue Ma, Zhiyao Zhang, Shangjian Zhang, Yong Liu</b>
	12:20-12:30	<b>ICLPT 2019 Award Ceremony</b>

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Poster Session 1, 2, 3

Conference Room No. 2

	Time	Poster ID and authors
P1-P10	13:30-14:30	P01 Xiangbin Su, P02 Chunyan Guo, P03 Zhuangzhuang Zhao, P04 Wei Pang, P05 Liangchen Hu, P06 Hongyu Guo, P07 Qimeng Lin, P08 Pengfei Wang, P09 Yamin Li, P10 Zhenjuan Liu
P11-P18	15:25-16:00	P11 Meng Xun, P12 Charlie Ironside, P13 Sajid Ur Rehman, P14 Weikang Zhang, P15 Xu Yang, P16 Yanan Dai, P17 Kaiwen Ji, P18 Yunlong Liu
P19-P28	17:10-18:00	P19 Jin Tong, P20 Shuangcheng Chen, P21 Jianyi Ding, P22 Zhaoyang Zhang, P23 Jing Han, P24 Jiaxue You, P25 Xuefei Shen, P26 Asad Ullah, P27 Tingting Xu, P28 Diao Li

All Poster presenters should prepare electronic files for electronic display board in advance.

**Half-day Excursion**

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Xi'an High Tech Park and Museums