ISMTII / ICOIM 2025

Conference Abstract Collection

The 16th International Symposium on
Measurement Technology and Intelligent Instruments

ISMTII / ICOIM 2025

The 3rd International Conference of Optical Imaging and
Measurement

PROGRAM BOOK



Wuhan, China
May 25Sun~28Wed, 2025

ISMTII / ICOIM 2025 PROGRAM AT A GLANCE

Date	Time	Schedule					
May 25 (Sunday)	14:00~21:00	**Registration**					
May 26 (Monday)	09:00~09:30	**Opening Ceremony**					**Venue: Huanghe Hall Chair: Shiyuan Liu**
	09:30~09:45	**In memory of Professor Zhu Li**					
	09:45~10:25	**Plenary:** **Precision metrology: beyond bulk optics** Xiangqian (Jane) Jiang, University of Huddersfield, The United Kingdom					
	10:25~10:45	Coffee Break & Group Photo					
	10:45~11:25	**Plenary:** **The new paradigms of manufacturing advancement** Fengzhou Fang, Tianjin University, University College Dublin, China					**Venue: Huanghe Hall Chair: Wei Gao**
	11:25~12:05	**Plenary:** **Towards super-resolution optical measurement for precision surface inspection** Satoru Takahashi, The University of Tokyo, Japan					
	12:05~13:30	Lunch Time / Poster Session					
	13:30~18:00	**Session A** (Tianmen Hall)	**Session B** (Jingzhou Hall)	**Session C** (Xiantao Hall)	**Session D** (Qianjiang Hall)	**Session E** (Shennongjia Hall)	**Session F** (Dingxiang Hall)
		Keynote Invited Oral					
	18:30~20:00	Dinner Time					
	19:00~21:00	ICMI Member Meeting (Upon Invitation)					**Venue: Jingzhou Hall Chair: Yongsheng Gao**
May 27 (Tuesday)	08:30~09:00	Registration					
	09:00~09:40	**Plenary:** **Brain-inspired information photonics for life** Min Gu, University of Shanghai for Science and Technolog, China					**Venue: Huanghe Hall Chair: Fengzhou Fang**
	09:40~10:20	**Plenary:** **State-of-the-art of optical metrology for precision manufacturing** Wei Gao, Tohoku University, Japan					
	10:20~11:00	**Plenary:** **Ultrafast photonics for ultra-precision metrology and manufacturing (UPM2)** Young-Jin Kim, Korea Advanced Institute of Science and Technology, South Korea					
	11:00~12:00	**Poster Session**					
	12:00~13:15	Lunch Time					
	13:30~18:00	**Session A** (Tianmen Hall)	**Session B** (Jingzhou Hall)	**Session A+C** (Xiantao Hall)	**Session D** (Qianjiang Hall)	**Session D+ E** (Shennongjia Hall)	**Session B+F** (Dingxiang Hall)
		Keynote Invited Oral					
	18:30~20:00	Banquet					**Chairs: Shuming Yang, Jinlong Zhu**
May 28 (Wednesday)	09:00~11:30	**Technical Visit and Excursion**					

01

About ISMTII / ICOIM 2025

Welcome Message 01
Organization 02
About HUST 03
Committees 05
Conference Registration 08
Contact Us 08
Program of Parallel Sessions 08
Sponsor & Exhibition 10
The Floor Plan 11
Transportation 12
Instruction for Parallel Sessions 14
Instruction for Poster 14

02

In memory of Professor Zhu Li 15

03

Speakers

Plenary Speakers 16
Keynote Speakers 19
Invited Speakers 22

04

Program

Program at a glance 31
Session A 33
Session B 35
Session C 37
Session D 39
Session E 41
Session F 43
Poster 45

CONTENTS

WELCOME MESSAGE



It is my great honor to host the 16th International Symposium on Measurement Technology and Intelligent Instruments (ISMTII 2025) and the 3rd International Conference of Optical Imaging and Measurement (ICOIM 2025), to be jointly held on May 25th to 28th, 2025 at the East Lake Hotel in Wuhan, China.

The 1st ISMTII was held on May 15th to 17th, 1989, in Wuhan, China. For the last 36 years, ISMTII has been successfully organized in Hayama (Japan), Miskolc-Lillafured (Hungary), Cairo (Egypt), Hong Kong (China), Huddersfield (UK), Sendai (Japan), Petersburg (Russia), KAIST (South Korea), Aachen (German), Taipei (China), Xi'an (China), Niigata (Japan), and Seoul (South Korea). ISMTII has established itself as a well renowned meeting for international metrology experts since jointly organized and sponsored by International Committee on Measurements and Instrumentation (ICMI) in 1993. It has attracted more than 5,000 participants from over 50 countries and regions.

This year, the 16th ISMTII is held in Wuhan, China again. It is jointly held with the 3rd ICOIM, which is a renowned meeting dedicated to the most recent challenges, trends, solutions, and innovations on different aspects of optical imaging and measurement. More than 260 abstracts from all over the world have been accepted, and there are 8 industrial sponsors. Accordingly, I expect that the four-day joint conference will not only provide opportunities for established and early-career investigators to exchange the cutting-edge techniques on measurement and instrumentation, but also bridge the gap between academia and industry.

It should be mentioned that the 1st ISMTII was initiated by Prof. Li Zhu in Wuhan 36 years ago, and he was also the founder of ICMI. Encouraged by Prof. Li, I applied to organize ISMTII 2025 in Wuhan two years ago. Unfortunately, Prof. Li passed away last year. To remember his prominent contribution to ISMTII and ICMI as well as to the research society of instrument science and technology, we set a session "In memory of Professor Li Zhu".

The organization of ISMTII / ICOIM 2025 received solid support from senior leaders and sponsors. I would like to express my gratitude to all Committee Members for their continued support. I especially appreciate all the speakers who are going to share their research achievements in this academic gathering. Besides, the success of the conference is inseparable from the support of the partners and organizing staffs as well. Thank you for your hard work and valuable ideas for the event.

I look forward to your participation and hope you enjoy all the presentations as well as the tradition of Wuhan and China.

Shiyuan Liu

Prof. Shiyuan Liu

Huazhong University of Science and Technology
Conference Chair of ISMTII / ICOIM 2025

ORGANIZATION

Hosted by

Huazhong University of Science and Technology (HUST)

Organized by

School of Mechanical Science and Engineering, HUST
State Key Lab of Intelligent Manufacturing Equipment and Technology, HUST

Co-organized by

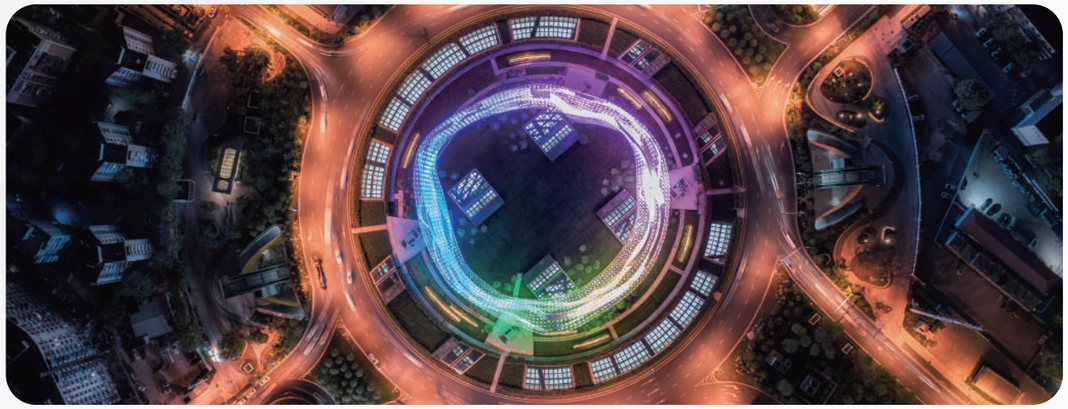
Xi'an Jiaotong University (XJTU)
Optics Valley Laboratory (OVL)
Hubei Instrument and Control Society (HICS)
Division of Metrology and Instruments for Integrated Circuits (MllC), CIS
ZJU-Hangzhou Global Scientific and Technological Innovation Center

Supported by

National Natural Science Foundation of China (NSFC)
China Instrument and Control Society (CIS)

Initiated by

International Committee on Measurements and Instrumentation (lCMl)



HUAZHONG UNIVERSITY OF SCIENCE AND TECHNOLOGY (HUST)

Huazhong University of Science and Technology (HUST) is a comprehensive research university located in Wuhan, China under the direct supervision of the Ministry of Education. It is a participant university of the former **"985"** Project in China, and also one of the first universities approved under the national "Double First-Class" Initiative, China's "Excellence Initiative" for institutions of higher education.

HUST has consistently ranked among the **top 10** universities in China in the major domestic and international rankings, including the Shanghai Ranking's Academic Ranking of World Universities and US News and World Report Best Global Universities Ranking.

HUST is situated in the city of Wuhan, the capital of Hubei Province, HUST lies near the central banks of the Yangtze River. With a population of over eleven million, Wuhan is the foremost cultural, educational, transportation and economic city in Central China, playing a leading role in the Yangtze River Economic Zone and now emerging as a global megacity with enormous business opportunities.

Geographical Location

Situated in Wuhan, the capital of Hubei Province
Near the central banks of the Yangtze River

City Scale and Status

Population: over eleven million
The foremost cultural, educational, transportation, and economic city in Central China
Playing a leading role in the Yangtze River Economic Zone
Emerging as a global megacity with enormous business opportunities





HUST is comprised of its main campus close by picturesque East Lake and a satellite medical campus located in the central business district of Hankou across the Yangtze River. Today the university has more than 3,400 full-time teachers, including over 1,200 professors, serving approximately 55,000 full-time students. Complementing this rich academic environment is HUST's remarkable greenscape - covering 72% of the campus, its rich canopy of trees explains why many people now refer to it as the "university in the forest."

HUST boasts a full range of academic disciplines, comprising 10 major categories that range from engineering and medicine - HUST's two most notable pillars of strength-to its fast-growing science and distinctive liberal arts disciplines. Guided by its sense of mission to contribute to social progress and the greater global community, the university continues to explore the frontiers of science, and is the only university in China that includes four national research facilities. International cooperation also lies at the core of HUST development strategy.

Academic Personnel and Student Population

Over 3,400 full-time teachers
Including over 1,200 professors
Approximately 55,000 full-time students

Campus Environment

Remarkable greenscape covering 72% of the campus
Rich canopy of trees leading to the nickname "university in the forest"

COMMITTEES

Conference Chair

Shiyuan Liu
Huazhong University of Science and Technology, China

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Zheng You
Huazhong University of Science and Technology, China

Xiangqian (Jane) Jiang
University of Huddersfield, UK

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D.I.Mendeleyev Institute for Metrology, Russia

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Jigui Zhu
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Oriol Arteaga
University of Barcelona, Spain

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Kyusyu University, Japan

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China University of Petroleum, China

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Institute of Microelectronics, Chinese Academy of Sciences, China

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Chenyang Zhao
Harbin Institute of Technology (Shenzhen), China

Renjie Zhou
Chinese University of Hong Kong, Hong Kong (China)

CONFERENCE REGISTRATION

Registration Time

- May 25, 2025 14:00-21:00
- May 26, 2025 07:30-18:00
- May 27, 2025 08:30-09:00

Registration Venue

East Lake Hotel NO.2 Tingtao Floor
武汉东湖宾馆听涛2号楼



CONTACT US

Huazhong University of Science and Technology

Lu Yang 18062722559
Jijie Yin 15007179058

Sichuan Tinglan Tianfu Meeting Service Co., Ltd.

Shasha Yang 13982086903

PROGRAM OF PARALLEL SESSIONS

Session A Tianmen Hall

00. Measurement and characterisation for atomic-level manufacturing

03. Metrology and Instruments for Integrated Circuits

10. Sensors and Actuators

Session B Jingzhou Hall

01. Micro and Nano Metrology

02. Quantum Sensing and Instruments

11. Uncertainty, Traceability and Calibration

Session C Xiantao Hall

04. In-process and Inline Metrology

08. Machine Learning and Signal Processing

12. Optical Imaging

Session D Qianjiang Hall

05. Optical Metrology and Inspection

06. Surface Metrology

Session E Shennongjia Hall

07. Material Characterization

14. Optical Measurement

16. Optoelectronics and Communication

Session F Dingxiang Hall

09. Intelligent Instrument for Automation

13. Optical Technology, Application and Precision Measurement

15. Photoelectric Device

SPONSOR & EXHIBITION

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Lum 光格科技

锐光凯奇 Ray Cage

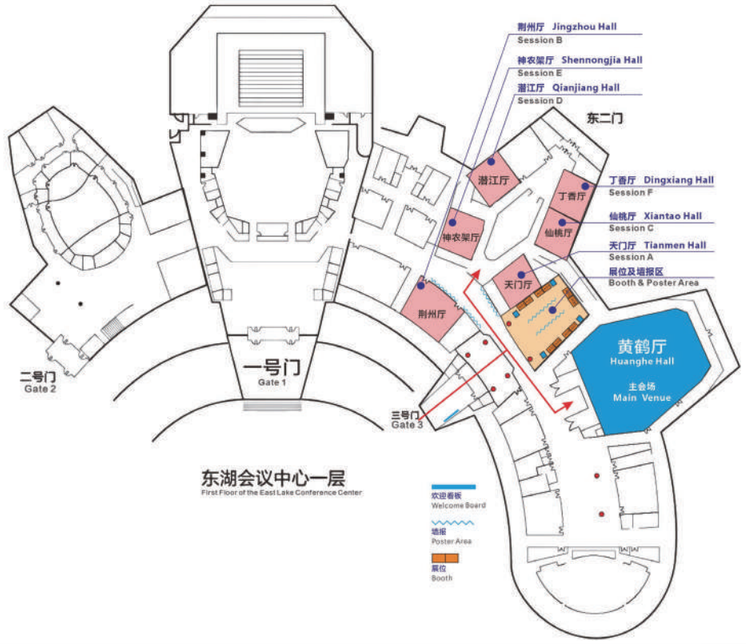
MDPI

长春吉莹光电科技有限公司 CHANGCHUNJIYINGGUANGDIANKEJIYOUXIANGONGSI

颐光科技 OPTICS

格蓝若精密 Glory Road Precision

THE FLOOR PLAN





TRANSPORTATION



East Lake Conference Center Gate 3

Phone: 027-68881888

Postal Code: 430077

Address: 142 East Lake Road, Wuchang District, Wuhan, 430077, China

武汉东湖宾馆会议中心3号门

电话：027-68881888

邮编：430077

地址：湖北省武汉市武昌区东湖路142号

Transportation

Wuhan Tianhe International Airport ⟶ East Lake Hotel

Taxi: (About 38 km)
It may take about 58 minutes and cost about 98 yuan

Metro

Wuhan Tianhe Int'l Airport Station —Line2 (take 5 stops)→ Hongtu Boulevard Station —Line8 (take 12 stops)→ Hubei Provincial Museum & Hubei Daily (Exit A) —Walk 800 meters→ East Lake Hotel

Wuhan Railway Station ⟶ East Lake Hote

Taxi: (About 12.5 km)
It may take about 20 minutes and cost about 30 yuan

Metro

Wuhan Tianhe Int'l Airport Station —Line4 (take 7 stops)→ Yuejiazui Station —Line8 (take 3 stops)→ Hubei Provincial Museum & Hubei Daily (Exit A) —Walk 800 meters→ East Lake Hotel

Wuchang Railway Station ⟶ East Lake Hote

Taxi: (About 8 km)
It may take about 30 minutes and cost about 20 yuan

Metro

Wuchang Railway Station —Line4 (take 7 stops)→ Yuejiazui Station —Line8 (take 3 stops)→ Hubei Provincial Museum & Hubei Daily (Exit A) —Walk 800 meters→ East Lake Hotel

Hankou Railway Station ⟶ East Lake Hote

Taxi: (About 17.5 km)
It may take about 35 minutes and cost about 43 yuan

Metro

Hankou Railway Station —Line2 (take 1 stops)→ Fanhu Station —Line3 (take 4 stops)→ Zhaojiatiao Station —Line8 (take 4 stops)→ Hubei Provincial Museum & Hubei Daily (Exit A) —Walk 800 meters→ East Lake Hotel

INSTRUCTIONS FOR PARALLEL SESSIONS

1. The presentation language is **English**.

2. Please prepare your slides in a 16:9 aspect ratio. Presenters are required to upload their presentation files to the designated computer in the session room in advance.

3. Presentation time for reports: **40** minutes for plenary presentations, **25** minutes for keynote presentations, and **20** minutes for invited and oral presentations. This duration includes both the presentation and the Q & A session.

4. All presentation files will be permanently deleted from the session room computer immediately after the session ends to ensure information security.

5. The presenter should arrive at the venue 15 minutes before the start of the session, and report to the host. If you cannot arrive at the venue on time for any reason, you should inform the chairperson of the session in advance.

INSTRUCTIONS FOR POSTER

1. Posters are required to be focused, neat and aesthetically pleasing.

2. The size of each poster is **1.2 meters (H)* 0.9 meters (W)** (A0 size).

3. Posters will be displayed on the first floor of the conference room.

4. Attendees participating in the poster session are kindly requested to print their posters in advance and mount them on May 25, 2025. Necessary tools (such as tape, scissors, markers, and non-residue adhesive) will be provided at the conference venue.

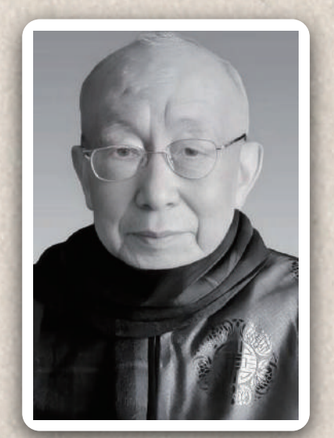
5. Please print your poster on lightweight paper to prevent it from slipping. Posters must not be carved, scribbled on, or punctured. Additionally, do not use any adhesive tapes or glues that may damage the poster or the display surface.

6. Dismantling time of poster is **May 27, 2025 by 18:00 p.m.**

7. Poster centralized presentation will be held on **May 27, 2025 from 11:00 to 12:00a.m.** Please make sure that the presenters are present in front of their posters to talk to the delegates during this time.

In memory of

Professor Zhu LI



LI Zhu

Professor of Mechanical Engineering
Huazhong University of Science and Technology
Wuhan, China
1933-2024 Age 91

Prof. LI Zhu, a renowned expert in Precision Design, Measurement and Instrumentation Science and Technology, founding chair of the International Committee on Measurements and Instrumentation (ICMI), and Initiator of the International Symposium on Measurement Technology and Intelligent Instruments (ISMTII).

Prof. LI Zhu, graduated from Chongqing University in 1953, joined the Department of Mechanical Engineering of Huazhong University of Science and Technology (formerly Huazhong Institute of Technology), became professor in 1982, and in 1990 doctoral supervisor approved by the Academic Degree Committee of the State Council of China. Prof. LI served as a council member of the Chinese Society for Measurement, and Deputy Director of the Technical Committee 240 for Geometrical Product Specifications under the Standardization Administration of China.

Prof. LI Zhu won numerous national awards for his outstanding contributions in the fields of precision engineering and scientific instruments together with tolerance specification and standardization. He emphasized the importance in moral integrity and wisdom cultivation. In his pedagogy, he insisted that one should maintain high standard while on firm and solid ground in life, work, and also in academic pursuit. He received the Baosteel Excellent Teacher Award and mentored numerous outstanding students including those who later became Academicians in China and in UK. His textbook "Fundamentals of Interchangeability and Measurement Technology" won him the National Excellent Textbook Award for Higher Education Institutions in China.

Prof. LI Zhu is survived by three children.

ISMTII 2025 Organizing Committee
21 May 2025

PLENARY SPEAKERS



Prof. Xiangqian (Jane) Jiang

University of Huddersfield, UK
Title: Precision metrology: beyond bulk optics
Time: May 26 09:45-10:25

Prof. Dame Jane Jiang holds a Royal Academy of Engineering/Renishaw Chair in Precision Metrology, the Director of the UK Future Metrology Hub and the Chief Scientist, Centre of Precision Technologies, University of Huddersfield.

Jane obtained her PhD in measurement science, Huazhong University of Science and Technology, in 1995; a DSc for precision engineering, University of Huddersfield in 2007; and received an honorary HDSc from City, University of London in 2019.

She is an internationally respected research leader in advanced metrology, with a background in both industry and academia, particularly in modelling non-Euclidean geometries, AI ready metrology technologies, and nanophotonics-enabled optical sensors and instruments.

She has published more than 600 papers, books, and patents, and has been awarded over £55M research grants. She has intensively worked with industry and transferred many research outputs into industrial products and ISO standards.

She is a Fellow of the Royal Academy of Engineering, International Academy of Production Research (CIRP) and Institute of Engineering Technology. She received Royal Society Wolfson Research Merit Award 2006, Sir Harold Hartley Medal 2014, a Damehood in 2017 for services to Manufacturing and Engineering and she is the leading recipient of the Queen's Anniversary Prizes for Advanced Metrology 2021.



Prof. Fengzhou Fang

Tianjin University, University College Dublin, Ireland
Title: The new paradigms of manufacturing advancement
Time: May 26 10:45-11:25

Prof. Fengzhou Fang is working as a joint professor at the Tianjin University and the University College Dublin. He has been working in the fields of freeform optics design and manufacturing, bio-manufacturing, and ultra-precision machining and metrology when he became a faculty member at university in 1982. His achievements on nano machining mechanism and process investigations have contributed to both the fundamental study and process development in manufacturing. Professor Fang developed the Three Paradigms of Manufacturing Advancement, indicating that Atomic and Close-to-atomic Scale Manufacturing (ACSM) is the fundamental technology of the new paradigm, namely Manufacturing III. He has been elected Fellow of the International Academy of Engineering and Technology (AET), the International Society for Nanomanufacturing (ISNM), the International Academy for Production Engineering (CIRP), and the Society of Manufacturing Engineers (SME).

Professor Fang is a Member of the Royal Irish Academy (RIA), a Member of the Academia Europaea (AE), the Founding President of ISNM, and the Editor-in-Chief of Nanomanufacturing and Metrology.



Prof. Satoru Takahashi

The University of Tokyo, Japan

Title: Towards super-resolution optical measurement for precision surface inspection

Time: May 26 11:25-12:05

Prof. Takahashi received his MS and Ph.D. degrees from the Osaka University, Japan in 1995 and 2002, and became an associate professor at the University of Tokyo (UTokyo) in 2003. He is currently a professor at the Department of Precision Engineering, UTokyo. In parallel, he was appointed as a visiting professor at the University of Toronto (UToronto), Canada in 2011. His research interests include the nano-in-process measurement, nano-scale-metrology, and nano/micro microfabrication using the advanced optics based on not only far-field optics but also localized photon energy such as evanescent light, near-field light, and so on. Throughout his career, he delivered over 50 invited talks, received 30+ academic awards, and actively engaged in academic association management. He has played leadership roles in not only domestic academic societies, including a Board of JSPE (Japan Society for Precision Engineering), but also international academic societies, including a Board of ASPEN (Asian Society for Precision Engineering and Nanotechnology), Editorial Boards of the ISNM (International Society for NanoManufactruring), and of the IJPEM (International Journal of Precision Engineering and Manufacturing). He's a member of various academic societies including the JSME, JSAT, ASPE, euspen, and a fellow of JSPE, ISNM, CIRP.



Prof. Min Gu

University of Shanghai for Science and Technology, China

Title: Brain-inspired information photonics for life

Time: May 27 09:00-09:40

Prof. Min Gu is the Executive Chancellor of the University Council and Distinguished Professor of University of Shanghai for Science and Technology. He was Distinguished Professor and Associate Deputy Vice-Chancellor at RMIT University, and a Laureate Fellow of the Australian Research Council, Pro Vice-Chancellor, and a University Distinguished Professor at Swinburne University of Technology. He is an author of four standard reference books and has over 550 publications in nano/biophotonics. He is an elected Fellow of the Australian Academy of Science and the Australian Academy of Technological Sciences and Engineering as well as Foreign Fellow of the Chinese Academy of Engineering. He is also an elected fellow of the AIP, the Optica, formerly OSA, the SPIE, the InstP, the IEEE and the COS. He was President of the International Society of Optics within Life Sciences, Vice President of the Board of the International Commission for Optics (ICO) (Chair of the ICO Prize Committee) and a Director of the Board of the Optical Society of America (Chair of the International Council). He was awarded the Einstein Professorship, the W. H. (Beattie) Steel Medal, the Ian Wark Medal, the Boas Medal and the Victoria Prize for Science and Innovation. Professor Gu is a winner of the 2019 Dennis Gabor Award of SPIE and a winner of the 2022 Emmett Norman Leith Medal of OPTICA.



Prof. Wei Gao

Tohoku University, Japan

Title: State-of-the-art of optical metrology for precision manufacturing

Time: May 27 09:40-10:20

Prof. Wei Gao is with the Department of Finemechanics at Tohoku University. His research interests lie primarily in the field of precision engineering, specialized in precision nanometrology. He is an author of the books "Precision Nanometrology" (Springer), "Surface Metrology for Micro- and Nanofabrication" (Elsevier), "Optical Metrology for Precision Engineering" (De Gruyter). He was awarded the Prize for Science and Technology in 2019 from the Japanese government (MEXT). He is a Fellow of CIRP, ISNM, JSPE and a Fellow of The Engineering Academy of Japan (EAJ).



Prof. Young-Jin KIM

Korea Advanced Institute of Science and Technology (KAIST), Republic of Korea

Title: Ultrafast photonics for ultra-precision metrology and manufacturing (UPM2)

Time: May 27 10:20-11:00

Prof. Kim is currently an associate professor in the Department of Mechanical Engineering and Department of Aerospace Engineering at KAIST, Republic of Korea. He received his B.S., M.S., and Ph.D. degrees from KAIST in 2002, 2004, and 2008, respectively. He worked as a postdoctoral research associate and research professor at KAIST by 2014. He joined Nanyang Technological University (NTU), Singapore as a Nanyang Assistant Professor and NRF Fellow from 2014 to 2019. He has published 130+ peer-reviewed journal papers and his h-index is 39 with 8400 citations. He is the recipient of Young Scientist Award by Korean President 2021, Optical Technology Innovation Award by OSK 2021, IJPEM-GT Highly Commended Paper Award 2019, Outstanding Presenter Award 2019, Young Researcher Award 2018 and so on.

He is the associate member of CIRP (The International Academy for Production Engineering), the member of Y-KAST (Young Korean Academy of Science and Technology), editorial director of Korean Society of Precision Engineering (KSPE), organizing director of Korean Society of Mechanical Engineers (KSME), Editorial Board Member of Virtual and Physical Prototyping published by Taylor & Francis (Impact Factor: 10.60), Editorial Board Member of International Journal of Precision Engineering and Manufacturing (IJPEM) published by Korean Society of Precision Engineering (KSPE), Topical Editor of Current Optics and Photonics (COPP) published by Optical Society of Korea (OSK), Editor of Micro & Nano Manufacturing published by Springer. He has served as a committee member of various international conferences and workshops, such as Conference on Lasers and Electro-Optics (CLEO), CLEO-Pacific Rim, International Symposium on Measurement Technology and Intelligent Instruments, ISMTII, PHOTOPTICS, IEEE icOPEN, Advanced Laser and Photon Sources (ALPS).

His research interests are on 'Ultra-Precision Metrology and Manufacturing (UPM2) technologies using ultrafast femtosecond laser pulses'. Detailed research topics include high-precision dimensional metrology for semiconductor, flat panel display, and precision-engineering products, precision laser manufacturing of flexible/stretchable electronics/optics, and next-generation space metrology missions including high-precision laser ranging for formation-flying satellites, broadband spectroscopy, and high-density free-space communication.

KEYNOTE SPEAKERS

Session A



Nan Lin

Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences, China
Title: Research development and applications of extreme utraviolet (EUV) light sources
Time: May 26 13:30-13:55



Zhengbao Yang

Hong Kong University of Science and Technology, Hongkong, China
Title: Piezoelectric materials and ultrasound energy harvesting for medical implants
Time: May 27 13:30-13:55

Session B



Gaofeng Zheng

Xiamen University of Technology, China
Title: Dynamic monitoring and identification system for multi-jet electrospinning with coaxial laser
Time: May 26 13:30-13:55



Changcai Cui

China Jiliang University, China
Title: Measurement of nano-scale subsurface damage layer of wide band-gap semiconductor substrates after ultra-precision machining
Time: May 26 16:00-16:25



Yasuhiro Mizutani

Osaka University, Japan
Title: Measurement uncertainty in machine learning-based measurements
Time: May 27 13:30-13:55



Xiaojun Liu

Huazhong University of Science and Technology, China
Title: Active structured illumination based optically-sectioned microscopy for complex micro-nano surface measurement
Time: May 27 13:55-14:20

Session C



Chulmin Joo

Yonsei University, Korea
Title: Depth-enhanced computational microscopy via co-learned phase filter and image deconvolution
Time: May 26 13:30-13:55



Shin Usuki

Shizuoka University, Japan
Title: Computational optical microscopy enables rapid 3D imaging with improved resolution
Time: May 26 16:00-16:25



Ruqiang Yan

Xi'an Jiaotong University, China
Title: Signal processing informed neural network for intelligent fault diagnosis
Time: May 27 13:30-13:55



Chao Zuo

Nanjing University of Science and Technology, China
Title: High-speed 3D imaging and metrology: from classical fringe projection to deep learning approaches
Time: May 27 13:55-14:20

Session D



Guanhao Wu

Tsinghua University, China
Title: Frequency-comb-based distance measurement
Time: May 26 13:30-13:55



Xiangchao Zhang

Fudan University, China
Title: Generalized deflectometry for the measurement of semi-specular freeform surfaces
Time: May 27 13:30-13:55

Session E



Ryo Sato

Tohoku University, Japan

Title: Surface encoders for multi-axis displacement measurement with a scale grating

Time: May 26 13:30-13:55



Yuki Shimizu

Hokkaido University, Japan

Title: Calibration of diffraction scale gratings for precision positioning

Time: May 27 13:30-13:55

Session F



Xiaoli Liu

Shenzhen University, China

Title: Multi-scale fringe structured light 3D measurement

Time: May 26 13:30-13:55



Wei Tao

Shanghai Jiao Tong University, China

Title: Structural laser intelligent measurement technology and its application in special environments

Time: May 27 13:30-13:55



Nikita D. Zviagin

D.I.Mendeleyev Institute for Metrology, Russia

Title: Measurement challenges and artificial intelligence

Time: May 27 13:55-14:20

INVITED SPEAKERS

Session A



Zhongliang Li

Shanghai Advanced Research Institute, Chinese Academy of Sciences, China

Title: X-ray diffraction topography and its application in semiconductor wafer performance testing

Time: May 26 13:55-14:15



Biao Deng

Shanghai Advanced Research Institute, Chinese Academy of Sciences, China

Title: Three X-ray imaging beamlines at SSRF and their applications on IC

Time: May 26 14:15-14:35



Zhipeng Xu

China Jiliang University, China

Title: An in-situ flow verifier for semiconductor process gases based on dynamic pVTt

Time: May 26 14:35-14:55



Weibo Wang

Harbin Institute of Technology, China

Title: Coherent fourier scatterometry combined with high-order signal demodulation for nanoparticle detection

Time: May 26 16:00-16:20



Yibin Tian

Shenzhen University, China

Title: Implicit wafer plane inspection of photomasks using a lithogrpahy-aware end-to-end deep neural network

Time: May 26 16:20-16:40



Hao Jiang

Huazhong University of Science and Technology, China

Title: Diffraction based IC overlay metrology: instrumentation and method

Time: May 26 16:40-17:00



Shifeng Guo

Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences, China

Title: Integrated flexible ultrasonic actuators and sensors for multi-scale damage detection and imaging

Time: May 27 13:55-14:15



Tianliang Li

Wuhan University of Technology, China

Title: Optical fiber distal multidimensional force sensing for surgical robot

Time: May 27 14:15-14:35



Yufu Qu

Beihang University, China

Title: TSOM and its application in micro-nano critical dimension measurement and defect inspection

Time: May 27 14:35-14:55



Shanyong Chen

National University of Defense Technology, China

Title: Towards atom-accuracy measurement of optical aspheres and freeform surfaces

Time: May 27 16:00-16:20



Kai Meng

Nanjing University of Aeronautics & Astronautics, China

Title: Optimized optical metrology for lithography overlay control

Time: May 27 16:20-16:40



Weiwang Xu

Shanghai Precision Measurement Semiconductor Technology, Inc, China

Title: Next-generation optical scattering metrology technology for semiconductor production lines

Time: May 27 16:40-17:00

Session B



So Ito

Toyama Prefectural University, Japan

Title: Comparison of uncertainties in measurement of actual and effective diameters of the tip ball of microprobing system

Time: May 26 13:55-14:15



Jingbiao Chen

Peking University, China

Title: Michelson laser for sub-pm resolution displacement measurement

Time: May 26 14:15-14:35



Liping Yan

Zhejiang Sci-Tech University, China

Title: Femtosecond laser pulse picking based on mach-zehnder modulator and digital holography microscopy

Time: May 26 14:35-14:55



Qiushi Huang

Tongji University, China

Title: Metrology and manufacture of X-ray reflective optics with nanometer accuracy

Time: May 26 16:25-16:45



Yan Dong

China University of Petroleum (East China), China

Title: Wireless, passive, wearable and flexible biosensors for non-invasive monitoring of key biomarkers in body-fluids

Time: May 26 16:45-17:05



Wenhao Li

Changchun Institute of Optics, Fine Mechanics and Physics, Chinese Academy of Sciences, China

Title: A random angle error interference eliminating method for grating interferometry measurement based on symmetry littrow structure

Time: May 26 17:05-17:25



Pengfei Wang

University of science and technology of China, China

Title: Scanning nitrogen-vacancy center microscope: the application of quantum sensing and imaging

Time: May 27 14:20-14:40



Jixi Lu

Beihang University, China

Title: SERF atomic magnetometer based on all-optical modulation

Time: May 27 14:40-15:00

Session C



Jianglei Di

Guangdong University of Technology, China

Title: AI-empowered sparse-angle CT reconstruction

Time: May 26 13:55-14:15



Peng Gao

Xidian University, China

Title: Super-resolution fluorescence microscopy and quantitative phase microscopy

Time: May 26 14:15-14:35



Zibang Zhang

Jinan University, China

Title: Single-pixel optical “fire extinguisher”

Time: May 26 16:25-16:45



Caojin Yuan

Nanjing Normal University, China

Title: Single-shot High-fidelity OAM spectrum measurement via neural network-based wavefront correction

Time: May 26 16:45-17:05



Xiaojun Liang

Pengcheng Laboratory, China

Title: Data-driven single-frame structured light 3D reconstruction methodology, system and demonstration

Time: May 27 14:20-14:40



Ruitao Yang

Harbin Institute of Technology, China

Title: Crosstalk error correction for high-precision phase measurement in laser interferometry

Time: May 27 14:40-15:00



Haoyang Yu

Central South University, China

Title: Deep learning-enabled laser spectroscopy for quantitative chemical composition measurement

Time: May 27 15:00-15:20



Chong Chen

Chongqing University of Technology, China

Title: 3D visualization model for predicting and controlling ultrafast laser-induced micro-hole morphology on monocrystalline silicon

Time: May 27 16:00-16:20

Session D



Fumin Zhang

Tianjin University, China

Title: Precision 3D measurement based on Multi-Line LiDAR

Time: May 26 13:55-14:15



Hongfang Chen

Beijing University of Technology, China

Title: High-precision optimization method for multi-station layout of the laser tracer

Time: May 26 14:15-14:35



Kai Ni

Shenzhen International Graduate School, China

Title: Free-running dual-comb system for precise measurement

Time: May 26 14:35-14:55



Xinghui Li

Shenzhen International Graduate School, China

Title: Towards atomic manufacturing: multi-dimensional heterodyne grating interferometer

Time: May 26 14:55-15:15



Ki-Nam Joo

Chosun University, South Korea

Title: Surface figure measurements by radial shearing interferometry using a geometric phase lens

Time: May 27 13:55-14:15



Tukun Li

University of Huddersfield, The United Kingdom

Title: The paradigm shift of the ISO GPS standard system driven by digital manufacturing

Time: May 27 14:15-14:35



Jingtao Dong

Hefei University of Technology, China

Title: Laser scanning “point-to-line” confocal probe for dark-field scattering imaging of surface and bulk defects

Time: May 27 14:35-14:55



Dawei Tang

University of Huddersfield, The United Kingdom

Title: Surface metrology using dispersive optical sensors

Time: May 27 14:55-15:15



Chengfu Ma

Lanzhou Institute of Chemical Physics, Chinese Academy of Sciences, China

Title: Scanning probe manipulation and friction measurement of nanodroplets confined by two-dimensional materials

Time: May 27 15:15-15:35



Masaki Michihata

The University of Tokyo, Japan

Title: 3-dimensional measurement based on laser induced fluorescence

Time: May 27 16:00-16:20



Tianqi Gu

Fuzhou University, China

Title: Robust processing of measurement dataset for complex surface

Time: May 27 16:20-16:40



Yi Wang

Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences, China

Title: Coherent tomographic microscopy for three-dimensional topographic measurement

Time: May 27 16:40-17:00

Session E



Sangen Zhao

Quantum Science Center of Guangdong, Hongkong Macao Greater Bay Area, China

Title: Anisotropic optical crystal materials

Time: May 26 13:55-14:15



Anli Yang

Hubei Jiufengshan Laboratory, China

Title: Analysis and characterization of compound semiconductor materials

Time: May 26 14:15-14:35



Tao Jiang

Suqian University, China

Title: A calibration and location optimization method for combined tracking-based optical measurement

Time: May 26 16:00-16:20



Xiaoyan Cui

East China Normal University, China

Title: Structures for self-assembled cellulose nanoparticles by Mueller matrix analysis

Time: May 27 13:55-14:15



Jiamin Liu

Huazhong University of Science and Technology, China

Title: Characterization of semiconductor materials under multiple physics fields using Mueller matrix ellipsometry

Time: May 27 14:15-14:35



Lihua Peng

Huazhong University of Science and Technology, China

Title: Spatially polarization modulated snapshot fourier plane ellipsometry via conoscopic interference for thin-film metrology

Time: May 27 16:00-16:20

Session F



Linghui Yang

Tianjin University, China

Title: Research on multi-AGV collaborative transportation technology based on light-controlled positioning

Time: May 26 13:55-14:15



Zhenqi Niu

Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences, China

Title: High-dynamic monoscopic deflectometry research and application for low-spatial-frequency and mid-spatial-frequency error measurement of complex surfaces

Time: May 26 14:15-14:35



Wei Wu

Electric Power Research Institute CSG, China

Title: A node backtracking-based sub-supersynchronous oscillation observation method in radial networks

Time: May 26 14:35-14:55



Mingxing Jiao

Xi'an University of Technology, China

Title: Optimum design of synthetic-wave absolute-distance interferometer using two-cavity dual-frequency Nd:YAG laser

Time: May 26 14:55-15:15



Yongjia Xu

University of Huddersfield, The United Kingdom

Title: Automatic area scanning method for form measuring of freeform specular surfaces based on robotic phase measuring deflectometry

Time: May 26 15:15-15:35



Yuan Yao

Huazhong University of Science and Technology, China

Title: Micro-optical accelerometers based on grating interferometer - status and development

Time: May 27 14:20-14:40



Jiandong Xie

Zhejiang Sci-Tech University, China

Title: Multi-heterodyne interferometric absolute distance measurement and applications

Time: May 27 14:40-15:00

PROGRAM AT A GLANCE

Date May 25（Sunday）

14:00~21:00 — **Registration**

Date May 26（Monday）

Venue: Huanghe Hall　Chair: Shiyuan Liu

09:00~09:30 — **Opening Ceremony**

09:30~09:45 — **In memory of Professor Zhu Li**

09:45~10:25 — **Plenary: Precision metrology: beyond bulk optics**

Xiangqian (Jane) Jiang, University of Huddersfield, The United Kingdom

10:25~10:45 — **Coffee Break & Group Photo**

Venue: Huanghe Hall　Chair: Wei Gao

10:45~11:25 — **Plenary: The new paradigms of manufacturing advancement**

Fengzhou Fang, Tianjin University, University College Dublin, China

11:25~12:05 — **Plenary: Towards super-resolution optical measurement for precision surface inspection**

Satoru Takahashi, The University of Tokyo, Japan

12:05~13:30 — **Lunch Time / Poster Session**

13:30~18:00 — **Keynote / Invited / Oral**

Session A	Tianmen Hall	**Session D**	Qianjiang Hall
Session B	Jingzhou Hall	**Session E**	Shennongjia Hall
Session C	Xiantao Hall	**Session F**	Dingxiang Hall

18:30~20:00 — **Dinner Time**

Venue: Jingzhou Hall　Chair: Yongsheng Gao

19:00~21:00 — **ICMI Member Meeting (Upon Invitation)**

Date May 27（Tuesday）

08:30~09:00 — **Registration**

Venue: Huanghe Hall　Chair: Fengzhou Fang

09:00~09:40 — **Plenary: Brain-inspired information photonics for life**

Min Gu, University of Shanghai for Science and Technolog, China

09:40~10:20 — **Plenary: State-of-the-art of optical metrology for precision manufacturing**

Wei Gao, Tohoku University, Japan

10:20~11:00 — **Plenary: Ultrafast photonics for ultra-precision metrology and manufacturing (UPM2)**

Young-Jin Kim, Korea Advanced Institute of Science and Technology, South Korea

11:00~12:00 — **Poster Session**

12:00~13:15 — **Lunch Time**

13:30~18:00 — **Keynote / Invited / Oral**

Session A	Tianmen Hall	**Session D**	Qianjiang Hall
Session B	Jingzhou Hall	**Session D+E**	Shennongjia Hall
Session A+C	Xiantao Hall	**Session B+F**	Dingxiang Hall

18:30~20:00 — **Banquet**　**Chairs: Shuming Yang，Jinlong Zhu**

Date May 28（Wednesday）

09:00~11:30 — **Technical Visit and Excursion**

PROGRAM - SESSION A

Date May 26（Monday）

Venue: Tianmen Hall　Chairs: Weibo Wang, Yibin Tan

Time	Activity	Speaker	Title
13:30-13:55	Keynote	**Nan Lin** Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences, China	Research development and applications of extreme ultraviolet (EUV) light sources
13:55-14:15	Invited	**Zhongliang Li** Shanghai Advanced Research Institute, Chinese Academy of Sciences, China	X-ray diffraction topography and its application in semiconductor wafer performance testing
14:15-14:35	Invited	**Biao Deng** Shanghai Advanced Research Institute, Chinese Academy of Sciences, China	Three X-ray imaging beamlines at SSRF and their applications on IC
14:35-14:55	Invited	**Zhipeng Xu** China Jiliang University, China	An in-situ flow verifier for semiconductor process gases based on dynamic pVTt
14:55-15:15	Oral	**Xin Xu** Tsinghua University, China	Research on ultra-precision laser heterodyne interferometry with picometer-level sensitivity for displacement measurement
15:15-15:35	Oral	**Yuchu Qin** University of Huddersfield, The United Kingdom	Abstracting prediction of surface roughness in laser powder bed fusion using logical reasoning and category theory
15:35-16:00	Coffee Break		

Venue: Tianmen Hall　Chairs: Zhongliang Li, Biao Deng

16:00-16:20	Invited	**Weibo Wang** Harbin Institute of Technology, China	Coherent Fourier scatterometry combined with high-order signal demodulation for nanoparticle detection
16:20-16:40	Invited	**Yibin Tian** Shenzhen University, China	Implicit wafer plane inspection of photomasks using a lithography-aware end-to-end deep neural network
16:40-17:00	Invited	**Hao Jiang** Huazhong University of Science and Technology, China	Diffraction based IC overlay metrology: instrumentation and method
17:00-17:20	Oral	**Kai Wang** Nanjing University of Aeronautics and Astronautics, China	Efficient multi-defect sensitivity analysis of overlay targets
17:20-17:40	Oral	**Jing Hu** Huazhong University of Science and Technology, China	Robust calibration and alignment strategies for Micro-CSPs
17:40-18:00	Oral	**Han Tong** Huaqiao University, China	Calibration of elliptical retarders in dual-rotating compensator Mueller matrix spectroscopic ellipsometry

Date May 27（Tuesday）

Venue: Tianmen Hall　Chairs: Shanyong Chen, Kai Meng

Time	Activity	Speaker	Title
13:30-13:55	Keynote	**Zhengbao Yang** Hong Kong University of Science and Technology, Hongkong, China	Piezoelectric materials and ultrasound energy harvesting for medical implants
13:55-14:15	Invited	**Shifeng Guo** Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences, China	Integrated flexible ultrasonic actuators and sensors for multi-scale damage detection and imaging
14:15-14:35	Invited	**Tianliang Li** Wuhan University of Technology, China	Optical fiber distal multidimensional force sensing for surgical robot
14:35-14:55	Invited	**Yufu Qu** Beihang University, China	TSOM and its application in micro-nano critical dimension measurement and defect inspection
14:55-15:15	Oral	**Shaohui Qin** Xi'an Jiaotong University, China	Design and fabrication of novel CMUTs with T-shaped cavities
15:15-15:35	Oral	**Wenhao Teng** Chongqing University of Technology, China	A cylindrical two-dimensional capacitive sensor based on splicing technology
15:35-16:00	Coffee Break		

Venue: Tianmen Hall　Chairs: Shifeng Guo, Tianliang Li

16:00-16:20	Invited	**Shanyong Chen** National University of Defense Technology, China	Towards atom-accuracy measurement of optical aspheres and freeform surfaces
16:20-16:40	Invited	**Kai Meng** Nanjing University of Aeronautics & Astronautics, China	Optimized optical metrology for lithography overlay control
16:40-17:00	Invited	**Weiwang Xu** Shanghai Precision Measurement Semiconductor Technology, Inc, China	Next-generation optical scattering metrology technology for semiconductor production lines
17:00-17:20	Oral	**Zhuojiang Nan** Shanghai Jiao Tong University, China	Parameter optimization method for multi-mirror structured laser triangulation system based on the combination of network generation and random inspiration
17:20-17:40	Oral	**Kaiping Guo** Chongqing University of Technology, China	Research on angular displacement sensing method of linear frequency-modulated eddy current time grating
17:40-18:00	Oral	**Hanxu Zou** Chongqing University of Technology, China	Experiment research of absolute linear displacement sensor based on eddy current effect

PROGRAM - SESSION B

Date May 26（Monday）

Venue: Jingzhou Hall　Chairs: Changcai Cui, Wenhao Li

Time	Activity	Speaker	Title
13:30-13:55	Keynote	**Gaofeng Zheng** Xiamen University of Technology, China	Dynamic monitoring and identification system for multi-jet electrospinning with coaxial laser
13:55-14:15	Invited	**So Ito** Toyama Prefectural University, Japan	Comparison of uncertainties in measurement of actual and effective diameters of the tip ball of microprobing system
14:15-14:35	Invited	**Jingbiao Chen** Peking University, China	Michelson laser for sub-pm resolution displacement measurement
14:35-14:55	Invited	**Liping Yan** Zhejiang Sci-Tech University, China	Femtosecond laser pulse picking based on mach-zehnder modulator and digital holography microscopy
14:55-15:15	Oral	**Bixuan Huang** Shanghai Jiao Tong University, China	Enhanced geometrical parameters prediction in nanometrology: a hybrid metrology approach using AFM and SEM with artificial neural networks
15:15-15:35	Oral	**Xiaofei Diao** National Institute of Metrology, China	Traceable aspherical interferometric measurement system and waveplate-array detection error analysis
15:35-16:00	Coffee Break		

Venue: Jingzhou Hall　Chairs: Pengcheng Hu, Jingbiao Chen

16:00-16:25	Keynote	**Changcai Cui** China Jiliang University, China	Measurement of nano-scale subsurface damage layer of wide band-gap semiconductor substrates after ultra-precision machining
16:25-16:45	Invited	**Qiushi Huang** Tongji University, China	Metrology and manufacture of X-ray reflective optics with nanometer accuracy
16:45-17:05	Invited	**Yan Dong** China University of Petroleum (East China), China	Wireless, passive, wearable and flexible biosensors for non-invasive monitoring of key biomarkers in body-fluids
17:05-17:25	Invited	**Wenhao Li** Changchun Institute of Optics, Fine Mechanics and Physics, Chinese Academy of Sciences, China	A random angle error interference eliminating method for grating interferometry measurement based on symmetry littrow structure
17:25-17:45	Oral	**Ziqing Li** Huaqiao University, China	Measurement of ultrathin subsurface amorphous damage layer of single-crystal diamond substrates in ultra-precision machining based on ellipsometry
17:45-18:05	Oral	**Yichen Li** China Jiliang University, China	A novel method for microsecond dynamic calibration of underwater pressure sensors based on laser-induced cavitation

Date May 27（Tuesday）

Venue: Jingzhou Hall　Chairs: Xinbin Cheng, Jinjie Wu

Time	Activity	Speaker	Title
13:30-13:55	Keynote	**Yasuhiro Mizutani** Osaka University, Japan	Measurement uncertainty in machine learning-based measurements
13:55-14:20	Keynote	**Xiaojun Liu** Huazhong University of Science and Technology, China	Active structured illumination based optically-sectioned microscopy for complex micro-nano surface measurement
14:20-14:40	Invited	**Pengfei Wang** University of science and technology of China, China	Scanning nitrogen-vacancy center microscope: the application of quantum sensing and imaging
14:40-15:00	Invited	**Jixi Lu** Beihang University, China	SERF atomic magnetometer based on all-optical modulation
15:00-15:20	Oral	**Tao Li** Shanghai Marine Equipment Research Institute, China	High accuracy traceability standard for large torque
15:20-15:40	Oral	**Baowu Zhang** China Jiliang University, China	Measurement method of non-contact dual-end without wring for end-face length based on tolansky interference
15:40-16:00	Coffee Break		

Venue: Jingzhou Hall　Chairs: Xiaojun Liu, Liping Yan

16:00-16:20	Oral	**Xiao Deng** Tongji University, China	Nanoscale length metrology and measurement technology based on natural constants
16:20-16:40	Oral	**Xiaodong Zhang** The 13th Institute of China Electronics Technology Group Corporation, China	The stress calibrators for the wafer thin-film stress measuring instrument
16:40-17:00	Oral	**Lihua Lei** Shanghai Institute of Measurement and Testing Technology, China	Equivalence investigation of length traceability chain at nanoscale
17:00-17:20	Oral	**Jianbo Wang** National Institute of Metrology, China	High-accuracy laser wavelength measurement for precision engineering
17:20-17:40	Oral	**Chenguang Yin** Tohoku University, Japan	Stitching interferometry technique applied in pitch pattern self-calibration of a large-area variable-line-spacing scale grating by a Fizeau interferometer
17:40-18:00	Oral	**Runxi Wu** Xiamen University, China	Innovative non-contact calibration technique for spatial error in industrial robots under variable load conditions utilizing automated rotary mechanism and tri-laser displacement sensors

PROGRAM - SESSION C

Date May 26（Monday）

Venue: Xiantao Hall **Chairs: Zibang Zhang, Caojin Yuan**

Time	Activity	Speaker	Title
13:30-13:55	Keynote	**Chulmin Joo** Yonsei University, Korea	Depth-enhanced computational microscopy via co-learned phase filter and image deconvolution
13:55-14:15	Invited	**Jianglei Di** Guangdong University of Technology, China	AI-empowered sparse-angle CT reconstruction
14:15-14:35	Invited	**Peng Gao** Xidian University, China	Super-resolution fluorescence microscopy and quantitative phase microscopy
14:35-14:55	Oral	**Qingyu Ma** Qingdao University of Science and Technology, China	Efficient fringe projection absolute phase recovery based on dynamic fringe convolution
14:55-15:15	Oral	**Sikai Li** Northwestern Polytechnical University, China	Research on low frequency electromagnetic signal demodulation based on frequency estimation optimization
15:15-15:35	Oral	**Yifan Liu** Nanjing University of Science and Technology, China	High-speed 3D measurement based on RGB multi-angle Time-multiplexed fringe projection and deep learning
15:35-16:00	Coffee Break		

Venue: Xiantao Hall **Chairs: Chulmin Joo, Hui Deng**

16:00-16:25	Keynote	**Shin Usuki** Shizuoka University, Japan	Computational optical microscopy enables rapid 3D imaging with improved resolution
16:25-16:45	Invited	**Zibang Zhang** Jinan University, China	Single-pixel optical “fire extinguisher”
16:45-17:05	Invited	**Caojin Yuan** Nanjing Normal University, China	Single-shot High-fidelity OAM spectrum measurement via neural network-based wavefront correction
17:05-17:25	Oral	**Yunyi Chen** Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences, China	A two-step metrology method of collector mirror for EUV lithography
17:25-17:45	Oral	**Zexu Liu** Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences, China	Resolution-enhanced High-dynamic-Range ptychography via unsupervised neural network
17:45-18:05	Oral	**Yongan Wen** China University of Petroleum (East China), China	Cell classification in digital holographic flow cytometry via direct hologram analysis using deep learning

Date May 27（Tuesday）

Venue: Xiantao Hall **Chairs: Liandong Yu, Xinghui Li**

Time	Activity	Speaker	Title
13:30-13:55	Keynote	**Ruqiang Yan** Xi'an Jiaotong University, China	Signal processing informed neural network for intelligent fault diagnosis
13:55-14:20	Keynote	**Chao Zuo** Nanjing University of Science and Technology, China	High-speed 3D imaging and metrology: from classical fringe projection to deep learning approaches
14:20-14:40	Invited	**Xiaojun Liang** Pengcheng Laboratory, China	Data-driven single-frame structured light 3D reconstruction methodology, system and demonstration
14:40-15:00	Invited	**Ruitao Yang** Harbin Institute of Technology, China	Crosstalk error correction for high-precision phase measurement in laser interferometry
15:00-15:20	Invited	**Haoyang Yu** Central South University, China	Deep learning-enabled laser spectroscopy for quantitative chemical composition measurement
15:20-15:40	Oral	**Hao Wang** Tsinghua Shenzhen International Graduate School, China	Deep learning-driven high dynamic range structured light for accurate 3D reconstruction
15:40-16:00	Coffee Break		

Venue: Xiantao Hall **Chairs: Chao Zuo, Xiaojun Liang**

16:00-16:20	Invited	**Chong Chen** Chongqing University of Technology, China	3D visualization model for predicting and controlling ultrafast laser-induced micro-hole morphology on monocrystalline silicon
16:20-16:40	Oral	**Cong Liu** Tsinghua Shenzhen International Graduate School, China	Transformer-based monocular depth estimation with attention enhancement for volatile kiln burden surface
16:40-17:00	Oral	**Chuangchuang Chen** Hefei University of Technology, China	Diffraction-based computational spectrometry with fancy application in broadband CDI
17:00-17:20	Oral	**Zixuan Han** China University of Petroleum (East China), China	Deep learning-based zero-order elimination for enhanced spatial resolution in single-shot imaging
17:20-17:40	Oral	**Zhiqi Li** Tsinghua Shenzhen International Graduate School, China	PCANet: polarization-sensitive cross-attention multimodal target detection algorithm

PROGRAM - SESSION D

Date May 26（Monday）

Venue: Qianjiang Hall **Chairs: Yidong Tan, Hua Shen**

Time	Activity	Speaker	Title
13:30-13:55	Keynote	**Guanhao Wu** Tsinghua University, China	Frequency-comb-based distance measurement
13:55-14:15	Invited	**Fumin Zhang** Tianjin University, China	Precision 3D measurement based on Multi-Line LiDAR
14:15-14:35	Invited	**Hongfang Chen** Beijing University of Technology, China	High-precision optimization method for multi-station layout of the laser tracer
14:35-14:55	Invited	**Kai Ni** Shenzhen International Graduate School, China	Free-running dual-comb system for precise measurement
14:55-15:15	Invited	**Xinghui Li** Shenzhen International Graduate School, China	Towards atomic manufacturing: multi-dimensional heterodyne grating interferometer
15:15-15:35	Oral	**Menghan Yang** Tsinghua University, China	Design and implementation of multi-channel dual-frequency laser source for grating interferometer
15:35-16:00	Coffee Break		

Venue: Qianjiang Hall **Chairs: Rong Su, Wenhan Zeng**

16:00-16:20	Oral	**Xiangjun Kong** University of Nottingham, The United Kingdom	Deep learning-based multi-frequency phase unwrapping for single-shot composite fringe projection profilometry
16:20-16:40	Oral	**Wenxin Jia** Nanjing University of Science and Technology, China	Research on key technologies of null interferometer based on point source array for testing freeform surface
16:40-17:00	Oral	**Yu Zhao** Beijing Institute of Technology, China	In-situ plume particle sizing during fiber laser keyhole welding Using Self-mixing Interferometry
17:00-17:20	Oral	**Pengbo Zhao** Shenzhen International Graduate School, China	A compact multi-beam collimation method based on prism arrays and two-dimensional reflective gratings
17:20-17:40	Oral	**Joonho You** Nexensor Incorporated, South Korea	The study for measuring the warpage of wafer and chip for HBM and Advanced packaging process
17:40-18:00	Oral	**Xinyuan Guo** Tianjin University, China	Measurement of reflectivity and refractive index based on frequency domain Analysis of coherence scanning interferometry.

Date May 27（Tuesday）

Venue: Qianjiang Hall **Chairs: Masaki Michihata, Jian Wang**

Time	Activity	Speaker	Title
13:30-13:55	Keynote	**Xiangchao Zhang** Fudan University, China	Generalized deflectometry for the measurement of semi-specular freeform surfaces
13:55-14:15	Invited	**Ki-Nam Joo** Chosun University, South Korea	Surface figure measurements by radial shearing interferometry using a geometric phase lens
14:15-14:35	Invited	**Tukun Li** University of Huddersfield, The United Kingdom	The paradigm shift of the ISO GPS standard system driven by digital manufacturing
14:35-14:55	Invited	**Jingtao Dong** Hefei University of Technology, China	Laser scanning “point-to-line” confocal probe for dark-field scattering imaging of surface and bulk defects
14:55-15:15	Invited	**Dawei Tang** University of Huddersfield, The United Kingdom	Surface metrology using dispersive optical sensors
15:15-15:35	Invited	**Chengfu Ma** Lanzhou Institute of Chemical Physics, Chinese Academy of Sciences, China	Scanning probe manipulation and friction measurement of nanodroplets confined by two-dimensional materials
15:35-16:00	Coffee Break		

Venue: Qianjiang Hall **Chairs: Xiangchao Zhang, Dawei Tang**

16:00-16:20	Invited	**Masaki Michihata** The University of Tokyo, Japan	3-dimensional measurement based on laser induced fluorescence
16:20-16:40	Invited	**Tianqi Gu** Fuzhou University, China	Robust processing of measurement dataset for complex surface
16:40-17:00	Invited	**Yi Wang** Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences, China	Coherent tomographic microscopy for three-dimensional topographic measurement
17:00-17:20	Oral	**Shuai Xue** National University of Defense Technology, China	Surface form interferometry for X-ray mirrors with atomic accuracy
17:20-17:40	Oral	**Hongling Luo** Shanghai Jiao Tong University, China	An efficient adaptive fringe projection framework for high dynamic range 3D measurement with reduced pattern requirement and accurate coordinate mapping
17:40-18:00	Oral	**Runzhou Hou** Shanghai Jiao Tong University, China	Topographic spatial resolution assessment for coherence scanning interferometry based on 3D transfer function

PROGRAM - SESSION E

Date May 26（Monday）

Venue: Shennongjia Hall　Chairs: Yuki Shimizu, Zhengbao Yang

Time	Activity	Speaker	Title
13:30-13:55	Keynote	**Ryo Sato** Tohoku University, Japan	Surface encoders for multi-axis displacement measurement with a scale grating
13:55-14:15	Invited	**Sangen Zhao** Quantum Science Center of Guangdong, Hongkong Macao Greater Bay Area, China	Anisotropic optical crystal materials
14:15-14:35	Invited	**Anli Yang** Hubei Jiufengshan Laboratory, China	Analysis and characterization of compound semiconductor materials
14:35-14:55	Oral	**Yue Ma** Shenzhen University, China	Polylactic acid plastic internal depth prediction using thermal imaging and a variational autoencoder
14:55-15:15	Oral	**Yifan Wang** Tsinghua University, China	Frequency-swept feedback interferometry for noncooperative-target ranging
15:15-15:35	Oral	**Anbo Wang** Virginia Polytechnic Institute and State University, The United States	Distributed optical fiber sensing based on weak reflecting serial fiber bragg gratings
15:35-16:00	Coffee Break		

Venue: Shennongjia Hall　Chairs: Ryo Sato, Sangen Zhao

16:00-16:20	Invited	**Tao Jiang** Suqian University, China	A calibration and location optimization method for combined tracking-based optical measurement
16:20-16:40	Oral	**Xiaonan Geng** Nanjing University of Aeronautics and Astronautics, China	Lightweight extraction method for structural feature detection in large-scale aircraft panels
16:40-17:00	Oral	**Sen Wang** Tianjin University of Technology, China	Height measurement of bumps based on microscopic fringe projection profilometry
17:00-17:20	Oral	**Zhanwu Xie** Nanjing Normal University, China	All-fiber laser self-mixing interferometry for signal enhancement with phase-shifted fiber Bragg grating
17:20-17:40	Oral	**Haijun Xi** Nanchang Hangkong University, China	Study of Brillouin-kerr frequency comb based on MgF2 microcavities

Date May 27（Tuesday）

Venue: Shennongjia Hall　Chairs: Chunguang Hu, Honggang Gu

Time	Activity	Speaker	Title
13:30-13:55	Keynote	**Yuki Shimizu** Hokkaido University, Japan	Calibration of diffraction scale gratings for precision positioning
13:55-14:15	Invited	**Xiaoyan Cui** East China Normal University, China	Structures for self-assembled cellulose nanoparticles by Mueller matrix analysis
14:15-14:35	Invited	**Jiamin Liu** Huazhong University of Science and Technology, China	Characterization of semiconductor materials under multiple physics fields using Mueller matrix ellipsometry
14:35-14:55	Oral	**Zhenqi Wang** The Hong Kong University of Science and Technology, Hong Kong, China	Microscopic piezoelectric characterization of self-assembled biomaterials
14:55-15:15	Oral	**Ying He** Tianjin university, China	Time and space-resolved raman for measuring the thermal properties of 2D heterostructures
15:15-15:35	Oral	**Hyeokin Kang** Korea Advanced Institute of Science and Technology, South Korea	Long-term AM noise-free optical communication over a 1.3 km free-space atmospheric link
15:35-16:00	Coffee Break		

Venue: Shennongjia Hall　Chairs: Tukun Li, Jingtao Dong

16:00-16:20	Invited	**Lihua Peng** Huazhong University of Science and Technology, China	Spatially polarization modulated snapshot fourier plane ellipsometry via conoscopic interference for thin-film metrology
16:20-16:40	Oral	**Zizheng Wang** Tianjin University, China	Non-destructive depth measurement of Through Glass Via (TGV) using NIR interferometric spectroscopy
16:40-17:00	Oral	**Chu Huy Hoang** Korea Advanced Institute of Science and Technology, South Korea	Nonlinear optical characterization of semiconductor wafers via femtosecond laser-induced Third Harmonic Generation (THG)
17:00-17:20	Oral	**Naoya Tashiro** Hokkaido University, Japan	Development of a palm-sized optical head for the calibration of a diffraction scale grating
17:20-17:40	Oral	**Yifu Wan** Tianjin University , China	High-precision measurement of surface tpography and thickness of transparent curved samples based on interferometric spectroscopy
17:40-18:00	Oral	**Guangcanlan Yang** Soochow University, China	Full-pipeline differentiable ray-tracing modeling for bi-prism phase measuring deflectometry

PROGRAM - SESSION F

Date May 26（Monday）

Venue: Dingxiang Hall　Chairs: Wei Tao, Zonghua Zhang

Time	Activity	Speaker	Title
13:30-13:55	Keynote	**Xiaoli Liu** Shenzhen University, China	Multi-scale fringe structured light 3D measurement
13:55-14:15	Invited	**Linghui Yang** Tianjin University, China	Research on multi-AGV collaborative transportation technology based on light-controlled positioning
14:15-14:35	Invited	**Zhenqi Niu** Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences, China	High-dynamic monoscopic deflectometry research and application for low-spatial-frequency and mid-spatial-frequency error measurement of complex surfaces
14:35-14:55	Invited	**Wei Wu** Electric Power Research Institute CSG, China	A node backtracking-based sub-supersynchronous oscillation observation method in radial networks
14:55-15:15	Invited	**Mingxing Jiao** Xi'an University of Technology, China	Optimum design of synthetic-wave absolute-distance interferometer using two-cavity dual-frequency Nd:YAG laser
15:15-15:35	Invited	**Yongjia Xu** University of Huddersfield, The United Kingdom	Automatic area scanning method for form measuring of freeform specular surfaces based on robotic phase measuring deflectometry
15:35-16:00	Coffee Break		

Venue: Dingxiang Hall　Chairs: Xiaoli Liu, Wei Wu

16:00-16:20	Oral	**Yubo Ni** Hebei University of Technology, China	Structured light reconstruction with surface reflection inhomogeneity suppression
16:20-16:40	Oral	**Yanling Li** Hebei University of Technology, China	Robotic arm operated automatic area scanning phase measuring stitching deflectometry calibration method
16:40-17:00	Oral	**Qinyu Lu** Dalian University of Technology, China	A method to guarantee the measurement accuracy of plane displacement with a hole using eddy current sensors in mechatronics applications
17:00-17:20	Oral	**Reza Aulia Rahman** Osaka University, Japan	Position controlled photonic nanojet for machining in water medium by second harmonic generation
17:20-17:40	Oral	**Yun Zou** Harbin Institute of Technology, China	Analysis of higher-order geometric errors for laser interferometry towards nanometer measurement
17:40-18:00	Oral	**Qiming Fan** Jiangsu University of Science and Technology, China	Laser 3D projection calibration method based on camera-like model and Gaussian process regression

Date May 27（Tuesday）

Venue: Dingxiang Hall　Chairs: Mingxing Jiao, Linghui Yang

Time	Activity	Speaker	Title
13:30-13:55	Keynote	**Wei Tao** Shanghai Jiao Tong University, China	Structural laser intelligent measurement technology and its application in special environments
13:55-14:20	Keynote	**Nikita D. Zviagin** D.I.Mendeleyev Institute for Metrology, Russia	Measurement challenges and artificial intelligence
14:20-14:40	Invited	**Yuan Yao** Huazhong University of Science and Technology, China	Micro-optical accelerometers based on grating interferometer - status and development
14:40-15:00	Invited	**Jiandong Xie** Zhejiang Sci-Tech university, China	Multi-heterodyne interferometric absolute distance measurement and applications
15:00-15:20	Oral	**Shimin Jiao** Huazhong University of Science and Technology, China	High-sensitivity opto-mechanical MEMS accelerometer with 10 ng/√Hz noise floor and kHz bandwidth
15:20-15:40	Oral	**Xin Xiong** Chongqing University of Technology, China	Self-calibration of large-scale planar variable-line-spacing gratings with a conjugate differential interferometric method
15:40-16:00	Coffee Break		

Venue: Dingxiang Hall　Chairs: Jun Liu, Jun Tang

16:00-16:20	Oral	**Jinyang Zou** Tianjin University, China	Photoacoustic frequency comb imaging of metals
16:20-16:40	Oral	**Peirui Ji** Xi'an Jiaotong University, China	High-performance photodetectors based on low-dimensional materials
16:40-17:00	Oral	**Yanxu Sun** Harbin Institue of Technology, China	Research on non-uniform error calibration and its effects on CT reconstruction accuracy
17:00-17:20	Oral	**Xinran Tian** Tianjin University, China	A FSM-based high-accuracy automatic magnetic compensation method for dual-channel SERF magnetometers using in biomedical weak magnetic measurement
17:20-17:40	Oral	**Dongfang Zhao** Harbin Institute of Technology, China	Research on ultra-precision measurement method for sphericity error based on multi-section circular profile data fusion
17:40-18:00	Oral	**Tiantian Shi** Peking University, China	Plug-and-play Faraday laser

POSTER

01 Micro and Nano Metrology

NO.	ID	Title	Author	Institution
P1-01	10229	Error compensation for non-cooperative phase-shift laser ranging	Jinxuan Wu	Key Lab of Ultra-Precision Intelligent Instrumentation, China
P1-02	10207	Microstructure parameter measurement method based on unet network	Li Wang	Harbin Institute of Technology, China
P1-03	10157	A miniature optical probe for measuring high aspect ratio structures based on spectral dispersion interference	Yuming Chen	Harbin Institute of Technology, China
P1-04	10154	Detection of electrospinning jet assisted by coaxial laser	Ruifang Ye	Huaqiao University, China
P1-05	10098	Design and optimization of two-dimensional overlay targets	Jiahao Lu	Nanjing University Of Aeronautics And Astronautics, China
P1-06	10086	A comprehensive physical model for reflection second-harmonic spectroscopy in high-dose ion implantation	Haomai Zhao	Huazhong University of Science and Technology, China
P1-07	10085	Deep learning-based characterization of ion implantation parameters for photo modulated optical reflectance	Xuesong Wang	Huazhong University of Science and Technology, China
P1-08	10074	Accelerated ellipsometry for nanostructure metrology using adaptive meta-modeling based online optimization	Yihang Xu	Nanjing University of Aeronautics and Astronautics, China

02 Quantum Sensing and Instruments

P2-01	20140	Highly accurate measurement of multi-microwave signal frequency based on diamond NV centers	Bo Wang	North University of China, China
P2-02	20077	Measurements of non-hermitian dressing quantization in atom-like systems	Muhammad Imran	Shenzhen University, China

03 Metrology and Instruments for Integrated Circuits

P3-01	30176	Calibration of angle-resolved polarization scatterometer for IC metrology	Wei Wang	Huazhong University of Science and Technology, China
P3-02	30168	Model-based coherence scanning interferometry for thin film metrology	Cheng Chen	Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences, China
P3-03	30119	Fast small angle X-ray scattering modeling for high aspect ratio nanostructures	Dingxuan Deng	Huazhong University of Science and Technology, China
P3-04	30113	Research on calibration equation of NTC thermistor thermometer in ocean temperature range	Jiahao Li	China University of Petroleum-Beijing, China
P3-05	30101	Influence of diffraction on measuring depth of periodic high-aspect-ratio microstructures	Xiaofan Li	Institute of Microelectronics of the Chinese Academy of Sciences, China
P3-06	30072	Multiplexing coherent diffraction imaging based on multi-vortex beams	Yingming Xu	Zhejiang Lab, China
P3-07	30049	Low-resource consumption laser heterodyne interferometry signal processing method and embedded implementation	Yao Wang	Beijing Jiaotong University, China
P3-08	30022	Development of laboratory-scale X-ray critical dimension metrology	Jiahao Zhang	Huazhong University of Science and Technology, China

04 In-process and Inline Metrology

P4-01	40241	Research on the influencing factors of rotating accuracy measurement for nanometer-level aerostatic spindle	Yunda Teng	Shanghai Jiaotong University, China
P4-02	40107	Laser acoustic based defect inspection for through-silicon vias	Jiale Chen	Huazhong University of Science and Technology, China

05 Optical Metrology and Inspection

P5-01	50174	Noise compensation algorithm assisted high-precision dual-comb ranging system	Yuetang Yang	Tsinghua University, China
P5-02	50199	Tracking-based 3D surface profile measurement technology using crossed multi-line lasers	Rui Qiao	Harbin Institute of Technology, China
P5-03	50166	Simultaneous six-degree-of-freedom measurement using low-coherence spatial interferograms	Runkun Zhao	Tsinghua University, China
P5-04	50120	Silicon photothermal for wafer defect inspection	Jinsong Zhang	Huazhong University of Science and Technology, China
P5-05	50129	Evaluation of absolute pitch of a diffraction grating using femtosecond laser autocollimation units	Mingyu Lee	Hokkaido University, Japan

P5-06	50116	Fast characterization of multilayer thin films powered by parallel operations	Shuo Liu	Huazhong University of Science and Technology, China
P5-07	50015	High-precision measurement of absolute grating pitch using laser autocollimation and diffraction	Hangyu Zhuo	Hokkaido University, Japan
P5-08	50059	Research on the measurement of wheel geometric parameters based on machine vision under uneven reflectivity condition	Saisai Liu	Beijing Jiaotong University, China
P5-09	50043	Improved slanted-edge method for high-precision MTF measurement	Rongjing Tong	Nanjing University of Science and Technology, China
P5-10	50020	Frequency-comb-referenced multiwavelength interferometry for high-precision and high-speed 3D measurement in semiconductor packaging	Jun Hyung Park	Korea Advanced Institute of Science and Technology, Korea

06 Surface Metrology

P6-01	60214	A method for measuring mutual reference parallelism based on correspondence measurement	Chenghui Sun	Harbin Institute of Technology, China
P6-02	60204	Spatially polarization modulated snapshot fourier plane ellipsometry via conoscopic interference for thin-film metrology	Lihua Peng	Huazhong University of Science and Technology, China
P6-03	60196	Single-shot simultaneous measurement of thin-film surface and thickness profiles via hybrid reflectance-interferometric spectroscopy	Fengyao Liu	Huazhong University of Science and Technology, China
P6-04	60170	In-situ calibration for fourier plane ellipsometry based on alternating optimization	Qi Xu	Huazhong University of Science and Technology, China

07 Material Characterization

P7-01	70239	Doping engineering study of znxmg1-xO via first principles and ellipsometry	Jun Yao	Huazhong University of Science and Technology, China
P7-02	70231	Temperature-dependent optical properties of the transition metal dichalcogenide HfS2	Qihang Zhang	Huazhong University of Science and Technology, China

08 Machine Learning and Signal Processing

P8-01	80102	Low-velocity impact localization on laminated composite structures using WT-CeiT	Siyuan Zhang	China Jiliang University, China
P8-02	80244	A two-stage sensor error calibration method based on conditional generative adversarial networks (CGAN)	Honging Zhu	Chongqing University of Technology, China
P8-03	80224	Spiking neural network for online detection of large aperture optical component damage based on illumination modulation	Gaojie He	Harbin Institute of Technology, China
P8-04	80191	Denoising computational diffractive imaging via wavelet-enhanced noise-to-noise framework	Yadong Wang	Hefei University of Technology, China
P8-05	80216	Physics-informed U-Net: High-precision denoising for spectral interferograms in measurement applications	Yichang Zhou	University of Huddersfield, The United Kingdom
P8-06	80195	Real-time slag-glass detection algorithm based on EI-YOLO11s	Liutong Yang	Harbin Institute of Technology, China
P8-07	80190	YOLOv8-DAM: Pavement disease study based on improved YOLOv8	Qiqi Zhou	Hubei University of Automotive Technology, China
P8-08	80187	Fourier modal analysis for EUV 3D mask diffraction effects	Kaixuan Su	Huazhong University of Science and Technology, China
P8-09	80180	Deep unfolding warping network for image rectangling	Linwei Qiu	Beihang University, China
P8-10	80159	Multi layer perceptron integrated network driven automotive door impact load reconstruction method	Siqi Feng	China Jiliang University, China
P8-11	80126	Circular spots separation based deflectometry measurement of transparent components	Peide Yang	Jianghuai Advance Technology Center, China
P8-12	80115	Neural network-based denoising method for small-angle X-ray scattering measurement data	Haishuo Zhong	Huazhong University of Science and Technology, China
P8-13	80110	Robust measurement of objects in 3-D motion with pixel-wise motion compensated phase-shifting profilometry	Pengkai Dou	Henan University of Technology, China
P8-14	80067	Rethinking multi-scale feature learning for lightweight super-resolution	Chao Zhang	Hefei University of Technology, China
P8-15	80245	Research on image classification and recognition based on improved EfficientNet B7 convolutional neural network	Ying Luo	Shanghai University, China

09 Intelligent Instrument for Automation

P9-01	90172	Vibration compensation for 3D deformation reconstruction of gaps by combining kalman filtering with coded mark	Yajing Bai	Hebei University of Technology, China
P9-02	90202	Sensitivity analysis of optical scatterometry for nanoscale gratings: RCWA modeling and global sensitivity evaluation	Shuai Qiu	Xi'an Jiaotong University, China
P9-03	90189	Optical interferometric phase imaging method for defect inspection of patterned wafers	Boyu Zhan	Xi'an Jiaotong University, China
P9-04	90182	In-motion 3-D shape measurement with cross-scale constraint construction based on 1-D and 2-D joint imaging	Luyao Ma	Tianjin University, China

P9-05	90177	A multi-channel femtosecond laser absolute ranging system based on spherical constraints	Qiong Niu	Tianjin University, China
P9-06	90153	Deep learning-based fringe projection profilometry with virtual-real integration	Shuai Fu	Hebei University of Technology, China
P9-07	90152	A novel calibration framework for relationship between multibeam LiDAR and external rotating axis	Shiqiang Wang	Hebei University of Technology, China
P9-08	90091	Non-singular fast-terminal sliding-mode control system based on improved reaching law	Zixu Zhu	Hefei University of Technology, China
P9-09	90235	Measurement and verification of position-dependent geometric errors on five-axis machines	Yunlong Deng	National Numerical Control System Engineering Research Center, China

10 Sensors and Actuators

P10-01	100209	Research on electromagnetic time grating sensing method leveraging pulse compression	Gou Li	Chongqing University of Technology, China
P10-02	100212	A spherical space multi-dimensional rotation angular displacement sensor	Jilin Zhou	Chongqing University of Technology, China
P10-03	100223	Virtual measurement of wind farm sensors based on hybrid drive	Anfeng Zhu	Hunan University of Science and Technology, China
P10-04	100133	Research on the surge of secondary voltage harmonics in three-phase three-element combined transformer based on excitation curve	Gang Liu	State Grid Sichuan Electric Power Company Metering Center, China
P10-05	100131	Multi-degree-of-freedom active vibration isolation method based on composite feedforward and feedback control strategy	Lei Jia	Harbin Institute of Technology, China
P10-06	100104	High sensitivity detection of guided-mode resonance sensor based on interference fringe shifting	Wen-Kai Kuo	National Formosa University, Taipei, China
P10-07	100035	The equivalent circuit modeling and optimization of square PMUTs arrays for improved transmission and reception performance	Zixuan Li	State Key Laboratory for Manufacturing Systems Engineering, International Joint Laboratory for Micro/Nano Manufacturing and Measurement Technologies, China

11 Uncertainty, Traceability and Calibration

P11-01	110217	Research on the application of temperature dependence of microcantilever beam resonance characteristics in trace liquid concentration calibration	Zeke Huang	University of Shanghai for Science and Technology, China
P11-02	110179	Measurement of nano-film adhesion by traceable scratch method	Qiang Li	Changcheng Institute of Metrology & Measurement, China
P11-03	110167	Edge detection algorithm for grating images in scanning electron microscopy and its application in uniformity evaluation	Shuobin Qi	National Institute of Metrology, China
P11-04	110158	Research on across-scale precision manufacturing of wafer-level reference materials based on electron beam lithography	Yuying Xie	Tongji University, China
P11-05	110150	Metrological comparison and uncertainty analysis of first-class standard platinum-rhodium 30-platinum-rhodium 6 thermocouples	Yuting Zhang	Hubei Provincial Institute of Metrology and Testing Technology, China
P11-06	110112	Metrological research and analysis of oxygen transmission rate testers	Jiyan Zhang	National Institute of Metrology, China
P11-07	110108	Pixel-precision two-flat absolute testing using iterative method for fizeau interferometer	Guoqing Sheng	Shanghai Jiaotong University, China
P11-08	110046	Development of a compact differential angle sensor for on-machine calibration of linear encoders	Jiucheng Wu	Tohoku University, Japan
P11-09	110057	Fast self-calibration of linear displacement sensors	Zhiyang Zhang	Tohoku University, Japan
P11-10	110040	A deep learning method for modeling and uncertainty evaluation of nonlinear dynamic systems	Yinye Ding	Hefei University of Technology, China

12 Optical Imaging

P12-01	120175	Generalized quantitative evaluation in broadband diffractive imaging evolution	Chuangchuang Chen	Hefei University of Technology, China
P12-02	120186	Research on video super resolution reconstruction method based on sparse array	Mingchao Fang	Beihang University, China
P12-03	120076	Image reconstruction with embedded side window and guided filtering for fourier ptychographic microscopy	Zewei Li	Shenzhen University, China

13 Optical Technology, Application and Precision Measurement

P13-01	130227	Research on dynamic transmission error measurement of heavy-duty gearbox based on optical measurement method	Gou Li	Chongqing Innovation Center of industrial Big-Data Co.Ltd, China
P13-02	130225	Research on 0.1 mHz~1 Hz ultra-low frequency noise testing method of reference resistance of temperaure measurement circuit	Zihao Xu	Harbin Institute of Technology, China
P13-03	130218	Compact digital holographic microscope system based on wedge prism	JianKun Wang	Shenzhen Technology University, China

P13-04	130211	Phase noise suppression algorithm based on bidirectional lipschitz conditions	Mingyang Li	Harbin Institute of Technology, China
P13-05	130165	An axial strain sensitivity enhancement method based on novel fusion-spliced microbubble resonator	Leyao Dai	Nanchang Hangkong university, China
P13-06	130163	Optical frequency combs	Zhongyuan Lai	Nanchang Hangkong University, China
P13-07	130160	A WGMs-FP hybrid droplet-like microbubble resonator and application to all-optical tuning	Gan Lv	Nanchang Hangkong University, China
P13-08	130161	Thermally tuned brillouin gain bandwidth study based on hybrid microsphere cavities	Chengfeng Xi	Nanchang Aviation University, China
P13-09	130148	Continuous vertical scanning structured illumination microscopy based on dynamic exposure integration sampling	Qu Tong	Huazhong University of Science and Technology, China
P13-10	130141	Microstrip line structure characterization based on quantum wide-field microscopy	Yaozhong Tian	North University of China, China
P13-11	130111	Rotational doppler effect of vortex beam with frequency-shifted laser feedback	Ziyu Hua	Tsinghua University, China
P13-12	130008	One-shot three-wavelength digital holography by using a reference arm for thickness and ri decoupling	Kaiping Li	Shanghai Jiaotong University, China
P13-13	130100	A simultaneous frequency and angle-of-arrival measurement system based on stimulated brillouin scattering	Pengyuan Huang	Dalian University of Technology, China
P13-14	130099	Adaptive wavefront interferometry by optimizing the spot size on the fourier plane (SSFP) of the imaging system	Peng Gao	Precision Optical Manufacturing and Testing Center, Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Science,
P13-15	130093	Multi-camera system calibration and uncertainty budget to assist industrial robots in large-scale production line	Mingda Harvey Yang	University of Nottingham Jubilee Campus, The United Kingdom
P13-16	130084	Enhancing image resolution with pixel-shift and precision motion control	Qiang Wu	Hefei university of technology, China
P13-17	130083	3D measurement method for small-module gears based on visual projection and line laser scanning	Yanshun Lu	Beijing Institute of Technology, China
P13-18	130081	Moiré fringes-based wafer-to-mask gap measurement in lithography	Feifan Xu	Hefei university of technology, China
P13-19	130030	Crosstalk error correction in high-precision phase measurement	Jinxuan Wu	Harbin Institute of Technology, China
P13-20	130024	Self-calibration of a large-scale planar variable-line-spacing grating and a fizeau interferometer	Yuliang Ye	Chongqing University of Technology, China
P13-21	130023	Research on optical encoder with in-situ self-compensation of the scale grating pitch deviation	Yikai Zhang	Chongqing University of Technology, China

14 Optical Measurement

P14-01	140237	BRDF-based light scattering analysis of silicon wafer with anisotropic rough surfaces using the FDTD method	Jiarui Li	Fudan University, China
P14-02	140232	In-situ calibration of heliostat tracking attitudes in tower concentrated solar power using geometric vanishing point	Fen Xu	North China University of Technology, China
P14-03	140220	Measurement of topological charge of power-exponent-phase vortex using a elliptical swallowtail phase	Keli Chen	Nanjing Normal University, China
P14-04	140213	Joint calibration method of shadow photography station based on lithography standard target	Zhiyuan Yu	Nanjing University of Science and Technology, China
P14-05	140117	High-precision roll angle measurement by using a polarization modulated optical frequency comb	Yuhan Li	Tsinghua University, China
P14-06	140147	Parasitic interference elimination in low-depth pseudo-random phase modulation LiDAR	Jiahui Guo	Huazhong University of Science and Technology, China
P14-07	140137	Dual-control-loop design for frequency tracking systems based on pound-drever-hall technology	Wenya Liu	Harbin Institute of Technology, China
P14-08	140136	High-precision laser frequency stabilization method in fiber-optic sinusoidal frequency modulation interferometer	Dongguang Li	Huazhong University of Science and Technology, China
P14-09	140118	Interferometry of the cylindrical inner surface	Haotian Chen	Shanghai University, China
P14-10	140053	Quasi-common polarization difference small angle measuring device based on CCD	Xing Xia	Beijing Jiaotong University, China
P14-11	140065	Study on confocal probe signal processing method for centre of rotation and optical axis alignment	Chen Li	Tohoku University, Japan
P14-12	140064	Method to improve straightness measurement accuracy based on kalman filter	Fei Long	Beijing jiaotong university, China
P14-13	140055	Sub-pixel edge detection algorithm based on omnidirectional gradient	Xuwei Du	Shandong University, China
P14-14	140048	Online measurement of wheel-rail force based on laser collimation sensors	Wenjie Fu	Beijing Jiaotong University, China
P14-15	140047	Modeling and compensation for measuring geometric errors of rotary axis based on circular grating	Shuai Han	Beijing Jiaotong University, China
P14-16	140029	Phase demodulation method immune to phase shift distortion	Weihao Zhang	Nanjing University of Aeronautics and Astronautics, China

15 Photoelectric Device

P15-01	150132	Absolute photoelectric angular displacement sensor	Tianheng Zhang	Chongqing University of Technology, China

16 Optoelectronics and Communication

P16-01	160037	Phase noise compensation in long-distance atmospheric free-space channels for high-speed coherent communication	Taewon Kim	Korea Advanced Institute of Science and Technology, Korea

