

CONFERENCE PROGRAM

September 12-14, 2025
2025年9月12-14日

Xi'an, China
西安

照片直播



2025 8th International Conference on
Information Communication and Signal Processing
2025年第8届信息通信与信号处理国际会议

Information within Reach, Communication beyond Scope
信息触手可及，通信连接未来

CONFERENCE PROGRAM



The 8th International Conference on Information Communication and Signal Processing

信息触手可及，通信连接未来

Information Within Reach, Communication Beyond Scope

September 12-14, 2025

Xi'an, China



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Note



GENERAL INFORMATION

A Conference Venue



Xi'an Jiaotong University Academic Exchange Center · Nan Yang Hotel

No. 1, Xingqing South Road, Beilin District, Xi 'an | Check in: 14:00 Check out: 12:00

西安交大南洋大酒店 (陕西省西安市碑林区西安兴庆南路 1 号)

Hotels Nearby

1. Empark Grand Hotel 世纪金源大饭店
2. Xi'an Ambassador International Hotel 西安曲江国际饭店
3. Atour Hotel Wild Goose Pagoda Xi'an 西安大雁塔亚朵酒店
4. Holiday Inn Xi'an Big Goose Pagoda 西安大雁塔假日酒店

B Onsite Registration

Arrive at Registration desk→ Inform the staff of your paper ID→ Sign-in→ Claim your conference kit.

C Devices Provided by the Organizer

Oral/Special Session: Laptops (with MS-Office & Adobe Reader) / Projectors & Screen / Laser Sticks

Poster Session: Poster display stand, clear tape, mark pen.

D Materials Provided by the Presenter

Oral Session: Slides (pptx or pdf version). Format 16:9 is preferred.

Poster Session: A1 size Printed poster. **Please print your poster before your arrival.**

请报告人自行打印海报，并于汇报当天进行张贴。

E Duration of Each Presentation

Keynote Speech: 35min, including Q&A.

Online Session: 10min, including Q&A.

Invited Talk: 20min, including Q&A.

Poster Session: 5~10min

Special Session: 10min, including Q&A.

F Notice

- Please wear your delegate badge (name tag) for all the conference activities. Lending your participant card to others is not allowed.

- Please take good care of your valuables at any time during the conference. The conference organizer does not assume any responsibility for the loss of personal belongings of the participants during conference day.

会议期间请务必随身携带贵重物品，会议不对任何物品丢失负责。

- Accommodation is not provided. Delegates are suggested make early reservation.


参会者请提前自行预订酒店房间。



- Please show the badge and meal coupons when dining.

就餐时请同时出示代表证与餐券。

G Zoom Meeting ID

 Zoom Download	Room	Meeting ID	Link
	A	885 1540 2062	https://us02web.zoom.us/j/88515402062
	B	889 0688 4547	https://us02web.zoom.us/j/88906884547

Note:

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2. Prior to the formal conference, presenter shall join the test room to make sure everything is on the right track.
3. Please rename your Zoom Screen Name in below format before entering meeting room.

Name Setting:

Keynote Speaker: KN-Name

Author: Paper ID-Name

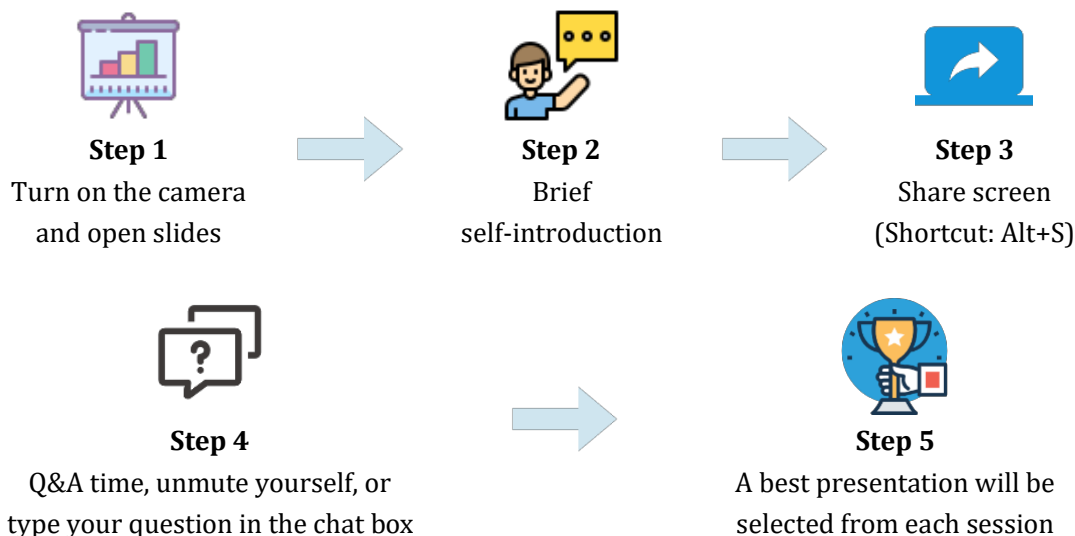
Committee: Position-Name

Listener: Listener-Name

Useful Links:

✓ [Conference Banner](#) ✓ [Zoom Background](#)

Presentation Process by Zoom Meeting



About Online Presentation

- Every presenter has **10 minutes**, including Q & A.
- The best presentation certificate and all authors' presentation certificates will be sent after conference by email.
- The PLENARY MEETING on September 13, 2025 will also be live on WeChat.



Live Broadcast



H Meeting Room

Floor	Rooms	Activities
3F	三层报告厅 Lecture Hall	Plenary Meeting, Banquet Dinner
2F	国际会议厅 Intl. Conference Hall	Special Session
	多功能厅 Multi-Function Hall	Special Session
	8C 会议室 Room 8C	Special/Poster Session, Welcome Reception
	第一会议室 Room 1	Special Session
	第二会议室 Room 2	Special Session
	第三会议室 Room 3	Special Session
	第四会议室 Room 4	Special Session
	第五会议室 Room 5	Special Session
	第六会议室 Room 6	Special Session
1F	中餐厅 Chinese Restaurant	Lunch Buffet



WELCOME MESSAGE

Dear All,

We are pleased to welcome you to 2025 8th International Conference on Information Communication and Signal Processing (ICICSP 2025) in September 12-14, 2025, Xi'an, China. The conference is co-sponsored by Xi'an Jiaotong University and IEEE, hosted by the School of Information and Communication Engineering of Xi'an Jiaotong University, co-hosted by Zhejiang University, Xidian University, and etc.

The annual international conference is aimed to bring together the researchers, experts, and scholars around the world to exchange their research results and address open issues in fields of information communication and signal processing. We hope ICICSP would be able to achieve its objective in providing an effective forum for academicians, researchers, and practitioners to advancing knowledge, research, and technology for humanity.

In past 7 years, ICICSP was held successfully in Singapore 2018, Weihai 2019, Virtual 2020, and Shanghai 2021, Shenzhen 2022, Xi'an 2023, Zhoushan 2024. This year's program will consist of 4 keynote speeches, successively delivered by Prof. Xiaowen Chu (The Hong Kong University of Science and Technology (Guangzhou)), Prof. Yong Zeng (Southeast University), Prof. Guan Gui (Nanjing University of Posts and Telecommunications), and Prof. Zai Yang (Xi'an Jiaotong University). Followed by 14 special sessions, 4 online sessions, 1 poster sessions, and more than 20 invited talks.

It is pleasing to note that the agenda of this conference covers a wide range of interesting topics related to all theoretical and practical aspects, but not limited to *Design of Integrated Internet of Things and Intelligent System Based on Sensing, Radar based Signal Detection and Image Processing Technology, Modern Electronic Systems and Communication Engineering, Underwater Acoustics, Ocean Exploration, and Artificial Intelligence, Sensors and Integrated Circuits*, etc.

Our deepest gratitude goes to the Advisory Board, Organizing Committee, International Scientific Committee, institutions, and volunteer who have directly and indirectly supported the success of this seminar. Wish you a very productive conference with exciting and encouraging discussions and exchange of knowledge so that together we can anticipate a future of ground-breaking knowledge, research, and technology.

Finally, we wish you a very successful conference! Hope you will enjoy your stay in Xi'an.

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AGENDA OVERVIEW

Session Time	Friday, September 12, 2025	Venue
10:00-12:00	Zoom Testing for Online Participants	Zoom A: 885 1540 2062 
10:00-17:00	On-site Registration & Materials Collection	1F Lobby <Nan Yang Hotel 西安交大南洋大酒店>
19:00-20:30	Welcome Reception (Icebreaker Gathering) Free snacks and beverages will be provided.	2F Room 8C

ZOOM TEST SESSION:

10:00-10:30	CP907, CP008, CP105, CP129, CP132, CP1005-Y, CP402, CP10-03, CP083
10:30-11:00	CP024, CP066, CP309, CP312, CP025, CP303, CP143, CP057, CP016, CP029, CP091
11:00-11:30	CP034, CP041, CP087, CP055, CP061, CP071, CP134, CP501, CP12-03
11:30-12:00	CP046, CP023, CP070, CP109, CP407, CP1008-Y, CP403, CP408, CP503

Session Time	Saturday, September 13, 2025 Plenary Meeting	
	三层报告厅 3F Lecture Hall Online Room A: 885 1540 2062 	
08:00-	On-site Registration	
09:00-	Opening Ceremony Host	Assoc. Prof. Haixia Peng Xi'an Jiaotong University, China
09:00-09:10	Welcome Address	Prof. Wenjie Wang Xi'an Jiaotong University, China
	Opening Speech	Prof. Juan Chen Xi'an Jiaotong University, China
09:10-09:20	Committee Group Photo	
09:20-09:55	Keynote Speech I	Prof. Xiaowen Chu (FIEEE) The Hong Kong University of Science and Technology (Guangzhou), China <i>Speech Title: Accelerating Large Mixture-of-Experts Models via Pipelining and Scheduling</i>
09:55-10:30	Keynote Speech II	Prof. Yong Zeng (FIEEE) Southeast University, China <i>Speech Title: Low-Altitude UAV ISAC based on Ray Antenna Array</i>
10:30-11:00	Group Photo & Coffee Break	
11:00-11:35	Keynote Speech III	Prof. Guan Gui (FIEEE) Nanjing University of Posts and Telecommunications, China <i>Speech Title: Intelligent Signal Sensing and Recognition for 6G Physical Layer Security</i>
11:35-12:10	Keynote Speech IV	Prof. Zai Yang Xi'an Jiaotong University, China <i>Speech Title: The Carathéodory-Fejér Theorem and Spectral Analysis of Signals</i>
12:10-13:30	Lunch Buffet / 1F 中餐厅 Chinese Restaurant	



Saturday, September 13, 2025 Parallel Sessions		Venue
13:30-16:00 (2h30min)	16:10-18:30 (2h20min)	
Special Session 1: Acoustic Measurement and Signal Processing of Aircraft and Their Equipment <i>Chair: Chuan-Xing Bi (HFUT), Jun Zhang (NPU)</i> Invited Talk: Xiaoyu Tang CP049, CP073, CP103, P098, CP1-01, CP1-02, CP1-03, CP1-04	Poster Session: AI-driven Multimodal Image Analysis and Digital Signal Processing Technology <i>Chair: Shuaikai Shi (Khalifa University, UAE)</i> CP007, CP009, CP014, CP022, CP027, CP031, CP035, CP044, CP047, CP056, CP058, CP064, CP067, CP068, CP069, CP078, CP079, CP081, CP094, CP096, CP126, CP127, CP146	8C 会议室 Room 8C
Special Session 2: Advanced Array Antenna Design and Signal Processing Techniques <i>Chair: Jingwei Xu (Xidian University), Long Chen (NPU), Weize Sun (SZU), Yanhong Xu (XUST)</i> Invited Talk: Junpeng Shi, Yujiang Zhong, Jiang Zhu CP013, CP063, CP086, CP089, CP093, CP097, CP100, CP108	Special Session 2: <i>Chair: Jingwei Xu (Xidian University), Long Chen (NPU), Weize Sun (SZU), Yanhong Xu (XUST)</i> Invited Talk: Min Wu, Bin Liao, Beiyuan Liu CP142, CP148, CP201, CP202, CP135, CP138, CP017	多功能厅 Multi-Function Hall
Special Session 3: Underwater Acoustics, Ocean Exploration, and Artificial Intelligence <i>Chair: Wen Zhang (NUDT), Yanqun Wu (NUDT), Siyuan Cang (GMLab)</i> Invited Talk: Siyuan Cang, Chaoran Yang, Mantravadi Venkata Subrahmanyam CP002, CP062, CP076, P084, CP092, CP120, CP121, CP122, CP123, CP128	Special Session 3: <i>Chair: Wen Zhang (NUDT), Yanqun Wu (NUDT), Siyuan Cang (GMLab)</i> Invited Talk: Mei Sun, Mingguang Wang CP301, CP302, CP306, CP308, CP310, CP311, CP313, CP314, CP315, CP316	国际会议厅 Intl. Conference Hall
Special Session 4: Target Detection, Estimation, Classification and Tracking <i>Chair: Lu Wang (NPU), Mengling Yu (NPU)</i> Invited Talk: Peng Chen, Kuan Fan CP012, CP040, CP151, CP401, CP404, CP406, CP409, CP410, CP411, CP412, CP413	Special Session 3: <i>Chair: Mantravadi Venkata Subrahmanyam (HTOU)</i> CP317, CP319, CP320, CP321, CP318, CP322	第一会议室 Room 1
Special Session 6: IoT, AI Methods, and Applications in Semantic Communication, Signal Processing of Image Recognition, Health Diagnosis for UAV, Satellite Communication, Power System, Medical Crossover <i>Chair: Haitao Xiao (XJTU), Yutian Wu (USTB)</i> CP054, CP090, CP114, CP130, CP131, CP136, CP141, CP601, CP603, CP604, CP605	Special Session 5: Sparse Representation and Deep Learning for Mechanical Fault Diagnosis <i>Chair: Han Zhang (Chang'an University)</i> CP504, CP505, CP074, CP153, CP106, CP107	第二会议室 Room 2
Special Session 7: Advanced Digital Signal Analysis in Healthcare: Innovations and Interdisciplinary Applications <i>Chair: Menghan Hu (ECNU), Jingzhen Guo (SUMHS)</i> CP701, CP702-A, CP705-A, CP048, CP077, CP111, CP119, CP019	Special Session 9: Sensors and Integrated Circuits <i>Chair: Min Xue (Chang'an University), Qieshi Zhang (SIAT), Jing Ji (Xidian University)</i> CP051, CP901, CP902, CP903, CP904, CP905, CP906	第三会议室 Room 3



13:30-16:00 (2h30min)	16:10-18:30 (2h20min)	
Special Session 10: Advanced Wireless Physical Layer Security Communications for 6G and Beyond <i>Chair: Limeng Dong (NPU)</i> <i>Invited Talk: Limeng Dong, Lihua Ruan</i> CP104, CP10-01, CP10-02, CP10-04, CP037, CP053, CP085, CP102, CP147, CP115	Special Session 11: Reconfigurable Smart Antenna (RSA) Technology for Next-Generation Wireless Networks <i>Chair: Tongxing Zheng (Xi'an Jiaotong University)</i> <i>Invited Talk: Chongwen Huang, Wei Liu</i> CP11-01, CP11-02, CP11-03, CP11-04, CP080, CP099, CP101, CP145	第四会议室 Room 4
Special Session 13: Integrated Sensing and Communications, Low-Altitude Economy, Wireless Communications, Radar Signal Processing <i>Chair: Fuwang Dong (HEU), Zhen Du (NUIST), Nanchi Su (HIT Shenzhen)</i> CP13-01, CP13-02, CP13-03, CP13-04, CP13-05, CP004, CP006, CP050, CP112, CP113, CP125, CP139, CP140, CP015, CP801	Special Session 12: Potential Waveform and Transceiver Design for Integrated Sensing and Communication <i>Chair: Zhiqiang Wei (Xi'an Jiaotong University)</i> CP082, CP12-01, CP12-02, CP12-04, CP12-05, CP12-06, CP052, CP117	第五会议室 Room 5
Special Session 14: Advances in Optical Image Processing and Remote Sensing Monitoring <i>Chair: Yu Zhang (Xianghu Lab (Zhejiang Province Key Lab, China))</i> <i>Invited Talk: Aifei Liu, Keyi Wang, Zhang Wangfei, Dan Zhao</i> CP116, CP124, CP095	Special Session 14: Advances in Optical Image Processing and Remote Sensing Monitoring <i>Chair: Yu Zhang (Xianghu Lab (Zhejiang Province Key Lab, China))</i> <i>Invited Talk: Xiaojing Chen, Pei Wang, Yu Zhang,</i> P14-02, CP1003-A	第六会议室 Room 6

Saturday, September 13, 2025 | Dinner Banquet (19:00-21:00)

Host	Assoc. Prof. Haixia Peng Xi'an Jiaotong University, China Conference Program Co-Chair	三层报告厅 3F Lecture Hall
Warm-up Speech	Prof. Wenjie Wang Xi'an Jiaotong University, China Conference General Chair	
Awarding 2025	✧ Best Paper Awards 最佳论文奖 ✧ Best Reviewer Awards 最佳审稿人奖 ✧ Best Special Session Chair Awards 最佳专题主席奖 ✧ Best Special Session Award 最佳专题奖 ✧ Outstanding Contribution Awards 最佳贡献奖	
Handover Ceremony	Xi'an Jiaotong University — East China Normal University & Shanghai Jiaotong University 西安交通大学 — 华东师范大学 & 上海交通大学	

Note: Please show the badge and meal coupons before your entry. 晚宴入场时请同时出示您的代表证与餐券。



Sunday, September 14, 2025 Online Sessions		Venue
09:00-10:50 (1h50min)		
Online Session 1	Design of Integrated Internet of Things and Intelligent System Based on Sensing <i>Chair: Assoc. Prof. Zubin Liu, Zhejiang University of Technology, China</i> CP907, CP008, CP105, CP129, CP132, CP1005-Y, CP402, CP10-03, CP083	 zoom A: <u>885 1540 2062</u>
Online Session 2	Radar Based Signal Detection and Image Processing Technology <i>Chair: Dr. Linsen Huang, Chongqing Technology and Business University, China</i> CP024, CP066, CP309, CP312, CP025, CP303, CP143, CP057, CP016, CP029, CP091	 zoom B: <u>889 0688 4547</u>
11:00-12:30 (1h30min)		
Online Session 3	Modern Electronic Systems and Communication Engineering <i>Chair: Assoc. Prof. Zhichao Sheng, Shanghai University, China</i> CP034, CP041, CP087, CP055, CP061, CP071, CP134, CP501, CP12-03	 zoom A: <u>885 1540 2062</u>
Online Session 4	Multi Modal Perception System and Image Analysis for Complex Scenes <i>Chair: Assoc. Prof. Rui Wang, Yantai University, China</i> CP046, CP023, CP070, CP109, CP407, CP1008-Y, CP403, CP408, CP503	 zoom B: <u>889 0688 4547</u>

Note: We will take a group photo for each online session, please stay online till your session is finished.



KEYNOTE SPEAKER

09:20-09:55 Saturday, September 13, 2025 (UTC+8h)

三层报告厅 3F Lecture Hall

Zoom A: 885 1540 2062



Live Broadcast



Prof. Xiaowen Chu

The Hong Kong University of Science and Technology
(Guangzhou), China

Fellow, IEEE

**Speech Title: Accelerating Large Mixture-of-Experts
Models via Pipelining and Scheduling**

Abstract: In recent years, large-scale deep neural network models can be easily scaled to trillions of parameters with sparsely activated mixture-of-experts (MoE), which significantly improves the model quality while only requiring a sub-linear increase in computational costs. However, the dynamic activation of MoE experts introduces extensive communications, limiting the scaling efficiency of distributed systems. In this talk, we will first provide an overview of sparsely activated MoE and its training challenges, and then present some of our recent work on improving the training efficiency of MoE-based LLM models, which leverages two simple ideas: pipelining and scheduling.

Biography: Dr. Chu received his B.Eng. degree in Computer Science from Tsinghua University, Beijing, P. R. China, in 1999, and the Ph.D. degree in Computer Science from The Hong Kong University of Science and Technology in 2003. He is currently a Professor at the Data Science and Analytics Thrust, Information Hub of HKUST(GZ). He has been working at the Department of Computer Science, Hong Kong Baptist University during 2003-2021. He is a senior member of IEEE and a member of ACM. He is a vice-chairman of the Blockchain Technical Committee of China Institute of Communications. His current research interests include GPU Computing, Distributed Machine Learning, Cloud Computing, and Wireless Networks. He is especially interested in the modelling, parallel algorithm design, application optimization, and energy efficiency of GPU computing.



KEYNOTE SPEAKER

09:55-10:30 Saturday, September 13, 2025 (UTC+8h)

三层报告厅 3F Lecture Hall

Zoom A: 885 1540 2062



Live Broadcast



Prof. Yong Zeng

Southeast University, China

Fellow, IEEE

Speech Title: Low-Altitude UAV ISAC based on Ray Antenna Array

Abstract: Most existing MIMO wireless communication and sensing systems rely on fully-digital or phase shifter-based hybrid analog/digital beamforming architectures, which face critical challenges in high-frequency systems, such as difficulty to implement and poor control accuracy for phase shifters. To address such challenges, this talk will introduce a new MIMO architecture based on the novel ray antenna array (RAA). RAA consists of a large number of low-cost antenna elements, which are arranged in a ray-shaped structure with deliberately designed orientations, thus achieving efficient beam steering without relying on conventional analog or digital beamforming techniques. Compared with the traditional MIMO architecture, RAA system has several appealing advantages, including significantly reduced hardware costs and power consumption, achieving uniform angular resolution in all signal directions, and enhanced beaming gain by enabling antenna elements with higher directivity. Thus, RAA has a wide range of applications in future wireless communications and sensing systems. This talk will first introduce the new MIMO architecture based on RAA, explain its array design and beamforming mechanism in two-dimensional and three-dimensional space, and explore its spatial resolution characteristics. Finally, it will introduce the theories and methods of RAA-based integrated sensing and communication (ISAC) for low-altitude unmanned aerial vehicles (UAVs).

Biography: Yong Zeng, IEEE Fellow, young chief professor of Southeast University and Purple Mountain Laboratory, national youth high-level talent, Jiangsu province entrepreneurship and innovation talent, "6G Rising Star" Young Scholar of Global 6G Conference 2024, Clarivate Analytics Highly Cited Researcher for 6 consecutive years (2019-2024), AI2000 Most Influential Scholars in the field of Internet of Things for 4 consecutive years (2021-2024), and Elsevier Most Cited Chinese Researcher for 4 consecutive years (2021-2024). Prof. Zeng has enlisted as the Stanford "Top 2% of Scientists in the World - Lifetime Influence" list. He is the recipient of Australia Research Council (ARC) Discovery Early Career Researcher Award (DECRA), IEEE Communications Society Asia-Pacific Outstanding Young Researcher Award, and won 8 international and domestic best paper awards including IEEE Marconi Award (2020 and 2024), Heinrich Hertz Award (2017 and 2020), etc. He proposed the concept of channel knowledge map (CKM) and the novel transmission method of Delay-Doppler alignment modulation (DDAM). His works have been cited by more than 31,000 times. He serves on the editorial board of SCI journals such as IEEE Transactions on Communications, IEEE Transactions on Mobile Computing, and IEEE Communications Letters, and leading guest editor of journals including IEEE ComMag, Wireless ComMag, China Communications, and Science China Information Sciences. He was elevated to IEEE Fellow "for contributions to unmanned aerial vehicle communications and wireless power transfer".



KEYNOTE SPEAKER

11:00-11:35 Saturday, September 13, 2025 (UTC+8h)

三层报告厅 3F Lecture Hall

Zoom A: 885 1540 2062



Live Broadcast



Prof. Guan Gui

Nanjing University of Posts and Telecommunications,
China

Fellow, IEEE

**Speech Title: Intelligent Signal Sensing and
Recognition for 6G Physical Layer Security**

Abstract: The advent of 6G wireless communication marks a paradigm shift toward intelligent, secure, and pervasive connectivity. In this keynote, we explore how Artificial Intelligence (AI) and Deep Learning (DL) are revolutionizing physical-layer security through advanced signal sensing and recognition techniques. As 6G systems encounter increasingly dynamic environments, traditional model-based approaches struggle with complex interference patterns and uncertain channel conditions. To address these challenges, we highlight the role of neural networks in enhancing signal detection, classification, and Specific Emitter Identification (SEI). Through gradient-based optimization and data-driven learning, AI-enabled frameworks can significantly improve model adaptability and accuracy, outperforming conventional rule-based methods. Moreover, we examine how DL is reshaping baseband module functionalities—including modulation recognition, coding/decoding, and detection—toward greater robustness and efficiency. This keynote underscores the strategic importance of integrating intelligent signal processing with next-generation communication systems. By embedding AI into the physical layer, we can build resilient, secure, and intelligent wireless infrastructures capable of meeting the stringent demands of future 6G applications.

Biography: Guan Gui (Fellow, IEEE) received his Ph.D. degree from the University of Electronic Science and Technology of China, Chengdu, China, in 2012. From 2009 to 2014, he was a research assistant and postdoctoral research fellow at Tohoku University, Japan. From 2014 to 2015, he was an Assistant Professor at Akita Prefectural University in Japan. Since 2015, he has been a Professor at Nanjing University of Posts and Telecommunications, China. His research focuses on intelligent sensing and recognition, intelligent signal processing, and physical layer security. Dr. Gui has authored over 200 IEEE journal and conference papers and received several best paper awards, including at ICC 2017, ICC 2014, and VTC 2014-Spring. He is a fellow of IEEE, IET, and AAIA, and he is recognized for his contributions to intelligent signal analysis and wireless resource optimization. Among his accolades, he received the IEEE Communications Society Heinrich Hertz Award in 2021 and was named a Clarivate Analytics Highly Cited Researcher from 2021 to 2024. Dr. Gui is a Distinguished Lecturer for the IEEE Vehicular Technology Society (VTS) and the IEEE Communications Society (ComSoc). He is an editorial board member for several leading journals, including the IEEE Transactions on Information Forensics and Security, IEEE Internet of Things Journal, and IEEE Transactions on Vehicular Technology. Additionally, he serves as the Editor-in-Chief of KSII Transactions on Internet and Information Systems. He has also held prominent roles in international conferences, such as Executive Chair of IEEE ICCT 2023, Executive Chair of VTC 2021-Fall, and Vice Chair of WCNC 2021.



KEYNOTE SPEAKER

11:35-12:10 Saturday, September 13, 2025 (UTC+8h)

三层报告厅 3F Lecture Hall

Zoom A: 885 1540 2062



Live Broadcast



Prof. Zai Yang

Xi'an Jiaotong University, China

Speech Title: The Carathéodory-Fejér Theorem and Spectral Analysis of Signals

Abstract: Spectral analysis of signals is a core component of modern information techniques. The rapid developments of radar detection and wireless communications have advanced its research from fast Fourier transform (FFT) in the 1960s to subspace methods emerging in the 1970s, and then to sparse and compressed sensing methods of this century. In this talk, we revisit the Carathéodory-Fejér Theorem (1911) on Vandermonde decomposition of Toeplitz covariance matrices and discuss its key role in spectral analysis of the past half century. We emphasize our extension of the Carathéodory-Fejér Theorem from 1-D to high dimensions and show how it forms the basis of previous (subspace and compressed sensing) approaches and innovates novel (signal-domain maximum likelihood and deep learning) methods for spectral analysis.

Biography: Zai Yang is a Professor of the School of Mathematics and Statistics, Xi'an Jiaotong University, China. He received the B.Sc. degree in mathematics and M.Sc. degree in applied mathematics from Sun Yat-sen (Zhongshan) University, China, in 2007 and 2009 respectively, and the Ph.D degree in electrical and electronic engineering from Nanyang Technological University (NTU), Singapore, in 2014. His research interest is focused on mathematical foundations of signal processing and wireless communications. He has resolved long-standing open problems such as the high-dimensional analog of the Carathéodory-Fejér theorem and the determination of positive definiteness of the Hadamard product of singular positive-semidefinite matrices. He has published over 70 academic papers in top-tier journals and conferences such as IEEE T-IT, IEEE T-SP, ACHA and SIMAX, receiving more than 4400 citations according to Google Scholar. He was a leading tutorial presenter at EUSIPCO 2017. He is an Associate Editor of IEEE Trans. Signal Processing (2023-), a Handling Editor of (Elsevier) Signal Processing (2017-), a member of the Sensor Array and Multichannel (SAM) Technical Committee (TC) of the IEEE Signal Processing Society (2023-2025), and an IEEE senior member (2019-). He was awarded the NSFC Excellent Youth Science Foundation Grant in 2019.



INVITED SPEAKERS



Xiaoyu Tang

Associate Professor

South China Normal University, China

Speech Title: The Research and Application of Low-altitude UAV Multi-source Collaborative Intelligent Systems



Junpeng Shi

Doctor

National University of Defense Technology, China

Speech Title: Generalized Hole-filling Strategy



Yujiang Zhong

Associate Professor

Northwestern Polytechnical University, China

Speech Title: Deception Attack Detection of Multiple UAV Systems using LSTM Technology



Jiang Zhu

Associate Professor

Zhejiang University, China

Speech Title: Generalized NOMP for Line Spectrum Estimation and Detection (LSE&D) from Coarsely Quantized Samples



Min Wu

Associate Professor

Institute of Acoustics, Chinese Academy of Sciences (IACAS), Beijing, China

Speech Title: Sparse Array Design and Parameter Estimation for UUVs



Bin Liao

Full Professor

Shenzhen University, China

Speech Title: Beamforming Design for Dual-Function Radar-Communication System



Beiyuan Liu

Associate Professor

Northwestern Polytechnical University, China

Speech Title: Beam Squint in Phased Array Based Wideband Integrated Sensing and Communication System



Siyuan Cang

Doctor

Southern Marine Science and Engineering Guangdong Laboratory (Guangzhou), China

Speech Title: Robust Detection of Underwater Targets and Seismic Event using Optical Fiber Distributed Acoustic Sensors: Theoretical and Experimental Study



Chaoran Yang

Doctor

Southern Marine Science and Engineering Guangdong Laboratory (Guangzhou), China

Speech Title: High-Precision Localization of Underwater Multi-Static Targets with Optimal Transport Framework



Mantravadi Venkata Subrahmanyam

Professor

Hainan Tropical Ocean University, China

Speech Title: Response of the Acoustic Structure in the Upper Ocean during Hurricane Transit



INVITED SPEAKERS



Mei Sun

Associate Professor
Taishan University, China

Speech Title: Source depth estimation based on mode-energy ratio in shallow water



Mingguang Wang

Doctor
CSSC Systems Engineering Research Institute, China

Speech Title: Robust maximum likelihood estimation method for AVS Linear array DOA estimation in non-uniform noise



Kuan Fan

Doctor
Nanjing University of Information Science and Technology, China

Speech Title: Research on bearing estimation using MIMO sonar with transmission diversity smoothing



Peng Chen

Associate Professor
Chang'an University, China

Speech Title: Research on low-altitude acoustic channel propagation simulation and positioning technology of multi-rotor UAV



Limeng Dong

Associate Professor
Northwestern Polytechnical University, China

Speech Title: Secure Downlink Transmission of Active RIS Aided Cell-Free System Under Imperfect CSI



Lihua Ruan

Research Assistant Professor
Pengcheng Laboratory, China

Speech Title: Leveraging RIS to Assist Communication and Against Passive CSI-based Sensing



Chongwen Huang

Researcher
Zhejiang University, China

Speech Title: Recent results on the RIS-empowered communications and sensing



Wei Liu

Professor
Xidian University, China

Speech Title: Network Slicing for Software-Defined Space-Terrestrial Integrated Networks



Aifei Liu

Associate Professor
Xi'an Jiaotong-Liverpool University, China

Speech Title: Pros and Cons of Deep Neural Networks on Detection of Targets by Sensors Array



Keyi Wang

Doctor
Xidian University, China

Speech Title: Moving Target Detection and Multi-Resolution Imaging Method of Frequency Diverse Array



Zhang Wangfei

Professor
Southwest Forestry University, China

Speech Title: The Application of Gaofen satellites data in Agriculture and Forestry



Dan Zhao

Professor
Aerospace Information Research Institute of the Chinese Academy of Science, China

Speech Title: Remote sensing for forest aboveground biomass - from ground observation to regional spatial-temporal estimation



INVITED SPEAKERS



Xiaojing Chen

Professor

Wenzhou University, China

Speech Title: Non-destructive differentiation of panax species using visible and short-wave near-infrared spectroscopy



Pei Wang

Associate Professor

Southwest University, China

Speech Title: Hyperspectral Detection of Maize Rust Based on Feature Selection and Backpropagation Neural Network



Yu Zhang

Researcher

Xianghu Lab (Zhejiang Province Key Lab, China)

Speech Title: Research and application of crop phenotype analysis technology based on computer vision and artificial intelligence



BIOGRAPHIES OF INVITED SPEAKERS

Xiaoyu Tang

Associate Professor, South China Normal University, China

Speech Title: The Research and Application of Low-altitude UAV Multi-source Collaborative Intelligent Systems

Bio: Tang Xiaoyu, an associate professor at South China Normal University, is the deputy dean of Xingzhi College and founder of the Robotics and IntelliSense Innovation Lab (RIS-LAB). He is also a master's supervisor, IEEE member, and CCF senior member. He obtained a bachelor's degree from the School of Physics at South China Normal University, master's degree from the School of Education at Sun Yat-sen University, respectively, and Ph.D. from the School of Physics at South China Normal University. His research focuses on image processing and intelligent control, artificial intelligence, and educational informatization. He has presided over or participated in 10 projects funded by the National Natural Science Foundation and other organizations and has undertaken over 30 enterprise projects. He has published over 50 papers in domestic and international authoritative journals and conferences, such as IOTJ, JSET, TGRS, TMECH, TIM, SENJ, TALLI, and ICRA. He has also been granted 20 patents. He has guided students in hosting over 10 key provincial projects, such as the Guangdong Province Science and Technology Innovation Special Projects. Under his guidance, students have won over 300 provincial and national awards in authoritative competitions, including the "Challenge Cup" National College Students' Innovation and Entrepreneurship Competition.

Junpeng Shi

Doctor, National University of Defense Technology, China

Speech Title: Generalized Hole-filling Strategy

Bio: The speaker has been awarded as the Military Young Talent, Hu-Xiang Talent, and Excellent Post-doctorate of Hunan province. He has published more than 40 papers as the first/corresponding author in good journals such as IEEE Trans. He is awarded by the First Prize of Natural Science of the Hunan Province and the Second-Class Prize of the Military Scientific and Technological Progress Award. He is also awarded by the Excellent Doctoral Thesis Award of the China Education Society of Electronics, the PLA and Shaanxi Province.

Yujia Zhong

Associate Professor, Northwestern Polytechnical University, China

Speech Title: Deception Attack Detection of Multiple UAV Systems using LSTM Technology

Bio: Yujia Zhong is an associate professor at the School of Cybersecurity, Northwestern Polytechnical University. He received the M.S. and Ph.D. degrees from Northwestern Polytechnical University, Xi'an, Shaanxi, China, in 2014 and 2019. From 2016 to 2018, he was a joint Ph.D. candidate supported by the China Scholarship Council, and did research at Concordia University, Montreal, QC, Canada. He was a Postdoctoral Research Fellow with the Department of Automation, Tsinghua University, Beijing, China (2020-2022). His research interests include fault-tolerant control, network attacks, intelligent control. He has published 20 high-level academic papers and hosted multiple national-level funds and engineering projects. He is currently serving as a reviewer for multiple internationally renowned journals such as IEEE Transactions on Industrial Electronics, IEEE Transactions on Robotics, and Control Engineering Practice, etc.

Jiang Zhu

Associate Professor, Zhejiang University, China

Speech Title: Generalized NOMP for Line Spectrum Estimation and Detection (LSE&D) from Coarsely Quantized Samples

Bio: Jiang Zhu (Senior Member, IEEE) received the B.E. degree in electronic science and technology from Harbin Engineering University, Harbin, China, in 2011, and the Ph.D. degree in information and communication engineering from Tsinghua University, Beijing, China, in 2016. He was a Visiting Student with Lehigh University, Bethlehem, PA, USA, in 2015. He joined the Ocean College, Zhejiang University, Zhoushan, China, in 2016, and is currently an Associate Professor. His current research interests include statistical signal processing, compressed sensing, modulo sampling, generated models, and their applications. Dr. Zhu serves as an Associate Editor for IEEE Transactions on Aerospace and Electronic Systems and the Handling Editor for Digital Signal Processing.



Min Wu

Associate Professor, Institute of Acoustics, Chinese Academy of Sciences (IACAS), Beijing, China

Speech Title: Sparse Array Design and Parameter Estimation for UUVs

Bio: Min Wu (Senior Member, IEEE). Min Wu received her Ph.D. degree from the State Key Laboratory of Radar Signal Processing from Xidian University in 2016. From 2014 to 2015, she held a visiting position with the Electrical Computer Engineering Department, University of Delaware, Delaware, USA. She is now an associate professor at Institute of Acoustics, Chinese Academy of Sciences (IACAS), Beijing, China. Her research interests include sparse array signal processing, parameter estimation and super-resolution imaging. She has published more than 30 SCI/EI papers, including those in highly regarded journals such as the IEEE TIM, IEEE TAES, SPL, etc. She has been granted 10 invention patents. She has been responsible for 7 national and provincial research projects, such as the National Natural Science Foundation and the Naval Special Project.

Bin Liao

Full Professor, Shenzhen University, China

Speech Title: Beamforming Design for Dual-Function Radar-Communication System

Bio: Bin Liao received the B.Eng. and M.Eng. degrees from Xidian University, Xi'an, China, in 2006 and 2009, respectively, and the Ph.D. degree from The University of Hong Kong, Hong Kong, in 2013. He is currently a Full Professor with the College of Electronics and Information Engineering, Shenzhen University, China. His research interests include array signal processing, adaptive filtering, and convex optimization, with applications to radar, navigation, and communications. He is an Associate Editor of IEEE Transactions on Aerospace and Electronic Systems.

Beiyuan Liu

Associate Professor, Northwestern Polytechnical University, China

Speech Title: Beam Squint in Phased Array Based Wideband Integrated Sensing and Communication System

Bio: Beiyuan Liu (Member, IEEE) received the B.Eng. and Ph.D. degrees from the School of Information Science, University of Science and Technology of China (USTC), Hefei, China, in 2015 and 2020, respectively. From 2018 to 2019, he was a Visiting Researcher with The University of British Columbia, Vancouver, BC, Canada. He is currently an Associate Professor with the School of Cybersecurity, Northwestern Polytechnical University (NWPUP), Shaanxi, China. His research interests include wireless communication and signal processing, with particular focus on integrated sensing and communication, wideband MIMO systems, array signal processing and physical layer security. He has published 20 high-level journal/conference papers, including IEEE TWC, JSAC, TIFS and TCOM. He is now a guest editor of special issue of Photonics.

Siyan Cang

Doctor, Southern Marine Science and Engineering Guangdong Laboratory (Guangzhou), China

Speech Title: Robust Detection of Underwater Targets and Seismic Event using Optical Fiber Distributed Acoustic Sensors: Theoretical and Experimental Study

Bio: Dr. Siyan Cang serves as an assistant research fellow in Southern Marine Science and Engineering Guangdong Laboratory (Guangzhou), Guangzhou, China. He received the Ph.D. degree in underwater acoustic engineering from Harbin Engineering University, Harbin, China, in 2021. From 2018 to 2019, he was a visiting research fellow, supervised by Prof. Andreas Jakobsson, in Lund University, Lund, Sweden. His research interests are mainly in sonar signal processing, active and passive detection of underwater targets, data and model-driven statistical signal processing, and distributed acoustic sensing algorithm and system. Dr. Cang was a recipient of the Excellent Paper Award from 2024 IEEE/OES China Ocean Acoustics (COA) and the Best reviewer Award in 7th International Conference on Information Communication and Signal Processing (ICICSP), 2024.



Chaoran Yang

Doctor, Southern Marine Science and Engineering Guangdong Laboratory (Guangzhou), China

Speech Title: High-Precision Localization of Underwater Multi-Static Targets with Optimal Transport Framework

Bio: Dr. Chaoran Yang is currently a postdoctoral researcher at Southern Marine Science and Engineering Guangdong Laboratory (Guangzhou). He received the Ph.D. degree in underwater acoustic engineering from Harbin Engineering University, Harbin, China, in 2025. His research interests include multistatic sonar; multi-target localization; moving target detection, numerical, and experimental methods. He has authored more than 5 peer-reviewed journal and conference papers, primarily as the first author (90% of his publications), in journals such as IEEE Transactions on Instrumentation and Measurement and Remote Sensing. His research has been supported by the National Natural Science Foundation of China (NSFC) for Young Scientists, the China Scholarship Council (CSC) joint project (Lund, Sweden). He has delivered over three presentations at international and domestic conferences, including the IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP) meetings, IEEE Oceans, and the Acoustical Society of China.

Mantravadi Venkata Subrahmanyam

Professor, Hainan Tropical Ocean University, China

Speech Title: Response of the Acoustic Structure in the Upper Ocean during Hurricane Transit

Bio: M.V. Subrahmanyam, obtained his PhD entitled "Role of North Indian Ocean in the advent and performance of monsoon systems as revealed by some radiation and heat flux parameters" from Andhra University, Visakhapatnam, India. He did Post Doctoral research at South China Sea Institute, Chinese Academy of Sciences, Guangzhou and worked on Asian Monsoon. Later he visited University Amazonia and INPA as Visiting Professor and worked on Amazon rainfall in relation to ITCZ. He joined as an Associate Professor and became Distinguished Professor at Zhejiang Ocean University, Zhoushan, Zhejiang. At present, he is Professor, Marine science and technology, Hainan Tropical Ocean University, Sanya, Hainan. His research focus is on Physical Oceanography, Tropical Cyclones, Asian Monsoon, and Climate studies in relation to Air-Sea interaction. He published more than 58 Papers in reputed journals such as Scientific reports, Climate dynamics, Deep sea research etc. He was taking classes for undergraduate and graduate students in the field of Oceanography. He supervised 35 undergraduate and 4 graduate students. He presented his research works at different National and International conferences. He was a keynote speaker and chair for sessions for International conferences.

Mei Sun

Associate Professor, Taishan University, China

Speech Title: Source depth estimation based on mode-energy ratio in shallow water

Bio: Dr. Mei Sun is currently an associate professor at Taishan University. She received her Ph. D. degree in State Key Laboratory of Acoustics, Institute of Acoustics, Chinese Academy of Sciences in 2011. Her research interests are mainly in underwater vector sound field properties and applications, location of underwater targets, and geo-acoustic inversion. Her research has been supported by the Natural Science Foundation of Shandong Province of China, and her research findings have been published in journals including Acta Physica Sinica and Acta Acustica.

Mingguang Wang

Doctor, CSSC Systems Engineering Research Institute, China

Speech Title: Robust maximum likelihood estimation method for AVS Linear array DOA estimation in non-uniform noise

Bio: Dr. Mingguang Wang is currently an engineer at the CSSC Systems Engineering Research Institute. He received his Ph.D. degree in underwater acoustic engineering from Harbin Engineering University, in Harbin, China, in 2025. His research interests include underwater acoustic vector-sensor signal processing, array signal processing, direction of arrival (DOA) estimation, sparse reconstruction, maximum likelihood estimation, and coordinate descent methods. He has authored over 4 peer-reviewed journal papers, published in journals such as the IEEE Sensors Journal. His research has been supported by the National Natural Science Foundation of China (NSFC). He has presented at both international and domestic conferences, including the IEEE International Conference on Electronic Information and Communication Technology (ICEICT) and the OES China Ocean Acoustics (COA).



Kuan Fan

Doctor, Nanjing University of Information Science and Technology, China

Speech Title: Research on bearing estimation using MIMO sonar with transmission diversity smoothing

Bio: Kuan Fan received the B.S. degree, the M.S. degree and the Ph. D. degree in underwater acoustic engineering from Northwestern Polytechnical University (NWPU), Xi'an, China, in 2015, 2017 and 2024, respectively. From september 2025, Kuan Fan will be a lecturer with the School of Electronic and Information Engineering, Nanjing University of Information Science and Technology, Nanjing, China. His research interests include MIMO sonar based high-resolution algorithms, beamforming techniques, imagining methods and ocean channel based MIMO sonar detection methods.

Peng Chen

Associate Professor, Chang'an University, China

Speech Title: Research on low-altitude acoustic channel propagation simulation and positioning technology of multi-rotor UAV

Bio: Peng Chen received the B.S. degree in information countermeasure technology and the Ph. D. degree in underwater acoustic engineering from Northwestern Polytechnical University (NWPU), Xi'an, China, in 2013, and 2019, respectively. From 2019 to 2024, he has worked as a postdoctoral fellow in civil engineering and wireless communication at Chang'an University, Xi'an, China. He is currently an associate professor with the School of Information Engineering, Chang'an University. His research interests include wireless channel modeling, localization, system design, and related topics. He received the Outstanding Doctoral Dissertation Award of Shaanxi Province, and of Chinese society of naval architecture and marine engineers (CSNAME) in 2021. He was honored as the Young Elite Scientists of the Acoustical Society of China (ASA) for his contribution in air-to-ground acoustic channel modeling and localization in 2024.

Limeng Dong

Associate Professor, Northwestern Polytechnical University, China

Speech Title: Secure Downlink Transmission of Active RIS Aided Cell-Free System Under Imperfect CSI

Bio: Limeng Dong received his bachelor, master as well as Ph.D degree in 2012, 2015, 2019 respectively, from the School of Electronics and Information, Northwestern Polytechnical University, Xi'an, Shaanxi, 710072, China. During 2015 to 2017, he was once a visiting Ph.D student at the School of Electrical Engineering and Computer Science, University of Ottawa, Canada. During 2019 to 2021, he was a postdoctoral researcher in the Ministry of Education Key Lab for Intelligent Networks and Network Security, School of Information and Communications Engineering, Xi'an Jiaotong University, Xi'an, Shaanxi, 710049, China. He is now an associate professor in School of Electronics and Information, Northwestern Polytechnical University. His research interests include physical layer security of MISO, MIMO, cognitive radio, cellfree communications and reconfigurable intelligent surface aided wireless communications. He was selected for the top 2% of global scientists list released by Elsevier and Stanford University in 2024.

Lihua Ruan

Research Assistant Professor, Pengcheng Laboratory, China

Speech Title: Leveraging RIS to Assist Communication and Against Passive CSI-based Sensing

Bio: Lihua Ruan received M.S degree from Northwestern Polytechnical University, Xi'an, China, in 2015, and Ph.D. degree from the University of Melbourne (UoM), Australia, in 2020. She was the recipient of UoM 2020 John Melvin Memorial Prize – Best PhD Thesis in Engineering & IT and 2018 John Collier Scholarship. She was a Visiting Student at the Massachusetts Institute of Technology (MIT), USA, in Mar and April, 2019. From 2020 to 2022, she was a Postdoctoral Fellow at the Chinese University of Hong Kong, Shenzhen. Currently, she is a research assistant professor at Pengcheng Laboratory. Lihua Ruan is interested in optical communication and networks, ML-enhanced optical access networks, low-latency applications and Tactile Internet, reconfigurable intelligent surface (RIS) and integrated sensing and communications (ISAC), privacy and security in ISAC. She has authored and co-authored more than 50 publications. She has served as a TPC member of 2024 - 2026 Optical Fiber Communications Conference and Exhibition (OFC), 2021 IEEE International Conference on Communications (ICC) and Asia Communications and Photonics Conference (ACP), and co-chaired 2022 IEEE NetSoft Edge Network Softwarization Workshop. She was an invited speaker for 2023 - 2025 International Conference on Optical Communications and Networks (ICOON), 2024 Opto-Electronics and Communications Conference (OECC) and 2024 IEEE PCJS Young Professional Talk.



Chongwen Huang

Researcher, Zhejiang University, China

Speech Title: Recent results on the RIS-empowered communications and sensing

Bio: Chongwen Huang, obtained his B. Sc. degree in 2010 from Nankai University, and the M.Sc degree from the University of Electronic Science and Technology of China in 2013, and PhD degree from Singapore University of Technology and Design (SUTD) in 2019. From Oct. 2019 to Sep. 2020, he is a Postdoc in SUTD. Since Sep. 2020, he joined into Zhejiang University as a tenure-track young professor. Dr. Huang is the recipient of 2021 IEEE Marconi Prize Paper Award, 2023 IEEE Fred W. Ellersick Prize Paper Award and 2021 IEEE ComSoc Asia-Pacific Outstanding Young Researcher Award. He has served as an Editor of IEEE Communications Letter, Elsevier Signal Processing, EURASIP Journal on Wireless Communications and Networking and Physical Communication since 2021. His main research interests are focused on Holographic MIMO Surface/Reconfigurable Intelligent Surface, B5G/6G Wireless Communications, mmWave/THz Communications, Deep Learning technologies for Wireless communications, etc.

Wei Liu

Professor, Xidian University, China

Speech Title: Network Slicing for Software-Defined Space-Terrestrial Integrated Networks

Bio: Wei Liu received the B.E. degree from the University of Electronic Science and Technology of China, Chengdu, China, in 1999, the M.E. degree from Xidian University, Xi'an, China, in 2003, and the Ph.D. degree from the University of Southampton, U.K. Since 2007, he has been with the School of Telecommunications Engineering, Xidian University, where he is currently a Professor. With extensive research experience in wireless communications, his research interests on MIMO communication systems, interference management, joint communication, and computation and caching. He has published over 50 papers, leading multiple government-funded and industry-sponsored research projects, obtaining 30 authorized patents and 1 registered software copyright, as well as contributing to the development of the group standard "Information Technology - Terminology for Unmanned Clusters." He is a recipient of the First Prize of Shaanxi Higher Education Institutions Outstanding Scientific Research Achievement Award, Huawei Spark Award, First Prize of Shaanxi Provincial Science and Technology Award, and First Prize of the 2nd Shaanxi Provincial Graduate Innovation Achievement Exhibition.

Aifei Liu

Associate Professor, Xi'an Jiaotong-Liverpool University, China

Speech Title: Pros and Cons of Deep Neural Networks on Detection of Targets by Sensors Array

Bio: Dr Liu received her PhD in June 2012, from the School of Electronic Engineering, Xi'dian University, China. She worked on array signal processing as her PhD dissertation topic, aiming to develop robust direction of arrival (DOA) estimation methods in the presence of array imperfections. From Feb 2013 to June 2017, she worked as a Research Fellow at the School of Electrical and Electronic Engineering, Nanyang Technological University (NTU). She was engaged in two projects relevant to joint temporal-spatial target detection by airborne radar and radar co-existence with communications. From Aug 2017 to Dec 2021, she worked as an Associate Professor at the College of Underwater Acoustic Engineering, Harbin Engineering University (HEU). Her research focus was developing robust and accurate target detection methods for underwater vector sensor arrays. From Jan 2021 to Feb 2025, after she joined the School of Software at Northwestern Polytechnical University (NPU), she expanded her research from traditional signal processing theory to deep neural networks (DNN) and developed several DNN models by integrating the knowledge of array signal processing into the DNN models. Her research interests are the DNN theory and signal processing theory and their applications on radar, sonar, and communications, and applying these theories in other applications such as anomaly detection in different events.



Keyi Wang

Doctor, Xidian University, China

Speech Title: Moving Target Detection and Multi-Resolution Imaging Method of Frequency Diverse Array

Bio: Keyi Wang was born in Henan, China, in 1998. She received the B.S. degree in electronic informationscience and technology from Shaanxi Normal University, Xi'an, China, in 2019. She is currently pursuing thePh.D. degree with the National Key Laboratory of Radar Signal Processing, Xidian University, Xi'an.Her research interests include clutter suppression and high-resolution SAR imaging of frequency diversearray (FDA) radar. She has published 4 SCI papers in journals including IEEE TGRS, TAES, and SP. Shereceived the Best Presentation Award at ICICSP 2022 and the Outstanding Presentation Award at theNational Doctoral Forum of Information and Communication Engineering 2023. She has been served as thereviewer of IEEE journals including TAES, TVT, GRSL, and WCL.

Zhang Wangfei

Professor, Southwest Forestry University, China

Speech Title: The Application of Gaofen satellites data in Agriculture and Forestry

Bio: Dr Wangfei Zhang (ORCID: 0000-0002-2147-5246) is currently a professor at Southwest Forestry University, She received both the B.S. degree in Land Resource Management and the M.S. degree in Cartography and Geography Information System from Wuhan University, Wuhan, China, in 2001 and 2004, respectively, and the Ph.D. degree in Geophysical Prospecting and Information Technology from Kunming University of Science and Technology, Kunming, China, in 2011. She was a Post-Doctoral Researcher at Institute of Forest Resources Information Technique, Chinese Academy of Forestry, Beijing, China. From 2023 to 2024, She worked as a visiting scholar at Earth and Planetary Observation in University of Stirling, Stirling, UK; From 2014 to 2015, She worked as a visiting scholar at remote sensing group in University of Victoria and Pacific Forestry Centre, Victoria, Canada. In 2004, she joined the College of Forestry, Southwest Forestry University, Kunming, China, where she is a PhD student supervisor currently. She has co-authored more than 100 papers in referred journals or presentations in international conferences and symposia. Her research interests include microwave remote sensing for inversion of crop and forest biophysical parameters, polarimetric and interferometric techniques and numerical models of vegetation microwave scattering problems.

Dan Zhao

Professor, Aerospace Information Research Institute of the Chinese Academy of Science, China

Speech Title: Remote sensing for forest aboveground biomass - from ground observation to regional spatial-temporal estimation

Bio: Dan Zhao is a professor at the Aerospace Information Research Institute of the Chinese Academy of Science and has received funding from the National Key Research and Development Programme's Young Scientist Project. His research focuses on remote sensing for aboveground biomass. He has proposed a new approach to monitoring aboveground biomass using the 'density × volume' method and has developed key technologies for non-destructive, ground-based observation, as well as spatiotemporally continuous, regional monitoring of aboveground biomass in forests and grasslands. He has also created a remote sensing-based estimation dataset for aboveground biomass at a national scale from 2000 to 2020. These efforts have provided technical support for the high-quality development of the forestry and grassland industries.

Xiaojing Chen

Professor, Wenzhou University, China

Speech Title: Non-destructive differentiation of panax species using visible and short-wave near-infrared spectroscopy

Bio: Chen Xiaojing, Ph.D., is a Professor and Doctoral Supervisor serving as the Deputy Dean of the School of Electrical and Electronics at Wenzhou University. His primary research focuses on optoelectronic information processing and detection. He has led four national-level projects and over ten provincial/ministerial-level projects. Supported by various national and provincial research programs, he has conducted in-depth and systematic studies on optoelectronic information processing and detection models. As the first or corresponding author, he has published more than 30 SCI papers in Q1 and Q2 journals in related fields, including Sensors and Actuators, Analytica Chimica Acta, Food Chemistry, Knowledge-Based Systems, and Chemometrics and Intelligent Laboratory Systems. His research achievements have been



honored with awards such as the China Patent Award and the Science and Technology Progress Award from the China Instrument and Control Society.

Pei Wang

Associate Professor, Southwest University, China

Speech Title: Hyperspectral Detection of Maize Rust Based on Feature Selection and Backpropagation Neural Network

Bio: Dr. Pei Wang is an Associate Professor at the College of Engineering and Technology, Southwest University, and a Reserve Candidate for the Fourth Batch of Chongqing Academic and Technical Leaders. Holding Bachelor's, Master's, and Ph.D. degrees from China Agricultural University and the University of Hohenheim, Germany, his research spans plant protection machinery and application technology, pest/disease identification and early warning systems, and precision weeding equipment development. Actively engaged in the academic community, he serves as a working group expert for the ISO/TC23/SC6 Committee on Plant Protection Equipment, Associate Editor for Frontiers in Plant Science, and Discipline Associate Editor for Smart Agriculture at Frontiers of Agricultural Science and Engineering (Journal of the Chinese Academy of Engineering). Dr. Wang has been recognized internationally as a recipient of the European Conference on Precision Agriculture's "Young Scientist Grant" for his contributions to the field.

Yu Zhang

Researcher, Xianghu Lab (Zhejiang Province Key Lab, China)

Speech Title: Research and application of crop phenotype analysis technology based on computer vision and artificial intelligence

Bio: Yu Zhang is currently serving as a researcher at Xianghu Lab(Zhejiang Province Key Lab, China) and also serving as chief Scientist of Institute of Smart Agriculture, Zhejiang TOP Cloud-agri. Before returning to China, he studied or worked at the well-known Japanese universities and research institutions such as Waseda University, University of Tokyo, Chiba University, and NARO, Japan. He obtained bachelor's, master's, and doctoral degrees from Nankai University, Waseda University, and the University of Tokyo, respectively. His research areas involve sensing systems, remote sensing monitoring, artificial intelligence, and agricultural robots. After returning to China, his research achievements have won the "CISILE 2024 China Independent Innovation Gold Award", the top 50 high-value application programs of 2023 National Artificial Intelligence Innovation Application Competition of the Ministry of Science and Technology, and the sixth China International Internet plus Innovation Application Competition of the Ministry of Education won the national bronze award, and other awards or honors.



SPECIAL SESSION 1

Saturday, September 13, 2025

13:30-15:10

8C 会议室 Room 8C

Special Session 1: Acoustic Measurement and Signal Processing of Aircraft and Their Equipment

Chair: Prof. Chuan-Xing Bi, Hefei University of Technology, China; Dr. Jun Zhang, Northwestern Polytechnical University, China

Time	Paper ID	Speech Title & Presenter
13:30-13:50	Invited Talk	The Research and Application of Low-altitude UAV Multi-source Collaborative Intelligent Systems Assoc. Prof. Xiaoyu Tang, South China Normal University, China
13:50-14:00	CP049	Error Analysis and Correction Methods for TDOA Based Sound Source Localization <i>Jianhao Zhu, University of Electronic Science and Technology of China, China</i>
14:00-14:10	CP073	Spatio-Temporal Signal Recovery via Low-Rankness and Smoothness of Difference Features <i>Kaijie Wang, Xi'an Jiaotong University, China</i>
14:10-14:20	CP103	A Hybrid BR-BRR-Based Solver Combining Closed-Form and Harris Hawks Optimization Under Source Motion Effects <i>Liqing Zhang, Chang'an University, China</i>
14:20-14:30	CP098	Identification of multiple sound sources using GMUSIC <i>Jianing Li, Beihang university, China</i>
14:30-14:40	CP1-01	Fused Bayesian Inference Against Sound Field Reconstruction Using The Structured Prior Model <i>Fengmin Zhang, Donghai Laboratory, China</i>
14:40-14:50	CP1-02	A Depth-Wise Convolutional Attention Neural Network for Rotating Acoustic Imaging <i>Zhi Ling, Anhui University, China</i>
14:50-15:00	CP1-03	Research on Shear Layer Correction Models and Sparse Sampling Optimization Methods for Acoustic Beamforming <i>Haoyu Hu, China Jiliang University, China</i>
15:00-15:10	CP1-04	An end-to-end acoustic scene classification framework using dual-stage feature extractor <i>Weizhe Zheng, Northwestern Polytechnical University, China</i>



SPECIAL SESSION 2

Saturday, September 13, 2025

13:30-15:50, 16:10-18:20

多功能厅 Multi-Function Hall

Special Session 2: Advanced Array Antenna Design and Signal Processing Techniques

Chair: Prof. Jingwei Xu, Xidian University, China; Assoc Prof. Long Chen, Northwestern Polytechnical University, China; Assoc. Prof. Weize Sun, Shenzhen University, China; Assoc. Prof. Yanhong Xu, Xi'an University of Science and Technology, China

Time	Paper ID	Speech Title & Presenter
13:30-13:50	Invited Talk	<i>Generalized Hole-filling Strategy</i> Dr. Junpeng Shi, National University of Defense Technology, China
13:50-14:10	Invited Talk	<i>Deception Attack Detection of Multiple UAV Systems using LSTM Technology</i> Assoc. Prof. Yujiang Zhong, Northwestern Polytechnical University, China
14:10-14:30	Invited Talk	<i>Generalized NOMP for Line Spectrum Estimation and Detection (LSE&D) from Coarsely Quantized Samples</i> Assoc. Prof. Jiang Zhu, Zhejiang University, China
14:30-14:40	CP013	A Signal-Level Fusion Mainlobe Interference Suppression Method for Distributed Multi-Static Radar Systems <i>Chang Xiao, Xidian University, China</i>
14:40-14:50	CP063	Ground Clutter Suppression Method for Space-Based Calibration of Spaceborne SAR <i>Zhicheng Zhang, Shenzhen University, China</i>
14:50-15:00	CP086	A Novel Joint Parameters Estimation Method for Polarization Sensitive Array with Gain-Phase Error <i>Wenhao Liu, Hainan University, China</i>
15:00-15:10	CP089	Robust Source Enumeration for Radar Echo Signals Using Density-Based Spatial Clustering <i>Siqi Wang, Shenzhen University, China</i>
15:10-15:20	CP093	Grating Lobe Clutter Suppression for Spaceborne Radar via Subarray Pattern Synthesis <i>Fuhai Wan, Xidian University, China</i>
15:20-15:30	CP097	Clutter Suppression in Through-the-Wall Radar Based on Low-Rank and Sparse <i>Minhui Chen, Wuhan Institute of Technology, China</i>
15:30-15:40	CP100	Coherent Source Parameters Estimation Based on EMVS Array <i>Jingxiang Zhang, Hainan University, China</i>
15:40-15:50	CP108	A Deep Learning-based Surrogate Model for Fast Generation of Millimeter-Wave Radar Signatures from UAV Models <i>Qian Zhang, Xidian University, China</i>



Break Time ~ 16:10

Time	Paper ID	Speech Title & Presenter
16:10-16:30	Invited Talk	Sparse Array Design and Parameter Estimation for UUVs Assoc. Prof. Min Wu, Institute of Acoustics, Chinese Academy of Sciences (IACAS), Beijing, China
16:30-16:50	Invited Talk	Beamforming Design for Dual-Function Radar-Communication System Prof. Bin Liao, Shenzhen University, China
16:50-17:10	Invited Talk	Beam Squint in Phased Array Based Wideband Integrated Sensing and Communication System Assoc. Prof. Beiyuan Liu, Northwestern Polytechnical University, China
17:10-17:20	CP142	One-bit Circular Synthetic Aperture Radar Using Wideband Time-Varying Threshold <i>Daiyan Wu, Shenzhen University, China</i>
17:20-17:30	CP148	SAR Radiometric Calibration Based on Segmented Single-Frequency Threshold One-Bit Receiver <i>Yuhan Cai, Shenzhen University, China</i>
17:30-17:40	CP201	Target Concealing : An Effective Way to Resist SAR Reconnaissance <i>Shiqi Liu, Shenzhen University, China</i>
17:40-17:50	CP202	A Mainlobe Jamming Suppression Algorithm Based on Source Separation and Identification <i>Ruixing Yang, Xidian University, China</i>
17:50-18:00	CP135	Adaptive Deep Sequential Fusion with Sequential Filtering Method for Multi-Radar Target Tracking <i>Yumeng Wang, China Mobile Group Shaanxi Company Limited, China</i>
18:00-18:10	CP138	Movement Strategies for Augmented Coprime Arrays: Extending Virtual Aperture for Non-Circular Signal DOA Estimation <i>Fang Niu, Dingxi Power Supply Company of State Grid Gansu Electric Power Company, China</i>
18:10-18:20	CP017	Robust DOA Estimation via Alternating Sparse Covariance Recovery and Adaptive Grid Correction <i>Yanan Wu, Ocean University of China, China</i>



SPECIAL SESSION 3

Saturday, September 13, 2025

13:30-16:10, 16:10-18:30

国际会议厅 Intl. Conference Hall

Special Session 3: Underwater Acoustics, Ocean Exploration, and Artificial Intelligence

Chair: Assoc. Prof. Wen Zhang, National University of Defense Technology, China; Assoc. Prof. Yanqun Wu, National University of Defense Technology, China; Dr. Siyuan Cang, Southern Marine Science and Engineering Guangdong Laboratory (Guangzhou), China

Time	Paper ID	Speech Title & Presenter
13:30-13:50	Invited Talk	Robust Detection of Underwater Targets and Seismic Event using Optical Fiber Distributed Acoustic Sensors: Theoretical and Experimental Study Dr. Siyuan Cang, Southern Marine Science and Engineering Guangdong Laboratory (Guangzhou), China
13:50-14:10	Invited Talk	High-Precision Localization of Underwater Multi-Static Targets with Optimal Transport Framework Dr. Chaoran Yang, Southern Marine Science and Engineering Guangdong Laboratory (Guangzhou), China
14:10-14:30	Invited Talk	Response of the Acoustic Structure in the Upper Ocean during Hurricane Transit Prof. Mantravadi Venkata Subrahmanyam, Hainan Tropical Ocean University, China
14:30-14:40	CP002	Vibration characteristics analysis of AUV propulsion shafting with coupling fault of imbalance and support loosening <i>Sen Xu, Zhengzhou University of Light Industry, China</i>
14:40-14:50	CP062	A High-Efficiency Underwater Acoustic Communication Transmission Protocol for Deep-Sea Image Acquisition <i>Ruijie Shen, Zhejiang University, China</i>
14:50-15:00	CP076	An Approach for Underwater Acoustic Channel Estimation Based on Newtonized Orthogonal Matching Pursuit <i>Rong Wang, Zhejiang University, China</i>
15:00-15:10	CP084	VAMP-based Frequency–Time Domain Decision-Feedback Equalization in Underwater Acoustic <i>Yuhan Zhang, Zhejiang University, China</i>
15:10-15:20	CP092	DOA Estimation Based on Fractional Fourier Transform Using Wideband Linear Chirps with Experimental Data <i>Shuo Liu, College of Meteorology and Oceanography, National University of Defense Technology, China</i>
15:20-15:30	CP120	Research on low-noise amplification circuit for the front-end of nanovolt-level weak signal in disposable ocean current profiler <i>Yuanxi Zhao, Harbin Engineering University, China</i>
15:30-15:40	CP121	Method on High-Gain Detection of Moving Targets on the sea surface <i>Yang Jiayuan, Hangzhou Applied Acoustics Research Institute, China</i>
15:40-15:50	CP122	Research on resonance-based high sensitivity seawater conductivity sensor <i>Zibo Lu, Harbin Engineering University, China</i>



15:50-16:00	CP123	DualPathUNet: Cross-Domain Fusion Network for Forward Looking Sonar Images Denoising <i>Yuezhe Tian, Harbin Engineering University, China</i>
16:00-16:10	CP128	Research on Focused Beamforming Localization of Seabed Horizontal Arrays Under Multipath Conditions <i>Yuanzhe Wang, Hangzhou Applied Acoustics Research Institute, China</i>

Continued

Time	Paper ID	Speech Title & Presenter
16:10-16:30	Invited Talk	Source depth estimation based on mode-energy ratio in shallow water Assoc. Prof. Mei Sun, Taishan University, China
16:30-16:50	Invited Talk	Robust maximum likelihood estimation method for AVS Linear array DOA estimation in non-uniform noise Dr. Mingguang Wang, CSSC Systems Engineering Research Institute, China
16:50-17:00	CP301	A novel method of efficient water flow detection across ice layers <i>Bingtao Wei, Harbin Engineering University, China</i>
17:00-17:10	CP302	Design of Branching Unit for Smart Cable Systems <i>Yiwen Diao, Zhejiang University, China</i>
17:10-17:20	CP306	Energy property of particle velocity in shallow water and its application <i>Mei Sun, Taishan University, China</i>
17:20-17:30	CP308	Seafloor distributed acoustic sensing for acoustic recordings and propagation observation in shallow sea <i>Weiguang Xing, Hainan Acoustics Laboratory, Institute of Acoustics, Chinese Academy of Sciences, Haikou, China</i>
17:30-17:40	CP310	Research on UUV Route Planning Based on Improved A* Algorithm <i>LI HUA, Science & Technology on Underwater Acoustic Antagonizing Laboratory, Zhanjiang, China</i>
17:40-17:50	CP311	Direction-of-Arrival Estimation Algorithm for Single Vector Hydrophone Based on Signal-Adaptive Detection in Polar Environment <i>Kejing Sun, Harbin Engineering University, Harbin, China</i>
17:50-18:00	CP313	Fuzzy Support Vector Machine Design for Tolerant Underwater Acoustic Environments <i>Shaoliang Guo, Yichang Testing Technique R&D Institute Yichang, China</i>
18:00-18:10	CP314	Surface and Underwater Target Recognition in Mismatched Marine Environments Using Machine Learning <i>Qiankun Yu, National University of Defense Technology, China</i>
18:10-18:20	CP315	Direction Tracking of Underwater Acoustic Target Based on FitNet Algorithm <i>Zikun Meng, National University of Defense Technology, China</i>
18:20-18:30	CP316	Research on Underwater Acoustic Positioning with Integrated Doppler Estimation and Joint Adjustment with Baseline Constraints <i>Yushuang ZHAI, Institute of Acoustics, Chinese Academy of Sciences; Jiaxing Acousnet Technology Corporation Limited, China</i>



Saturday, September 13, 2025

16:10-17:10

第一会议室 Room 1

Special Session 3: Underwater Acoustics, Ocean Exploration, and Artificial Intelligence

Chair: Prof. Mantravadi Venkata Subrahmanyam, Hainan Tropical Ocean University, China

Time	Paper ID	Speech Title & Presenter
16:10-16:20	CP317	Hierarchical Noise Modeling in Variational Bayesian DOA Estimation for Passive Sonar <i>Ounan Zhao, Hangzhou Applied Acoustics Research Institute, China</i>
16:20-16:30	CP319	Machine Learning-Based Approach for Single-Hydrophone Broadband Source Localization in Shallow Water Environment <i>Yan Liu, National University of Defense Technology, China</i>
16:30-16:40	CP320	A Robust Technique for Joint Parameter Estimation with Integrated Communication and Measurement in Time-Varying Underwater Acoustic Channels <i>Jie Wu, The Southern Marine Science and Engineering Guangdong Laboratory (Guangzhou), China</i>
16:40-16:50	CP321	Spatiotemporal Ocean Data Reconstruction Based on Deep Unfolding Networks <i>Yuhan Wang, National University of Defense Technology, China</i>
16:50-17:00	CP318	Unsupervised Spatial Clustering of Seismic Signals using Underwater Distributed Optical Fiber Sensors <i>Yinhua Liang, Southern Marine Science and Engineering Guangdong Laboratory (Guangzhou), Guangzhou 511458, China & South China Normal University, China</i>
17:00-17:10	CP322	An Enhanced Underwater Target Detection Algorithm using a Vector Cross-Trispectrum Diagonal Slice in BeamSpace <i>Weixuan Zhang, National University of Defense Technology, China</i>



SPECIAL SESSION 4

Saturday, September 13, 2025
13:30-16:00

第一会议室 Room 1

Special Session 4: Target Detection, Estimation, Classification and Tracking

Chair: Assoc. Prof. Lu Wang, Northwestern Polytechnical University, China; Dr. Mengling Yu, Northwestern Polytechnical University, China

Time	Paper ID	Speech Title & Presenter
13:30-13:50	Invited Talk	Research on low-altitude acoustic channel propagation simulation and positioning technology of multi-rotor UAV Assoc. Prof. Peng Chen, Chang'an University, China
13:50-14:10	Invited Talk	Research on bearing estimation using MIMO sonar with transmission diversity smoothing Dr. Kuan Fan, Nanjing University of Information Science and Technology, China
14:10-14:20	CP012	Preliminary Study on Arctic Under-Ice Signal Detection Based on Fractional Lower order Moments <i>Fei Huang, Third Institute of Oceanography, Ministry of Natural Resources, China</i>
14:20-14:30	CP040	An Efficient Joint Synchronization and Localization Method for Underwater Acoustic Communication Network with Limited Communication Resources <i>Rui Wan, Southeast University, China</i>
14:30-14:40	CP151	Structure Noise Robust Joint Channel Estimation and Equalization via Dual-Path Diffusion Models in Mud Pulse Telemetry <i>Yanbing Fu, Zhejiang University, China</i>
14:40-14:50	CP401	A Node Position Optimization Method for Signal Enhancement in Distributed Arrays <i>Jiawei Wang, Institute of Acoustics, Chinese Academy of Sciences, University of Chinese Academy of Sciences, Beijing, China</i>
14:50-15:00	CP404	Frequency-domain robust underwater direction-of-arrival tracking <i>Boxuan Zhang, The 705 Research Institute, China State Shipbuilding Corporation Limited, China</i>
15:00-15:10	CP406	Source Depth Discrimination Based on Matched Beam Processing in the Presence of ISWs <i>Ziyu Zhang, Northwestern Polytechnical University, China</i>
15:10-15:20	CP409	Waveform Design for Underwater MIMO-OFDM Based Joint Detection and Communication System <i>Weilin Zang, Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences, China</i>
15:20-15:30	CP410	Doppler Radar Tracking Method Based on Velocity Modulus State Variables <i>Du Yangfan, Kunming University of Science and Technology, China</i>
15:30-15:40	CP411	Transformer-Based Bispectral Fusion: Enhancing UCA DOA Estimation in Low SNR <i>Guiyu Zhang, Institute of Acoustics, Chinese Academy of Sciences, China</i>
15:40-15:50	CP412	Truncated moments-based outlier-robust parameter estimation method for K-distributed sea clutter <i>Kun Zhang, Donghai Laboratory, Zhoushan, China</i>
15:50-16:00	CP413	An Acoustic Signal Line Spectrum Enhancement Method Based on Target Motion Decoupling <i>Nannan Zhang, Dalian Scientific Test and Control Technology Institute, China</i>



SPECIAL SESSION 5

Saturday, September 13, 2025
16:10-17:10

第二会议室 Room 2

Special Session 5: Sparse Representation and Deep Learning for Mechanical Fault Diagnosis

Chair: Assoc. Prof. Han Zhang, Chang'an University, China

Time	Paper ID	Speech Title & Presenter
16:10-16:20	CP504	Hyper-parameter Learning Network for Fault Source Localization of Rotating Machinery <i>Han Zhang, Chang'an University, China</i>
16:20-16:30	CP505	Non-convex Sparse Deconvolution Beamforming for Robust High-Resolution DOA Estimation <i>YaJie Zhao, Chang'an University, China</i>
16:30-16:40	CP074	Rail Corrugation Feature Extraction Method Based on Acoustic-Vibration Cross-Spectral Fusion <i>Yun Liao, University of Science and Technology Beijing, China</i>
16:40-16:50	CP153	Semi-supervised learning Framework for Track Initiation via Support Vector Machine <i>Bai Yang, Nanjing Glarun Defense System Co., Ltd., China</i>
16:50-17:00	CP106	Accurate Estimation Method of Vibration Signal based on Master-Slave Filtering with Double Colored Noise <i>Chenglong Yu, Harbin Institute of Technology, China</i>
17:00-17:10	CP107	Signal-driven System Identification and Model Predictive Control for Multi-DOF Micro-vibration Isolation Platforms <i>Tianyi Li, Harbin Institute of Technology, China</i>



SPECIAL SESSION 6

Saturday, September 13, 2025

13:30-15:20

第二会议室 Room 2

Special Session 6: IoT, AI Methods, and Applications in Semantic Communication, Signal Processing of Image Recognition, Health Diagnosis for UAV, Satellite Communication, Power System, Medical Crossover

Chair: Assoc. Prof. Haitao Xiao, Xi'an Jiaotong University, China; Dr. Yutian Wu, University of Science and Technology Beijing, China

Time	Paper ID	Speech Title & Presenter
13:30-13:40	CP054	Cross-Domain Few-Shot Object Detection via Multimodal Prompts <i>Yujie Dun, Xi'an Jiaotong University, China</i>
13:40-13:50	CP090	A Gridless DOA Estimation Method Based on the Spatial Partitioning and Deep-Learning Network <i>Chuang Chen, Xi'an Jiaotong University, China</i>
13:50-14:00	CP114	An Improved Two-Stage Mixed Source Localization Algorithm in the Presence of Unknown Mutual Coupling <i>Chen Keyu, Xi'an Jiaotong University, China</i>
14:00-14:10	CP130	GumAgent: Towards an Accessible Gum Disease Detection Tool Leveraging Vision Language Model <i>Richard Tai-Chiu Hsung, Hong Kong Chu Hai College, China</i>
14:10-14:20	CP131	On Supervised Fine-tuning of Large Language Model for IELTS Writing Assessment System <i>Jin-Yang Li, Hong Kong Chu Hai College, China</i>
14:20-14:30	CP136	A Federated Learning-Enabled CNN-Transformer Hybrid Approach for Semantic Communications <i>Chengxu Zhou, Xi'an Jiaotong University, China</i>
14:30-14:40	CP141	UAV Path Planning Optimization Based on Extended Kalman Filter <i>Chenxi Wang, Xi'an Jiaotong University, China</i>
14:40-14:50	CP601	Design of Adaptive Model Predictive Control based on Reinforcement Learning with Dynamic Damping <i>Guo Wanqi, Waseda University IPS, Japan</i>
14:50-15:00	CP603	Edge-Oriented Person Activity Recognition and Alert System for Ensuring Safety of Independent Elderly at Home <i>Yichen Wang, Waseda University, Japan</i>
15:00-15:10	CP604	Enhanced Snow Weather 3D Object Detection with Data Augmentation and Multi-stage Coarse-to-fine Regression <i>Wenwei Sun, University of Science and Technology Beijing, China</i>
15:10-15:20	CP605	Data Augmentation Methods for Point Cloud Object Detection <i>Sifan Mei, University of Science and Technology Beijing, China</i>



SPECIAL SESSION 7

Saturday, September 13, 2025

13:30-14:50

第三会议室 Room 3

Special Session 7: Advanced Digital Signal Analysis in Healthcare: Innovations and Interdisciplinary Applications

Chair: Assoc. Prof. Menghan Hu, East China Normal University, China; Dr. Jingzhen Guo, Shanghai University of Medicine and Health Sciences, China

Time	Paper ID	Speech Title & Presenter
13:30-13:40	CP701	Deep neural network-based Analysis between LDH and Healthy Individuals <i>Sixu Tao, East China Normal University, China</i>
13:40-13:50	CP702-A	Large Language Models in Healthcare: Applications and Practical Challenges <i>Huijie Zhang, Shanghai University of Medicine and Health Sciences, China</i>
13:50-14:00	CP705-A	Application of an SMA-Driven Multimodal Perception Dexterous Hand System in Medicine <i>Haolong Zhao, Shanghai University of Medicine and Health Sciences, China</i>
14:00-14:10	CP048	Electrical Impedance Tomography Signal Denoising via Low-rank Matrix Recovery <i>Jia-Xin Chen, Shenzhen University, China</i>
14:10-14:20	CP077	Terahertz non-invasive blood glucose detection method based on attenuated total reflection spectroscopy <i>Tianyu Song, Beijing Research and Development Center, the 54th Research Institute of China Electronics Technology Group Corporation (CETC 54) Beijing, China</i>
14:20-14:30	CP111	Inter-Patient ECG Classification Using RR Ratio Features and Adaptive Focal Loss with MobileNetV3 <i>Li Zexian, Beijing University of Chemical Technology, China</i>
14:30-14:40	CP119	TS-GraphNet: Fusing ECG, PPG, and EHR via Temporal-Spatial Graphs for Cardiogenic Shock Prediction <i>Victor Adeyi Odeh, University of Electronic Science and Technology of China, China</i>
14:40-14:50	CP019	A Falsetto Detection Algorithm for Enhancing Voice Gender Recognition <i>Ronald Mo, University of Sunderland, UK</i>



SPECIAL SESSION 9

Saturday, September 13, 2025

16:10-17:20

第三会议室 Room 3

Special Session 9: Sensors and Integrated Circuits

Chair: Dr. Min Xue, Chang'an University, China; Assoc. Prof. Qieshi Zhang, Shenzhen Institutes of Advanced Technology (SIAT), China; Prof. Jing Ji, Xidian University, China

Time	Paper ID	Speech Title & Presenter
16:10-16:20	CP051	Optimizing Silicon-Based Anodes: The Role of Silicon-to-Carbon Ratio in the Electrochemical Performance of Si/Expanded Graphite Composites <i>Zibing Wang, Department of Materials and Energy, Guangdong University of Technology, Guangzhou, China</i>
16:20-16:30	CP901	Enhancing Spikeformer Interacting with Spatio-Temporal Attention for Accurate Human Action Recognition <i>Zefeng Chen, Dongguan University of Technology, China</i>
16:30-16:40	CP902	Pure spike hybrid neural network for action recognition <i>Yan Chen, Dongguan University of Technology, China</i>
16:40-16:50	CP903	Impact of Hermetic Packaging Atmosphere on Quartz Tuning Fork Resonator Performance <i>Bodi Zhao, Xidian University, China</i>
16:50-17:00	CP904	Transformer-Based Three-dimensional strain prediction <i>Mengnan Gao, Xidian University, China</i>
17:00-17:10	CP905	Optimization of New Quasi-Gaussian Electrode Structures for Quartz Crystal Resonators <i>Boyan Li, Xidian University, China</i>
17:10-17:20	CP906	Optimization of Rectangular Dot Ring Electrode Structures for Achieving Uniform QCM Vibration Displacement <i>Qiuming Wang, Xidian University, China</i>



SPECIAL SESSION 10

Saturday, September 13, 2025

13:30-15:50

第四会议室 Room 4

Special Session 10: Advanced Wireless Physical Layer Security Communications for 6G and Beyond

Chair: Assoc. Prof. Limeng Dong, Northwestern Polytechnical University, China

Time	Paper ID	Speech Title & Presenter
13:30-13:50	Invited Talk	Secure Downlink Transmission of Active RIS Aided Cell-Free System Under Imperfect CSI Assoc. Prof. Limeng Dong, Northwestern Polytechnical University, China
13:50-14:10	Invited Talk	Leveraging RIS to Assist Communication and Against Passive CSI-based Sensing Asst. Prof. Lihua Ruan, Pengcheng Laboratory, China
14:10-14:20	CP104	Underwater Modulation Recognition via Attention Fusion of CQT and ResNet Features <i>Chenghai Mao, Southeast University, China</i>
14:20-14:30	CP10-01	Active Reconfigurable Intelligent Surface Aided Secure ISAC System <i>Limeng Dong, Northwestern Polytechnical University, China</i>
14:30-14:40	CP10-02	Environment Privacy-Communication Tradeoff in Precoding to Counteract Passive CSI-based Sensing <i>Lihua Ruan, Pengcheng Laboratory, China</i>
14:40-14:50	CP10-04	CSI-Driven Indoor Positioning with a Two-Layer Stacking Fusion Model for Enhanced Accuracy <i>Junhua Yang, Xi'an University of Posts and Telecommunications, China</i>
14:50-15:00	CP037	Robust Device Authentication against Environmental Interference in Fieldbus Network <i>Qing'ao Yuan, Xi'an Jiaotong University, China</i>
15:00-15:10	CP053	Lightweight Algorithm Based Terminal Key Distribution and Secure Access Authentication <i>Yanjie Zhang, Beijing Smart-Chip Microelectronics Technology Co., Ltd., China</i>
15:10-15:20	CP085	Sparse Multi-output Gaussian Processes with Smoothed Residuals for Multi-Channel Network Bandwidth Anomaly Detection <i>Shude Chen, University of the Ryukyus, Japan</i>
15:20-15:30	CP102	GAS-IDS: Network Intrusion detection method based on GAT and GraphSAGE <i>Zhian Cui, Rocket Force University of Engineering, China</i>
15:30-15:40	CP147	Multi-Hops Attention-Based Transformer for Network Anomaly Detection <i>Xingshen Wei, State Grid Electric Power Research Institute (Nari Group Corporation), China</i>
15:40-15:50	CP115	Auction-Based Contact Scheduling in Non-Terrestrial Networks: Balancing Truthfulness, Efficiency, and Decentralization <i>Nima Afraz, University College Dublin, Ireland</i>



SPECIAL SESSION 11

Saturday, September 13, 2025

16:10-18:10

第四会议室 Room 4

Special Session 11: Reconfigurable Smart Antenna (RSA) Technology for Next-Generation Wireless Networks

Chair: Assoc. Prof. Tongxing Zheng, Xi'an Jiaotong University, China

Time	Paper ID	Speech Title & Presenter
16:10-16:30	Invited Talk	Recent results on the RIS-empowered communications and sensing Dr. Chongwen Huang, Zhejiang University, China
16:30-16:50	Invited Talk	Network Slicing for Software-Defined Space-Terrestrial Integrated Networks Prof. Wei Liu, Xidian University, China
16:50-17:00	CP11-01	A Study on STAR-RIS ISAC NOMA Networks <i>Tianqi Wang, China Mobile Group Design Institute Co., Ltd., China</i>
17:00-17:10	CP11-02	A Joint Optimization Strategy on STAR-RIS ISAC NOMA Networks <i>Tianqi Wang, China Mobile Group Design Institute Co., Ltd., China</i>
17:10-17:20	CP11-03	An Array Beamforming Optimization Method for Maximizing Squared Position Error Bound <i>Maozhou Tan, Xi'an Jiaotong University, China</i>
17:20-17:30	CP11-04	Full Grid Index Modulation for Orthogonal Time Frequency Space Modulation <i>Bo Wang, Xi'an Jiaotong University, China</i>
17:30-17:40	CP080	Detection of Polarization-Agile Signal Using Pulse Sequence Pattern Under Two Polarization Basis <i>Jianshu Wang, Shanghai Jiaotong University, China</i>
17:40-17:50	CP099	Localization of Communication Nodes Based on RSSI and BP Neural Network <i>Minghui Yang, Capital Normal University, China</i>
17:50-18:00	CP101	Design and Testing of a Near-Field Human Body Communication Device <i>Sinan Li, Xi'an Jiaotong University, China</i>
18:00-18:10	CP145	RU Energy Modeling for O-RAN in ns3-oran <i>Nima Afraz, University College Dublin, Ireland</i>



SPECIAL SESSION 12

Saturday, September 13, 2025

16:10-17:30

第五会议室 Room 5

Special Session 12: Potential Waveform and Transceiver Design for Integrated Sensing and Communication

Chair: Prof. Zhiqiang Wei, Xi'an Jiaotong University, China

Time	Paper ID	Speech Title & Presenter
16:10-16:20	CP082	Joint Optimization of Fluid Antenna Port Position and UAV Trajectory for Age of Information Minimization <i>Haoren Feng, Northwestern Polytechnical University, China</i>
16:20-16:30	CP12-01	Maximizing Computation Energy Efficiency in a Data Compression-Based MEC Network <i>Guoliang Liu, State Grid Gansu Electric Power Company Dingxi Power Supply Company, China</i>
16:30-16:40	CP12-02	A Rate Compatible QC-Hadamard-LDPC Scheme for Extremely Low SNR Regimes <i>Lei Xiao, University of Electronic Science and Technology of China, China</i>
16:40-16:50	CP12-04	Joint Precoding and Reflection Optimization for RIS-Assisted MIMO-OTFS Systems <i>Jinhao Yu, Hangzhou Normal University, China</i>
16:50-17:00	CP12-05	A Fractional Programming Approach for the Joint Optimization of Communication Performance and Detection Probability <i>Zhiqiang Wei, Xi'an Jiaotong University, China</i>
17:00-17:10	CP12-06	Symbol-Level Joint Precoding and Antenna Positioning for Self-Interference Cancellation in Monostatic ISAC Systems <i>Jiale Wang, Northwestern Polytechnical University, China</i>
17:10-17:20	CP052	GPU-Based Polarimetric ISAR Echo Simulation for Space Targets <i>Suijun Zhong, Sun Yat-sen University, China</i>
17:20-17:30	CP117	Pulse Compression Radar Waveform Design with Multiple Phase Sub-codes <i>Ang Jiang, Information Support Force Engineering University, China</i>



SPECIAL SESSION 13

Saturday, September 13, 2025

13:30-16:00

第五会议室 Room 5

Special Session 13: Integrated Sensing and Communications, Low-Altitude Economy, Wireless Communications, Radar Signal Processing

Chair: Assoc. Prof. Fuwang Dong, Harbin Engineering University, China; Dr. Zhen Du, Nanjing University of Information Science and Technology, China; Dr. Nanchi Su, Harbin Institute of Technology (Shenzhen), China

Time	Paper ID	Speech Title & Presenter
13:30-13:40	CP13-01	Anti-Decoy Detection under Composite Jamming via Cumulative Mahalanobis Distance <i>MengTan Zhou, Harbin Engineering University, China</i>
13:40-13:50	CP13-02	LiDAR-Assisted Communication Optimization for UAVs in Low-Altitude Networks <i>Hui Liang, Dongguan University of Technology, China</i>
13:50-14:00	CP13-03	Parameter Estimation of Sea Clutter Amplitude Distribution Based on Reinforcement Learning <i>Huiling Tang, Harbin Engineering University, China</i>
14:00-14:10	CP13-04	Orthographic Projection-Based Weighting for Multi-view 3D Human Pose Estimation <i>Hongda Liu, Harbin Engineering University, China</i>
14:10-14:20	CP13-05	Joint Transmitting and Reflecting Beamforming Design for Multiple RIS-Assisted DFRC System <i>Zhihao Huang, Shenzhen University, China</i>
14:20-14:30	CP004	DoA Estimation of Coherent Signals for Arbitrary Arrays Based on Sparse Signal Representation <i>Weishu Kong, Chongqing University of Posts and Telecommunications, China</i>
14:30-14:40	CP006	Parallel Correlation Operation of Arrayed Synthesis Signal Based on GPU <i>Guanlin Li, Space Engineering University, China</i>
14:40-14:50	CP050	Optimizing Multi-User Dynamic Spectrum Access with Double DQN and Bivariate Control <i>Wenjian Ma, University of Electronic Science and Technology of China, China</i>
14:50-15:00	CP112	Measurement-based XL-MIMO Large-scale Fading Characterization in UMa Scenarios at 15 GHz <i>Zijun Zhang, Chongqing University of Posts and Telecommunications, China</i>
15:00-15:10	CP113	Measurement-based XL-MIMO Channel Characterization in UMa Scenarios at 15 GHz <i>Ping Li, Chongqing University of Posts and Telecommunications, China</i>
15:10-15:20	CP125	Precaching Scheme based on Mobility and Caching Information of Vehicles in



		Intermittently Connected Vehicular Networks <i>Irina Em, Chungbuk National University, South Korea</i>
15:20-15:30	CP139	DOA Estimation of Non-Circular Coherent Signals Using Sparse Arrays: A Hankel Matrix and Subspace Decomposition Method <i>Yingxian Zhang, Dingxi Power Supply Company of State Grid Gansu Electric Power Company, China</i>
15:30-15:40	CP140	Direct position determination of wideband sources via distributed arrays: a dimensionality reduction and sub-band energy weighting method <i>Yue Liu, Dingxi Power Supply Company of State Grid Gansu Electric Power Company, China</i>
15:40-15:50	CP015	Tensor-Based Coherent DOA Estimation via Partial Toeplitz Matrix Reconstruction <i>Yi Ling, National University of Defense Technology, Hefei, China</i>
15:50-16:00	CP801	A Low Complexity Orthogonal Matching Pursuit Algorithm with Implicit Dictionary and Parabolic Interpolation for Ranging Estimation in NearLink Systems <i>Zhang Fengyun, Tongji University, China</i>

SPECIAL SESSION 14

Saturday, September 13, 2025

13:30-15:20, 16:10-17:30

第六会议室 Room 6

Special Session 14: Advances in Optical Image Processing and Remote Sensing Monitoring

Chair: Dr. Yu Zhang (researcher), Xianghu Lab (Zhejiang Province Key Lab, China)

Time	Paper ID	Speech Title & Presenter
13:30-13:50	Invited Talk	Pros and Cons of Deep Neural Networks on Detection of Targets by Sensors Array Assoc. Prof. Aifei Liu, Xi'an Jiaotong-Liverpool University, China
13:50-14:10	Invited Talk	Moving Target Detection and Multi-Resolution Imaging Method of Frequency Diverse Array Dr. Keyi Wang, Xidian University, China
14:10-14:30	Invited Talk	The Application of Gaofen satellites data in Agriculture and Forestry Prof. Zhang Wangfei, Southwest Forestry University, China
14:30-14:50	Invited Talk	Aerospace Information Research Institute of the Chinese Academy of Science, China Prof. Dan Zhao, Aerospace Information Research Institute of the Chinese Academy of Science, China
14:50-15:00	CP116	An Integrated Traffic Forecasting Framework for Taiwan's Highways <i>Shinfeng Lin, Computer Science and Information Engineering, National Dong Hwa University, Hualien, Taiwan</i>
15:00-15:10	CP124	A Practical and Efficient Pipeline for Real-time Infrared Searching and Tracking <i>Ning Lei, China Academy of Space Technology, China</i>
15:10-15:20	CP095	A Multiscale Autoencoder Framework for Hyperspectral Unmixing <i>Jia Liu, Northwestern Polytechnical University, China</i>

Continued

Time	Paper ID	Speech Title & Presenter
16:10-16:30	Invited Talk	Non-destructive differentiation of panax species using visible and short-wave near-infrared spectroscopy Assoc. Prof. Xiaojing Chen, Wenzhou University, China
16:30-16:50	Invited Talk	Hyperspectral Detection of Maize Rust Based on Feature Selection and Backpropagation Neural Network Assoc. Prof. Pei Wang, Southwest University, China
16:50-17:10	Invited Talk	Research and application of crop phenotype analysis technology based on computer vision and artificial intelligence Dr. Yu Zhang, Xianghu Lab (Zhejiang Province Key Lab, China)



17:10-17:20	CP14-02	High-Speed Synchronous Scanning Lidar for 2D Wind Field Reconstruction with Multi-Angle Joint Inversion <i>Yajuan Liu, Chang'an University, China</i>
17:20-17:30	CP1003-A	Multimedia Signal Processing for Streaming Multimedia Applications: Techniques, Challenges, and Future Directions <i>Xiangxiang Liu, Xidian University, China</i>



POSTER SESSION

Saturday, September 13, 2025
16:10-18:30

8C 会议室 Room 8C

Poster Session: AI-driven Multimodal Image Analysis and Digital Signal Processing Technology
Chair: Dr. Shuaikai Shi, Khalifa University, United Arab Emirates

Frame #	Paper ID	Speech Title & Presenter
01	CP007	Enhanced YOLOv8 Model for Damage Detection of Power Transmission Lines in UAV Inspections <i>Renshu Wang, State Grid Fujian Electric Power Research Institute, China</i>
02	CP009	Convolutional LSTM-Based Underwater Reverberation Signal Detection Algorithm <i>Haoran Ji, Hunan University, China</i>
03	CP014	SGEANet: Interpretable and Controllable Emotional Speech Synthesis via Emotion Basis Vectors <i>Li Fan, Xinjiang University, China</i>
04	CP022	Machine Learning-Based Adaptive Physical-Layer Security in Untrusted Relay Networks <i>Shen Qian, Tokyo City University, Japan</i>
05	CP027	Amplitude-Phase Speech Enhancement in Vehicle Environments via Higher-Order Spectral Space <i>Liu Lehai, Tianjin University, China</i>
06	CP031	Research on High Sidelobes Suppression Method in Millimeter-wave SAR Images <i>Shize Shang, Nanjing Research Institute of Electronics Technology, China</i>
07	CP035	State-Space Modeling of Aorta Artery Hemodynamics Based on Physics-Informed Neural Networks <i>Shuaikai Shi, Khalifa University, United Arab Emirates</i>
08	CP044	Blind Light Field Image Quality Assessment via Multi-Scale and Attention-Guided Feature Fusion <i>Daoqiang Zhu, Ningbo University, China</i>
09	CP047	No-Reference Light Field Image Quality Assessment Based on Spatial-Angular Attention Fusion and Adaptive Pooling <i>Yu Sun, Ningbo University, China</i>
10	CP056	A Mission-Driven ANP-BP Synergy for Evaluating Information and Communication Support Effectiveness <i>Yinglong Ma, National University of Defense Technology, China</i>



11	CP058	An Effective Framework for Target Recognition under Corner Reflector Interference using Multidimensional Features <i>Xinrui Li, Xidian University, China</i>
12	CP064	Neural Network-based Enhanced Covert Communication Detection in Wireless Networks <i>Yiran Chen, Nanjing University of Science and Technology, China</i>
13	CP067	Design of a High-Speed SAR Radar Echo Simulator Based on Parallel FFT <i>Ruiqing Xu, Nanjing University of Science and Technology, China</i>
14	CP068	Single-Station Contactless Respiration Detection Based on Wi-Fi CSI <i>Zhehan Liu, Nanjing University of Science and Technology, China</i>
15	CP069	Implementation of a JPEG-Based Compression Algorithm for 12-Bit Remote Sensing Images <i>Xiaowen Zhu, Nanjing University of Science and Technology, China</i>
16	CP078	Multi-Terminal Ad-Hoc Networks With TDMA-Based Frequency Hopping Systems <i>Shuai Cheng, Nanjing University of Science and Technology, China</i>
17	CP079	Application of High Sensitivity ADS-B Receiver in Low-cost DS <i>Ziming Wang, Nanjing University of Science and Technology, China</i>
18	CP081	An Entropy-Based Adaptive Damping GAMP Detection Algorithm for OTFS System <i>Zhuo Zuo, Nanjing University of Science and Technology, China</i>
19	CP094	Integrating Forgery Traces into VLMs via LoRA for Advanced AIGC Video Detection <i>Zihuan Huang, Xi'an Jiaotong University, China</i>
20	CP096	A Multi-Priority Programmable Data Forwarding Scheme Based on Feature Recognition in High-Dynamic Scenarios <i>Tai Liu, Shandong University, China</i>
21	CP126	An Optimized UAV Maneuver Classification Based on Spearman Correlation for Kinematic <i>Bin Zhang, Zhejiang University, China</i>
22	CP127	Sub-Milliradian Clock Comparison and Compensation Algorithm for Tianqin Gravitational Wave Detection <i>Shunuan Qian, Zhejiang University, China</i>
23	CP146	1PPS-Independent Bidirectional Ranging and Communication Scheme for Laser Links <i>Shizhou Bao, Zhejiang University, China</i>



ONLINE SESSION 1

Sunday, September 14, 2025

09:00-10:30

Zoom A: 885 1540 2062

<https://us02web.zoom.us/j/88515402062>

Online Session 1: Design of Integrated Internet of Things and Intelligent System Based on Sensing

Chair: Assoc. Prof. Zubin Liu, Zhejiang University of Technology, China

Time	Paper ID	Speech Title & Presenter
09:00-09:10	CP907	A Precision and Bandwidth Co-Optimized Readout Architecture Based on BE-Nested OSA for MEMS Capacitive Accelerometer <i>Feng Wang, Beijing University of Chemical Technology, China</i>
09:10-09:20	CP008	An IoT Communication Protocol Recognition Method Integrating Attention Mechanism <i>Mingcong Zeng, College of Communication Engineering, Army Engineering University of PLA, China</i>
09:20-09:30	CP105	Data-Value-Aware Uneven Clustering for Underwater Acoustic Sensor Networks <i>Yaohui Feng, Northwestern Polytechnical University, China</i>
09:30-09:40	CP129	An Underwater Acoustic Detection Simulation System Based on Coarse-Fine Granularity Design <i>Junhao Qu, Hangzhou Applied Acoustics Research Institute, China</i>
09:40-09:50	CP132	Cost-benefit Trade-off for Multi-UAV Assisted Sensor Data Collection in Jamming Environment <i>Yuan Bian, Air Force Engineering University, China</i>
09:50-10:00	CP1005-Y	A Sleep Staging Algorithm for Children Using PPG and IMU Sensors Based on the Imoo Watch Phone <i>Jie Liang, Smartwatch Department Guangdong Genius Technology Co., Ltd, Dongguan, Guangdong, China</i>
10:00-10:10	CP402	An Underwater Detection Method for UUV Intruder in Fluctuating Environment <i>He Zhaoyang, Northwestern Polytechnical University, China</i>
10:10-10:20	CP10-03	An Enhanced DQN Algorithm for Anti-Eavesdropping Path Planning of UAVs Based on Multi-Agent Reinforcement Learning <i>Ge Shi, North China University of Water Resources and Electric Power, Zhengzhou, China</i>
10:20-10:30	CP083	Design of Variable-Rate Parallel Processing Filtering for High-Speed Receiver <i>Peng Li, Nanjing University of Science and Technology, China</i>



ONLINE SESSION 2

Sunday, September 14, 2025

09:00-10:50

Zoom B: 889 0688 4547

<https://us02web.zoom.us/j/88906884547>

Online Session 2: Radar Based Signal Detection and Image Processing Technology

Chair: Dr. Linsen Huang, Chongqing Technology and Business University, China

Time	Paper ID	Speech Title & Presenter
09:00-09:10	CP024	CAFGAN: Coarse-to-Fine SAR Vehicle Image Interpolation Based on Azimuth Angle Features <i>Ye Liu, Beijing University of Chemical Technology, China</i>
09:10-09:20	CP066	Design and Implementation of a 77 GHz FMCW Radar System <i>Xueting Zhu, Nanjing University of Science and Technology, China</i>
09:20-09:30	CP309	The underwater moving acoustic source localization method based on autocorrelation function in the deep-sea direct-wave zone <i>Xiao Gao, Harbin Engineering University, China</i>
09:30-09:40	CP312	Underwater Acoustic Radiated Noise Target Recognition Method Based on Multi-Domain Feature Fusion and Graph Neural Network <i>Yanghong Zhao, Guilin University of Electronic Technology, China</i>
09:40-09:50	CP025	A Cross-Modal Optical-to-SAR Aircraft Image Generation Method for Automatic Target Recognition <i>Xinyu Lu, Beijing University of Chemical Technology, China</i>
09:50-10:00	CP303	A Variational Approach to Significant Wave Height Fusion <i>Zhuhui Jiang, Beijing Institute of Applied Meteorology, Beijing 100029, China</i>
10:00-10:10	CP143	High Accurate Beam Tracking with Hybrid Antenna Array for OTFS-Based mmWave Air-to-Air ISAC <i>Xi Tao, Harbin Institute of Technology, China</i>
10:10-10:20	CP057	A High-Resolution SAR Image Sidelobe Suppression Method Based on Orientation-Aware Fusion Attention Mechanism <i>Huaiyue Ding, Beijing University of Chemical Technology, China</i>
10:20-10:30	CP016	Study on Identification of Electronic Disguised Voices by Deep Learning Network <i>Ruinan Tang, Southwest University of Political Science and Law, China</i>
10:30-10:40	CP029	Design of Non-uniform Sampling System Based on RFSOC <i>Deheng Wang, The 8th Research Academy of CSSC, China</i>
10:40-10:50	CP091	Hierarchical Multi-Scale Fréchet Change Point Detection for Industrial Time Series <i>Wenyan Bai, Taiyuan Iron & Steel Group Co., Ltd., China Baowu Steel Group Corp., Ltd., China</i>



ONLINE SESSION 3

Sunday, September 14, 2025

11:00-12:30

Zoom A: 885 1540 2062

<https://us02web.zoom.us/j/88515402062>

Online Session 3: Modern Electronic Systems and Communication Engineering

Chair: Assoc. Prof. Zhichao Sheng, Shanghai University, China

Time	Paper ID	Speech Title & Presenter
11:00-11:10	CP034	Research on Carrier Magnetic Interference Compensation Based on Improved WPSO <i>Xudong Wang, China University of Petroleum (East China), China</i>
11:10-11:20	CP041	Performance Limits of Damped Belief Propagation Detection Considering the Variance of Residual Interference in Massive MIMO <i>Kazuyuki Sakoda, University of Nagasaki, Japan</i>
11:20-11:30	CP087	Design of an Ultra-Wideband Multi-Band Filter Based on Stepped Impedance and Split-Ring Resonators <i>Wentao Liu, Nanjing University of Science and Technology, China</i>
11:30-11:40	CP055	Design and Implementation of a Multi-Protocol Converter Supporting SPI, I2C, and UART Interfaces <i>Shuo Wu, California State University, USA</i>
11:40-11:50	CP061	OTFS Waveform Design for Enhanced Long-Range Sensing in ISAC: A Comparative Performance Analysis with OFDM and AFDM <i>Gao Xinchao, Southeast University, China</i>
11:50-12:00	CP071	Design of Optimal FRM-Based Digital Channelizer With Narrow Transition Bandwidth <i>Demu Kong, Nanjing University of Science and Technology, China</i>
12:00-12:10	CP134	Input-Enhanced Transform-LSTM Network for Digital Predistortion of RF Power Amplifier <i>Yuxiang Xiao, Beihang University, China</i>
12:10-12:20	CP501	Sparsity-enhanced Compressive Beamforming for Partial Discharge Localization via Laplace Norm <i>Jinchan Zhu, Chongqing University, China</i>
12:20-12:30	CP12-03	Joint Power Allocation and Index Modulation for OTFS based ISAC <i>Zhenduo Wang, Harbin Engineering University, China</i>



ONLINE SESSION 4

Sunday, September 14, 2025

11:00-12:30

Zoom B: 889 0688 4547

<https://us02web.zoom.us/j/88906884547>

Online Session 4: Multi Modal Perception System and Image Analysis for Complex Scenes

Chair: Assoc. Prof. Rui Wang, Yantai University, China

Time	Paper ID	Speech Title & Presenter
11:00-11:10	CP046	Mosquito Breeding Grounds Detection with UAV Images and CSPDC-YOLO <i>Zichen Gao, Beijing University of Chemical Technology, China</i>
11:10-11:20	CP023	Randomized Greedy Sampling for Inverse Problems with Tensors <i>Sige Tang, Shanghai Jiao Tong University, China</i>
11:20-11:30	CP070	Enhanced Factorized Prior Image Compression Network with ECA Attention Mechanism <i>Guilin Huang, Beijing University of Chemical Technology, China</i>
11:30-11:40	CP109	Optimizing Football Action Spotting using Multi-Modal Learning Models <i>Omar Ahmed Kazim, Central Technical University, Iraq</i>
11:40-11:50	CP407	DFA-YOLO: An Enhanced Lightweight Object Detection Model for Efficient Keyhole Detection <i>Ziliang Huang, Beijing University of Chemical Technology, China</i>
11:50-12:00	CP1008-Y	An Automatic Cutover Method for Home Broadband Services <i>Yan Lin, China Telecom Cloud Network Operating System R&D Center Beijing, China</i>
12:00-12:10	CP403	An Improved Pseudo-Skeleton Decomposition Based on Information Geometry for Ground Moving Target Detection <i>Wang Xingchen, Xidian University, China</i>
12:10-12:20	CP408	XfeatSLAM: A robust visual SLAM system designed for pipeline robots using the lightweight xfeat image matching algorithm <i>Huawei Zhang, Beijing University of Chemical Technology, China</i>
12:20-12:30	CP503	Weak fault feature extraction of compound dictionary based on generalized logarithmic penalty <i>Mingming Peng, Anhui University, China</i>





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