

APCOM 2019 Conference Programme (Provisional)

7th January	Events	Venue
09:00-16:00	<i>Tutorial</i>	V302
	<i>Welcome Reception (at 6:30) with lab visit (at 16:00)</i>	Theatre Lounge

8th January (Day 1)	Events	Venue
08:15-08:30	<i>Registration</i>	M1607
08:30-08:45	1. Opening Ceremony	M1603
08:45-11:00	<p>Keynote Speeches (1) Session Chair: Kai CHENG, Brunel University London, UK; Liangchi ZHANG, The University of New South Wales, Australia, Australia</p> <p>1. Manufacturing III: Atomic and/or Close-to-atomic Scale Manufacturing (45min) Fengzhou FANG, Tianjin University, China</p> <p>2. Traceability and Uncertainty Aspects of Optical and Mechanical Surface Measurements (45min) Han HAITJEMA, KU Leuven, Belgium</p> <p>3. Large SiC Aspherical Mirror Manufacturing and Testing (45min) Xuejun ZHANG, Changchun Institute of Optics, Fine Mechanics and Physics, Chinese Academy Sciences, China</p>	M1603
11:00-11:30	<i>Exhibition networking tea/coffee break</i>	M1607
11:30-12:45	<p>Industrial Session Session Chair: Dehong HUO, Newcastle University, UK Moore Nano Technology Systems, LLC</p> <p>AMETEK Precitech Inc.</p> <p>son-X GmbH</p> <p>Diffraction Optics Ltd.</p>	M1603
12:45-14:00	<i>Lunch Break</i>	4/F, Communal Building
14:00-16:15	<p>Keynote Speeches (2) Session Chair: Fengzhou FANG, Tianjin University, China; Han Haitjema, KU Leuven, Belgium</p> <p>4. Freeform Optics Technology for Extremely Large Astronomical Telescopes (45min) Dae Wook KIM, University of Arizona, USA</p>	M1603

	<p>5. Moulding of Optical Lens and Microlens Arrays: Merits and Problems (45min) Liangchi ZHANG, The University of New South Wales, Australia</p> <p>6. Developments and Challenges in the Ultra-Precision Polishing Technology of Large-Aperture KDP Crystals (45min) Jianguo HE, China Academy of Engineering Physics, China</p>	
16:15-16:45	<i>Exhibition networking tea/coffee break</i>	M1607
16:45-18:15	<p>Keynote Speeches (3) Session Chair: Bi ZHANG, Southern University of Science and Technology, China</p> <p>7. Ultraprecision Machining of High Precision Optical Devices in an Industrial Scale: Machines, Systems and Future Perspectives (45min) Kai CHENG, Brunel University London, UK</p> <p>8. Ultra-precision Machining of Micro/Nanostructures and Its Application Sandy TO, The Hong Kong Polytechnic University, HKSAR</p>	M1603

9th January (Day 2)	Events	Venue
08:30-09:00	<i>Registration</i>	
09:00-10:30	<p>Keynote Speeches (4) Session Chair: Mustafizur RAHMAN, National University of Singapore, Singapore</p> <p>1. Fundamentals in Machining of Hard & Brittle Materials (45min) Bi ZHANG, Southern University of Science and Technology, China</p> <p>2. Manufacturing Technology of Complex Functional Optical Structures (45min) Min XU, Fudan University, China</p>	
10:30-11:15	<i>Exhibition networking Industrial companies tea/coffee break</i>	
11:15-12:45	<p>Keynote Speeches (5) Session Chair: Dae Wook KIM, University of Arizona, USA</p> <p>3. Nano Finishing Mechanism in Turning Process (45min) Mustafizur RAHMAN, National University of Singapore, Singapore</p> <p>4. Compressive Sensing for High Resolution Digital Holographic Imaging (45min) Liangcai CAO, Tsinghua University, China</p>	
12:45-14:00	<i>Lunch Break</i>	

14:00-15:20	<p>Optics Design and Manufacturing Session Chairs: Chun CHANG, Beijing Institute of Technology, China; Xing ZHAO, Nankai University, China</p>	<p>Measurement and Surface Characterization (1) Session Chair: Yanlong CAO, Zhejiang University, China; Zhen TONG, University of Huddersfield, UK</p>	<p>Ultra-precision Machining (1) Session Chair: Sujuan WANG, Guangdong University of Technology, China; Xusheng YANG, The Hong Kong Polytechnic University, HKSAR</p>	
	<p>Large Metal Mirrors - Opportunities and Challenges Invited talk (25min) David ROBERTSON, son-X GmbH, Germany</p> <p>Tackling the Challenges of Low-distortion Wide Angle Camera Lens Invited talk (25min) Zhishan GAO, Nanjing University of Science and Technology, China</p> <p>Technical Presentations:</p> <p>A Single Mirror Magnifier with Freeform Surfaces Using Radial Basis Functions based on Surface Slope (0027) Liuchang XIAO, Xing ZHAO, Kainian Tong, Bo ZHANG, Lipei SONG, Lingjie WANG and Xiaodong ZHANG; Nankai University, China</p> <p>Tailored Illumination based on TIR Lens with Nonlinear Boundary (0016) Xiang SUN, Lingbao KONG and Min XU; Fudan University, China</p>	<p>Measurement Methods in Freeform Optics Manufacturing Invited talk (25min) Xiaodong ZHANG, Tianjin University, China</p> <p>Measurement Method for Structured Surface at Nano Scale Invited talk (25min) Shuming YANG, Xi'an Jiaotong University, China</p> <p>Technical Presentations:</p> <p>Dark Field Microscopy for Ultra-Precision Surface Processing Defect Measurement (0013) Lulu LI, Qian LIU and Wen HUANG; Institute of Machinery Manufacturing Technology, China Academy of Engineering Physics, China</p> <p>A pilot study of a reconfigurable 3D standard ball artefact for estimating volume error of multi-axis machines Shixiang WANG and Chi Fai CHEUNG; The Hong Kong Polytechnic University, HKSAR</p> <p>Detection and Analysis of Surface Defects on Polished KDP Crystal (0021) Lichao GUAN, Tiancai LEI, Qingfeng YIN, Hailong CUI and Jiexiong DING; Institute of Machinery Manufacturing Technology, China Academy of Engineering Physics, China</p>	<p>DMD-based Random-access Scanner for Fast 3D Nano-fabrication Invited talk (25min) Shih-Chi CHEN, The Chinese University of Hong Kong, HKSAR</p> <p>A Study of Functional Microstructures with Directional Transport for Bionic Microfluidics Invited talk (25min) Lingbao KONG, Fudan University, China</p> <p>Technical Presentations</p> <p>Close Loop Manufacturing and Metrology of Ultra-Precise Steel Pins for Camera Lens Production (0008) Benjamin BULLA, David ROBERTSON, Marius DOETZ and Clemens DICKE; son-X GmbH, Germany</p> <p>A Novel Force-based Tool Center Error Identification Method (0026) Guoqing ZHANG, Yuqi DAI and Suet TO; Shenzhen University, China</p> <p>A study of tool-servo micro chiseling Wei YUAN and Chi Fai CHEUNG; The Hong Kong Polytechnic University, HKSAR</p>	

15:35-16:05	<i>Exhibition networking tea/coffee break</i>			
16:05 -17:45	Mechatronics Session Chair: Shih-Chi CHEN, The Chinese University of Hong Kong, HKSAR; Yangmin LI, The Hong Kong Polytechnic University, HKSAR	Measurement and Surface Characterization (2) Session Chair: Lingbao KONG, Fudan University, China; Shuming YANG, Xi'an Jiaotong University, China	Ultra-precision Machining (2) Session Chairs: Benjamin Bulla, son-X GmbH, Germany; Bin LIN, Tianjin University, China	
	<p>Design of Deployable Truss-Shaped Grasping Manipulator for Large Unknown Objects Invited talk (25min) Bing LI, Harbin Institution of Technology, China</p> <p>Technical Presentations</p> <p>Analysis and Optimization for a Chordwise Morphing Wing with Clearance Joints (0009) Bing LI, Gang LI, Sen WANG, Yinghao NING and Shuai WANG; <i>Harbin Institute of Technology at Shenzhen</i></p> <p>The influence of error motions of grinding wheel spindle on surface generation in ultra-precision grinding Tengfei YIN and Suet TO; <i>The Hong Kong Polytechnic University, HKSAR</i></p> <p>Design and Analysis of Ground-Based Experimental Platform for Hybrid Rotor UAV(0028) Jieqiong LIN, Qing GUO, Mingming LU, Yan GU and Chenping JIANG; <i>Changchun University of Technology, China</i></p> <p>Design, Modeling and Analysis of a Novel Flexure-Guided 3-DOF Fast Tool Servo Device(0031) Xiaohui GUO, Hui TANG, Hongcheng LI, Haoyu PAN, Dingtao YU, Xin CHEN, Jian GAO and Ziqiang YIN; <i>Guangdong University of Technology, China</i></p>	<p>Profile Metrology of Binary Optics Element Invited talk (25min) Zhishan GAO, Nanjing University of Science and Technology, China</p> <p>Learning-based Single Image Super-resolution for Infrared and RGB Image Invited talk (25min) Yanlong CAO, Zhejiang University, China</p> <p>Technical Presentations:</p> <p>Vibration-resistant Interferometric Measurement of Optical Surface Figure and Roughness (0012) Qian LIU, Wen HUANG, Lulu LI, and Zhiliang ZHAO; <i>Institute of Machinery Manufacturing Technology, China Academy of Engineering Physics, China</i></p> <p>Surface texture and image processing-based nanoscale measurement Chenyang ZHAO and Chi Fai CHEUNG; <i>The Hong Kong Polytechnic University, HKSAR</i></p> <p>Focusing Characteristics Optimization of Composite Near-Field Optical Probe Based on Surface Plasmon (0025) Xiaokai YANG, Shuming YANG, Shaobo LI and Xiaomin WANG; <i>Xi'an Jiaotong University</i></p>	<p>Optical Engineering in the Aviation Services Research Centre Invited talk (25min) River GUO, The Hong Kong Polytechnic University, HKSAR</p> <p>Ultra-precision Machining of Functional Surfaces with Embedded Metrology Invited talk (25min) Zhen TONG, University of Huddersfield, UK</p> <p>Technical Presentations:</p> <p>An Investigation of Slurry Erosion Analysis for Disc Hydrodynamic Polishing (0019) Xiangmin JIANG, Zhongchen CAO, Bin LIN and Kailong LI, <i>Tianjin University, China</i></p> <p>Modeling and Experiment of Spherical Microlens Array on Silicon Wafer by Chemical Mechanical Polishing with Diamond Slurry (0033) Xiaohua LIU, Tianfeng ZHOU, Wenchen ZHOU, Allen Y. YI, Zhiqiang LIANG and Xibin WANG; <i>Beijing Institute of Technology, China</i></p> <p>Fabrication of Multi-layer Structures in Micro-grooving Technology (0032) Senbin XIA, Yunbo HE and Sujuan WANG; <i>Guangdong University of Technology, China</i></p>	

			Modulated Diamond Cutting System for Generation of Hierarchical Micro/Nano-structures (HMNS) Zhuoxuan ZHUANG, Suet TO and Zhiwei ZHU; <i>The Hong Kong Polytechnic University, HKSAR</i>	
19:00-22:00 pm	<i>Banquet</i>			