

The 7th International Conference on Nanomanufacturing (nanoMan2021)**PROGRAM**

Please consider the time as China Standard Time (GMT+8).

Wednesday, November 17, 2021 (Shaanxi Guesthouse)			
10:00-22:00	Registration		
12:00-22:00	Meeting Platform Test		
	Keynote Session: Zoom ID: 856 0195 7108, Password: 2021		
	Session 1、4: Zoom ID: 872 7287 7898, Password: 2021		
	Session 2、5: Zoom ID: 825 9951 2019, Password: 2021		
Session 3、6: Zoom ID: 860 2019 0480, Password: 2021			
Thursday, November 18, 2021 (Shaanxi Guesthouse)			
08:00-08:40	Opening Ceremony & Group Photo		
08:40-10:20	Keynote Talk 1-2		
10:20-10:30	Coffee Break		
10:30-12:10	Keynote Talk 3-4		
12:10-13:30	Lunch		
13:30-15:30	Session 1 (Ankang Hall, F2, 2-3)	Session 2 (Bayi Hall, F2, 2-7)	Session 3 (Hanzhong Hall, F3, 3-3)
	High precision manufacturing	Extreme manufacturing	Atomic and close-to -atomic scale manufacturing
15:30-15:45	Coffee Break		
15:45-18:00	Session 1 (Ankang Hall, F2, 2-3)	Session 2 (Bayi Hall, F2, 2-7)	Session 3 (Hanzhong Hall, F3, 3-3)
	High precision manufacturing	Extreme manufacturing	Atomic and close-to -atomic scale manufacturing
18:00-20:30	Conference Banquet		
20:30-21:30	Poster		
Friday, November 19, 2021 (Shaanxi Guesthouse)			
08:30-10:10	Keynote Talk 5-6		
10:10-10:20	Coffee Break		
10:20-12:00	Keynote Talk 7-8		
12:00-13:30	Lunch		
13:30-15:30	Session 4 (Ankang Hall, F2, 2-3)	Session 5 (Bayi Hall, F2, 2-7)	Session 6 (Hanzhong Hall, F3, 3-3)
	Numarical analysis and simulation	Measurement and characterization	Advanced manufacturing and equipment
15:30-15:45	Coffee Break		
15:45-18:0	Session 4 (Ankang Hall, F2, 2-3)	Session 5 (Bayi Hall, F2, 2-7)	Session 6 (Hanzhong Hall, F3, 3-3)
	Numarical analysis and simulation	Measurement and characterization	Advanced manufacturing and equipment
18:00-20:30	Dinner		

Keynote Session

(Xianyang Hall, F2, 2-1)

Zoom ID: 856 0195 7108

Password: 2021

<https://www.zoom.com/j/85601957108?pwd=UWc4VEcvSVhqEzGeUtaTDNaME1iZz09>

18 th	Opening Ceremony & Group Photo		
	Chair: Prof. Weizheng Yuan		
	08:00-08:40	Prof. Dongming Guo	
		Prof. Zhuangde Jiang	
		Prof. Jinsong Wang	
	Chair: Prof. Weizheng Yuan		
	08:40-09:30	Keynote 1	Prof. Zhuangde Jiang, Xi'an Jiaotong University (China)
	09:30-10:20	Keynote 2	Prof. Kazuto Yamauchi, Osaka University (Japan)
	10:20-10:30	Coffee Break	
	Chair: Prof. Ryutaro Maeda		
	10:30-11:20	Keynote 3	Prof. Kenneth Dowson, University College Dublin (Ireland)
	11:20-12:10	Keynote 4	Prof. Jianrong Tan, Zhejiang University (China)
12:10-13:30	Lunch		
Grand Ballroom; Zoom ID: 856 0195 7108, Password: 2021			
19 th	Chair: Prof. Ning He		
	08:30-09:20	Keynote 5	Prof. Jianbin Luo, Tsinghua University (China)
	09:20-10:10	Keynote 6	Prof. Duncan McFarlane, Cambridge University (UK)
	10:10-10:20	Coffee Break	
	Chair: Prof. Wei Gao		
	10:20-11:10	Keynote 7	Prof. Honglong Chang, Northwestern Polytechnical University (China)
	11:10-12:00	Keynote 8	Prof. M. Alkan Donmez, National Institute of Science and Technology (USA)
	12:00-13:30	Lunch	

Session 1

High precision manufacturing

(Ankang Hall, F2, 2-3)

Zoom ID: 872 7287 7898

Password: 2021

<https://www.zoom.com/j/87272877898?pwd=NG8vUjROaThMQVlOa01aWFhHWU94UT09>

Chair: Ryutaro Maeda / Youjian Song

18th	13:30-14:00	Invited Talk 1	Multi-scale surface structuring of hard-brittle materials Prof. Jiwang Yan, Keio University (Japan)
	14:00-14:15	O-01	Study on superfinishing of single crystal Lu ₂ O ₃ by CeO ₂ slurry Ze Liu, Tianjin University
	14:15-14:30	O-02	Inner surface polishing of capillary tube utilizing magnetic compound fluid (MCF) under rotary magnetic field Yufeng Xue, South University of Science and Technology of China
	14:30-14:45	O-03	Cutting force in elliptical vibration cutting of micro/nano-structured surfaces Yang Yang, Harbin Institute of Technology, Shenzhen
	14:45-15:00	O-04	Electrochemical machining of micro tungsten rods using stratified electrolyte Yanan Liang, Southern University of Science and Technology
	15:00-15:15	O-05	Ultra-precision machining of the polygonal Fresnel lens structure array of large roller mold Songtao Meng, Guangdong University of Technology
	15:15-15:30	O-06	The Deformation Pattern of Aluminum Nitride Ceramics under Nanoscratching Honggang Li, Dalian University of Technology
	15:30-15:45	Coffee Break	
	Chair: Yongda Yan / Min Lai		
	15:45-16:15	Invited Talk 2	Ultra-Precision Machining of Hybrid Optical Surfaces Prof. A. Senthil Kumar, National University of Singapore (Singapore)
	16:15-16:30	O-07	Mechanism study of etching orientation during isotropic etching polishing of metals Rong Yi, Southern University of Science and Technology
	16:30-16:45	O-08	An exploratory study on the service life of magnetic compound fluid slurry Jibo Gao, Lanzhou University of Technology
	16:45-17:00	O-09	Fundamental investigation of ultraprecision aspheric machining with straight cutting edge diamond tools Linhe Sun, Southern University of Science and Technology
	17:00-17:15	O-10	Study on effect of slurry flows on shear-thickening polishing in constrained channel Qilin Zeng, Dalian University of Technology
	17:15-17:30	O-11	Spindle-less vibration-servo grinding of brittle materials Fang Han, Zhejiang University
	17:30-17:45	O-12	An environmentally-friendly diamond tool wear suppression method by applying magnetic field in turning ferrous materials Jianpeng Wang, Shenzhen University
	17:45-18:00	O-13	Assessing the quality of polished brittle optical crystal using quasi-Brewster angle technique Chunguang Hu, Tianjin University
	18:00-20:30	Conference Banquet	
	20:30-21:30	Poster	

Session 2

Extreme manufacturing

(Bayi Hall, F2, 2-7)

Zoom ID: 825 9951 2019

Password: 2021

<https://www.zoom.com/j/82599512019?pwd=YXJLcSt1bG4weCthSkhXcjVsNThGdz09>

Chair: Chengwei Kang / Shuming Yang

18th	13:30-14:00	Invited Talk 3	Ultrashort Lasers towards Ultraprecision in Instrumentation and Microfabrication Prof. Seung-Woo Kim, Korea Advanced Institute of Science and Technology (South Korea)
	14:00-14:30	Invited Talk 4	Ultra-precision Machining of Discontinuous Microstructures on Monolithic Surface Dr. Kui Liu, Singapore Institute of Manufacturing Technology (Singapore)
	14:30-14:45	O-01	A novel method for ruling the micro groove array on three-axis ultra-precision machine tool Zaozao Chen, Shanghai Jiao Tong University
	14:45-15:00	O-02	Self-aligned laser-induced periodic surface structure for uniform infinitely large-area nanopatterning Jiaxu Huang, Southern University of Science and Technology
	15:00-15:15	O-03	High precision machining of micro-pyramid array of electroless Ni-P plating based on relative tool sharpness effect Qian Yu, Beijing Institute of Technology
	15:15-15:30	O-04	Suppression strategy of micro-waviness error in the ultra-precision parallel grinding Shanshan Chen, Xi'an Jiaotong University
	15:30-15:45	Coffee Break	
	Chair: Qidai Chen / Xinghui Li		
	15:45-16:15	Invited Talk 5	Nanoelectrode lithography: modelling, experimental and instrumentation Prof. Xichun Luo, University of Strathclyde (UK)
	16:15-16:30	O-05	Recent advancement of multi-jet polishing technology Chunjin Wang, The Hong Kong Polytechnic University
	16:30-16:45	O-06	Laser-induced microjet-assisted ablation technology for high-precision microfabrication Yang Guo, Southern University of Science and Technology
	16:45-17:00	O-07	Study on material removal of Additive Manufacturing Round Bars of Titanium Alloy in Abrasive Flow Machining Lan Ding, Dalian University of Technology
	17:00-17:15	O-08	Rapid fabrication of surface microstructures on AlN HTCC substrate by chemically assisted laser ablation Ni Chen, Nanjing University of Aeronautics and Astronautics
	17:15-17:30	O-09	Fabrication of a variable-line-spacing grating based on the non-orthogonal Lloyd's mirror interferometer Shusaku Endo, Tohoku university
17:30-17:45	O-10	Ultra-precision machining of a monolithic freeform multi-reflective system without optical alignment Zexiao Li, Tianjin University	
18:00-20:30	Conference Banquet		
20:30-21:30	Poster		

Session 3

Atomic and close-to -atomic scale manufacturing

(Hanzhong Hall, F3, 3-3)

Zoom ID: 860 2019 0480

Password: 2021

<https://www.zoom.com/j/86020190480?pwd=YWFySHdzUC8rbGFwVWY2MzBPQ1phUT09>

Chair: Jiang Guo / Shuming Yang

18 th	13:30-14:00	Invited Talk 6	Plasmonic Structures with Atomic Precision and Applications Fabricated Using Collapsible Nano-Fingers Collapsible Nano-Fingers Prof. Wei Wu, University of Southern California (USA)
	14:00-14:30	Invited Talk 7	On-machine Measurement of Tool Edge Fine Profile by Detecting Laser Induced Fluorescence of Water-soluble Cutting Fluid Prof. Yasuhiro Takaya, Osaka University (Japan)
	14:30-14:45	O-01	Investigation of the capillary performance of nanoporous aluminum braided wick prepared by anodic oxidation Fei Gao, South China University of Technology
	14:45-15:00	O-02	Highly flexible PU electrospun membrane decorated with CNTs and AgNPs for electromagnetic interference shielding Guoxi Luo, Xi'an Jiaotong University
	15:00-15:15	O-03	Recovery of surface topography of cutting-damaged single-crystalline silicon by nanosecond pulsed laser irradiation Yingming Ren, Changchun Institute of Optics, Fine Mechanics and Physics, Chinese Academy of Sciences
	15:15-15:30	O-04	Fundamental Research on Isotropic Etching Polishing of High Purity Aluminum Zejin Zhan, Southern University of Science and Technology
	15:30-15:45	Coffee Break	
	Chair: Hui Deng / Xinquan Zhang		
	15:45-16:15	Invited Talk 8	Study on mechanical properties of gold nanowires prepared by nanoskiving approach Prof. Yongda Yan, Harbin Institute of Technology (China)
	16:15-16:30	O-05	Fabrication of micro/nano-structured functional surfaces by the vibration-assisted cutting Yanjie Yuan, Nanjing University of Aeronautics and Astronautics
	16:30-16:45	O-06	The effect of sliding orientation and floor profile on the tribological performance of textured bioimplants Jufan Zhang, University College Dublin
	16:45-17:00	O-07	A first-principles study of the atomic-scale adhesion in nanoscratching by an Atomic Force Microscope tip Jian Gao, University of Strathclyde
	17:00-17:15	O-08	Cutting of graphite at atomic and close-to-atomic scale using enhanced molecular dynamics Jinshi Wang, Tianjin University
	17:15-17:30	O-09	Plasma-based atomic and close-to-atomic surface manufacturing Hui Deng, Southern University of Science and Technology
	17:30-17:45	O-10	Nanoelectrode Lithography of Silicon surface by Brass Stamp Xichun Luo, University of Strathclyde
	17:45-18:00	O-11	Investigation of plastic deformation of micropillars by a multiscale dislocation-based model Zhen Tong, University of Huddersfield
	18:00-20:30	Conference Banquet	
	20:30-21:30	Poster	

Session 4

Numerical analysis and simulation

(Ankang Hall, F2, 2-3)

Zoom ID: 872 7287 7898

Password: 2021

<https://www.zoom.com/j/87272877898?pwd=NG8vUjROaThMQVlOa01aWFhHWU94UT09>

Chair: Bin Liu / Chunguang Hu

19th	13:30-14:00	Invited Talk 9	Machine Learning-based Autostereoscopic Freeform Metrology Prof. Benny Cheung, The Hong Kong Polytechnic University (China)
	14:00-14:30	Invited Talk 10	Simulation of 5 DOF motion errors in the precision linear motion system Prof. Chun-Hong Park, Korea Institute of Machinery & Materials (South Korea)
	14:30-14:45	O-01	Mechanics-Enabled Extreme Nanofabrication Yiqin Chen, Hunan University
	14:45-15:00	O-02	Study on tool mark-induced performance degradation in optical system: A simulation via unified field tracing Ning Yan, Tianjin University
	15:00-15:15	O-03	Evaluation of the effect of diffusion layer thickness on electroformed micro structure precision using star patterns Honggang Zhang, University College Dublin
	15:15-15:30	O-04	Charged Jet Behaviors and Ejection Modes for Near-Field Electrospinning Gaofeng Zheng, Xiamen University
	15:30-15:45	Coffee Break	
	Chair: Wei Yuan / Yanlei Hu		
	15:45-16:15	Invited Talk 11	Nanosecond pulsed laser micromachining for surface functionalization Prof. Junjie Zhang, Harbin Institute of Technology (China)
	16:15-16:30	O-05	Research on Electrostatic Response Characteristics of Micro Initiator Based on MEMS Technology Ruizhen Xie, Shaanxi Institute of Applied Physical Chemistry
	16:30-16:45	O-06	Finite element simulation and experiments of nanosecond pulsed laser ablation of copper alloy foil microstructures Yujie Han, Harbin Institute of Technology
	16:45-17:00	O-07	Theoretical Study of Factors Affecting the Effective Rake Angle of AFM Tips for Nanomachining Applications Sameeh Baqain, Cardiff University
	17:00-17:15	O-08	Modeling and Design Analysis of a Deep Hole Internal Grinding Machine Muhammad Jawad Ahmad, Dalian University of Technolog
	18:00-20:30	Dinner	

Session 5

Measurement and characterization

(Bayi Hall, F2, 2-7)

Zoom ID: 825 9951 2019

Password: 2021

<https://www.zoom.com/j/82599512019?pwd=YXJLcSt1bG4weCthSkhXcjVsNThGdz09>

Chair: Xuesong Han / Pengzhe Zhu

19th	13:30-14:00	Invited Talk 12	Superatomic Metal Clusters for Genetic Materials-Towards Atomic and Close-to-atomic Scale Manufacturing Prof. Zhixun Luo, Chinese Academy of Science (China)
	14:00-14:30	Invited Talk 13	Traceable and Accurate 3D Nanometrology Dr. Gaoliang Dai, PTB (Germany)
	14:30-14:45	O-01	Design and Fabrication of Submicron Gaps for Au Nanofluid Enhanced Thermionic Emission Devices Jian Lu, National Institute of Advanced Industrial Science and Technology (AIST), JAPAN
	14:45-15:00	O-02	Development of a probe-type profiler for measurement of a micro cutting edge Bo Wen, Tohoku University
	15:00-15:15	O-03	An absolute surface encoder with a femtosecond laser and a planar scale grating of variable periods Maehara Satoru, Tohoku University
	15:15-15:30	O-04	Measurement of the angle of a small prism by a mode-locked femtosecond laser autocollimator Ikeda Kakeru, Tohoku University
	15:30-15:45	Coffee Break	
	Chair: Tianfeng Zhou / Jixiang Yang		
	15:45-16:15	Invited Talk 14	Challenge of nano optical technology beyond the diffraction limit for nano/micro manufacturing Prof. Satoru Takahashi, The University of Tokyo (Japan)
	16:15-16:30	O-05	Telecentric stereo phase measurement deflectometry for optical elements quality control Yingmo Wang, Tianjin University
	16:30-16:45	O-06	A fiducial-aided artefact for the estimation of errors of a five-axis ultra-precision machine tools Shixiang Wang, Fudan University
	16:45-17:00	O-07	Interferometric measurement and alignment of optical surface based on spatial light modulator at oblique incidence Zhen Zeng, Hubei University of Technology
	17:00-17:15	O-08	Angle Measurement Based on a Mid-infrared Laser Hiraku Matsukuma, Tohoku University
	17:15-17:30	O-09	Angular Measurement Method Utilizing Second Harmonic Generation Wijayanti Dwi Astuti, Tohoku University
	17:30-17:45	O-10	Uncertainty analysis of roundness measurement of a small cylinder based on the stitching linear-scan method Qiaolin Li, Tohoku University
17:45-18:00	O-11	The model of angular measurement based on second harmonic generation Kuangyi Li, Tohoku University	
18:00-20:30	Dinner		

Session 6

Advanced manufacturing and equipment

(Hanzhong Hall, F3, 3-3)

Zoom ID: 860 2019 0480

Password: 2021

<https://www.zoom.com/j/86020190480?pwd=YWFySHdzUC8rbGFwVWY2MzBPQ1phUT09>

Chair: Jining Sun / Guolong Zhao

19th	13:30-14:00	Invited Talk 15	Key technologies and applications of Miniaturized White Light Interferometry Prof. Xiaodong Zhang, Tianjin University (China)
	14:00-14:30	Invited Talk 16	Scalable optical design for extremely large space Telescopes Prof. Daewook Kim, The University of Arizona (USA)
	14:30-14:45	O-01	Crystal orientation effect on surface generation in nano-cutting of soft metal tin Zhifu Xue, Tianjin University
	14:45-15:00	O-02	Study on polishing damage Mechanism of Lutetium Oxide Crystal Yuzhu Li, Tianjin University
	15:00-15:15	O-03	Effect of Cracks on Heat Response Characteristic of Ni-Cr Micro-heater Wei Liu, Shaanxi Institute of Applied Physical Chemistry
	15:15-15:30	O-04	Research on Nano-cutting Mechanism of Cerium-La Alloy Chenyu Zhao, Tianjin University
	15:30-15:45	Coffee Break	
	Chair: Zongwei Xu / Yuanliu Chen		
	15:45-16:15	Invited Talk 17	Nano-probe for the measurement of structured surface fabrication Prof. Shuming Yang, Xi'an Jiaotong University (China)
	16:15-16:30	O-05	Metal micromesh based electrode for flexible energy storage devices Guanhua Zhang, Hunan University
	16:30-16:45	O-06	Image enhancement method for arc welding process monitoring in the presence of strong arc light interference Xinxin He, Tianjin University of Technology
	16:45-17:00	O-07	Study on surface evolution and subsurface damage in novel fixed abrasive lapping of hard brittle materials Zhongchen Cao, Tianjin University
	17:00-17:15	O-08	A Novel Ultrasonic Bonding Transducer With Longitudinal And Lateral Operating Modes Zitian Chen, Harbin Institute of Technology, Shenzhen
	17:15-17:30	O-09	An experimental study on the milling performance of a new PCD micro ball-end mill Yuchao Du, Beijing Institute of Technology
	17:30-17:45	O-10	Study on ultra-smooth finishing of lutetium oxide single crystal using plasma-assisted polishing Peng Lyu, Tianjin University
	17:45-18:00	O-11	Experimental Research on Ultrasonic Vibration Precision Turning Titanium Matrix Composite Dazhen Wang, JiMei University
18:00-20:30	Dinner		

Poster Session

Shaanxi Guesthouse, Grand Ballroom

18th	20:30-21:30	PR-01	Analysis about relationship between positioning errors and driving output in micro precise linear stage He Zhang, Hunan University of Science and Technology
		PR-02	Experimental investigations on the magnetorheological shear thickening finishing for sine surface Yebing Tian, Shandong University of Technology
		PR-03	Analysis on the lower limit of measurable cavity thickness using Fourier-transform phase-shifting interferometry Shanyong Chen, National University of Defense Technology
		PR-04	Influence of nozzle distribution on micro-jet Lianmin Yin, National University of Defense Technology
		PR-05	Sensitivity Analysis of four-Axis Ultra-precision Machine Tool Based on Screw Theory Shuai He, Huazhong University of Science and Technology
		PR-06	3D super-resolution longitudinally polarized optical needle arrays generated with tightly focused radially polarized Gaussian beam Changkun Shi, Tianjin University
		PR-07	Bionic fabrication of superhydrophobic surface with micro/nano structures using laser texturing and electrochemical deposition methods Kaikai Li, South China University of Technology
		PR-08	Research on Filter Special Equipment Remote Operation and Maintenance Big Data Platform Tao Li, Xi'an Jiaotong University
		PR-09	Research on surface quality by waterjet-assisted laser ablation of AISI 316L Jiaqi Wang, Changchun University of Science and Technology
		PR-10	Towards High Accurate Surface Profile Characterization in Atomic Force Microscopy Chengjian Wu, Zhejiang University
		PR-11	Preliminary Investigations of Absolute Distance Measurement by the Dual-comb System with a Fiber Interferometric Scheme Yang Liu, National Institute of Metrology, China
		PR-12	Development of A Rotary Ultrasonic Machining Device and Its Application in Cemented Carbide Mold Machining Kailiang Huang, Shanghai Jiao Tong University
		PR-13	Single-Point Diamond Turning And Compensation For Microlens Array Zhiyue Wang, Shanghai Jiao Tong University
		PR-14	Study on surface quality of C/SiC ceramic composites in laser-assisted micromachining Changtai Zhai, Changchun University of Science and Technology
		PR-15	Research on Surface Quality of 3D Needle-punched Cf/SiC Composites with Ultrasonic Vibration-assisted Micro-milling Guangjun Chen, Changchun University of Science and Technology
		PR-16	Research on Surface Quality of multi-cutting by WEDM for NiTi-SMA Yonggang Hou, Changchun University of Science and Technology