

# Conference Program

## 2025 10th International Conference on Signal and Image Processing (ICSIP 2025)

## 2025 年第十届信号与图像处理国际会议

Workshop: 2025 6th International Conference on Information Security and Privacy Protection (ICISPP 2025)

2025 年第六届信息安全与隐私保护国际会议

Wuxi, China (中国无锡) / July 12-14, 2025 UTC+8 (2025 年 7 月 12-14 日)

Co-sponsored by (主办方)



Hosted by (承办方)



Co-hosted by (协办方)



Patrons (支持机构)



# Table of Content

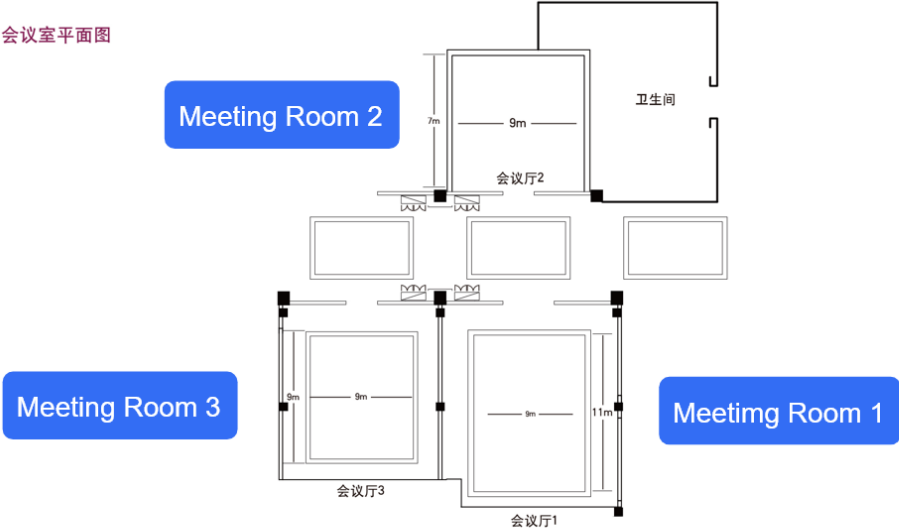
General Information .....	02
Welcome Message .....	05
Conference Committee .....	06
Agenda Overview .....	10
13 <sup>th</sup> July, 2025 (Onsite)	
Keynote Speaker .....	13
Invited Speaker .....	17
Special Session 1: SAR Fine Imaging and Multi-Domain Anti-Jamming .....	20
Special Session 3: Reconfigurable Intelligent Surface for 6G Communication Networks .....	21
Oral Session 1: Wireless Communication and Signal Processing for Complex Environments .....	21
Special Session 5: Nonlinear Radar Signal Processing for Target Detection in Complicated Environments ..	22
Oral Session 2: Data-driven Intelligent Information System Design and Artificial Intelligence Technology .....	23
Special Session 6: High-Precision Detection and High-Resolution Imaging Technology for High-Speed Moving Targets .....	24
Special Session 2: Advanced Signal Processing and Applications on Electromechanical System .....	25
Special Session 4: Visual Intelligence for Object Detection, Tracking and Behavioral Analysis .....	26
Oral Session 3: Intelligent Image analysis And Image Modeling.....	27
Poster Session 1: AI-based Digital Image Detection, Recognition and Model Analysis .....	28
Poster Session 2: Radar-based Multimodal Wireless Communication System and Signal Analysis Technology .....	30
14 <sup>th</sup> July, 2025 (Online)	
Online Session 1: Image Detection and Recognition Algorithms .....	32
Online Session 2: Image Segmentation and Data Privacy.....	33
Online Session 3: Digital Signal Acquisition, Analysis, and Processing Methods .....	34
Online Session 4: Data Communication and Information Security .....	35
Online Session 5: Image Modeling and Digital Imaging Technology.....	36
Delegates List .....	37
Note	

# General Information

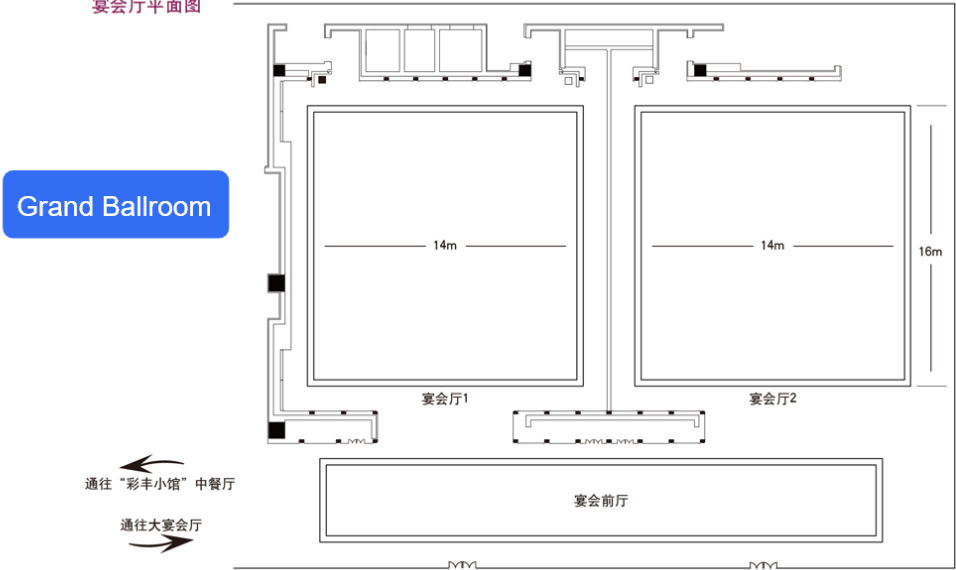
**Crowne Plaza Wuxi Lake View**  
**无锡融创皇冠假日酒店**  
Add: No.5 Wanda Cultural Tourism City,  
Wuxi, Jiangsu 214100 Mainland China  
地址：中国江苏省无锡市滨湖区万达文化旅游城 5 号  
Front desk: (0510) 6851 9999



会议室平面图



宴会厅平面图



● Meeting room information

Activity	Venue	July 12	July 13	Level
Registration Desk	Hotel Lobby / 酒店大堂	★		1 <sup>st</sup> Floor
Keynote Session	Grand Ballroom / 大宴会厅		★	
Poster Sessions	Ballroom A / 大宴会厅 A		★	
Poster Sessions	Ballroom B / 大宴会厅 B		★	
Onsite Sessions	Meeting Room 1 / 会议厅 1		★	
Onsite Sessions	Meeting Room 2 / 会议厅 2		★	
Onsite Sessions	Meeting Room 3 / 会议厅 3		★	
Lunch	Li Coffee / 蠡咖啡		★	
Dinner	Grand Ballroom / 大宴会厅		★	

● Reservations:

Radisson Hotels Central Sales Services Telephone: +86-15358056080

Individual room reservations E-mail: [gsm@cpwuxilakeview.com](mailto:gsm@cpwuxilakeview.com)

Please quote the allotment code **ICSIP 2025** when making a reservation.

(预定房间可电话联系销售经理: 杨经理, 报会议“ICSIP 2025”享受团队价)

● Transportation information

From Wuxi Shuofang Airport (无锡硕放机场)	From Wuxi Railway Station (无锡站)	From Wuxidong Railway Station (无锡东站)
<b>Metro Option</b> <ul style="list-style-type: none"> <li>Take Line3→Line 1 to Geidaiqiao Station Exit 3 (3 号线→1 号线换乘, 葛埭桥站站 3 号出口) Approx. 90 mins</li> </ul> <b>Car Option</b> <ul style="list-style-type: none"> <li>Taxi / Didi (出租/网约车) Approx. 30-40 mins</li> </ul>	<b>Metro Option</b> <ul style="list-style-type: none"> <li>Take Line 1 to Geidaiqiao Station Exit 3 (1 号线葛埭桥站 3 号出口) Approx. 55 mins</li> </ul> <b>Car Option</b> <ul style="list-style-type: none"> <li>Taxi / Didi (出租/网约车) Approx. 40-50 mins</li> </ul>	<b>Metro Option</b> <ul style="list-style-type: none"> <li>Take Line 2→Line 1 to Geidaiqiao Station Exit 3 (2 号线→1 号线换乘, 葛埭桥站站 3 号出口) Approx. 80 mins</li> </ul> <b>Car Option</b> <ul style="list-style-type: none"> <li>Taxi / Didi (出租/网约车) Approx. 40-50 mins</li> </ul>
*Tip: Peak traffic hours-may add 15+ mins*		

## 1-Onsite Registration

Registration desk (Entrance Hall, Building Graduate School of Engineering) → Inform the staff of your paper ID→ Sign-in→ Claim your conference kit.

## 2-Devices Provided by the Organizer

Laptops (with MS-Office & Adobe Reader) / Projectors & Screen / Laser Sticks

## 3-Materials Provided by the Presenter

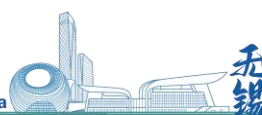
Oral Session: Slides (PPTX or PDF version. Format 16:9 is preferred. Official language: English)

Poster Size: A1, Official language: English

## 4-Duration of Each Presentation

Keynote Speech: 40mins, including Q&A / Invited Speech: 20mins, including Q&A


Oral Session: 15mins, including Q&A (Onsite+Online) / Poster Session: 5mins, including Q&A



## ● 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.
- ※ **UTC+8. Beijing Local Time. Please be aware of time difference between this and your region/country.**

## 5-Online Participation Tips

 <a href="#">Zoom Download</a>	Meeting ID	Link
	Zoom A: 895 4110 6467	<a href="https://us02web.zoom.us/j/89541106467">https://us02web.zoom.us/j/89541106467</a>
	Zoom B: 815 0186 6647	<a href="https://us02web.zoom.us/j/81501866647">https://us02web.zoom.us/j/81501866647</a>
	Zoom C: 825 9385 7507	<a href="https://us02web.zoom.us/j/82593857507">https://us02web.zoom.us/j/82593857507</a>
	Zoom D: 819 6180 8210	<a href="https://us02web.zoom.us/j/81961808210">https://us02web.zoom.us/j/81961808210</a>

## ● Notice

We recommend installing Zoom on your computer before the conference begins. No registration is required—new users can join directly.

Participants who are going to do an online presentation are required to join the rehearsal in Zoom on **Saturday, July 12, 2025**. Duration: 3min apiece. Feel free to leave after you finish the test.

### ◆Name Setting

Keynote Speaker: KN-Name

Invited Speaker: IS-Name

Committee: Position-Name

Author: Paper ID-Name

Delegate: Delegate-Name

### ◆Useful Links

- ✧ [Conference Banner](#)
- ✧ [Zoom Background](#)

### ◆Official WeChat



# Welcome Message

We are pleased to welcome you to attend the 2025 10th International Conference on Signal and Image Processing (ICSIP 2025), along with workshop 2025 6th International Conference on Information Security and Privacy Protection (ICISPP 2025), which will be held in Wuxi, China (中国 无锡) during July 12-14, 2025.

Initiated in 2016, ICSIP is one of the leading international conferences for presenting novel and fundamental advances in the fields of signal and image processing, which was held successfully in Beijing 2016, Singapore 2017, Shenzhen 2018, Wuxi 2019, online 2020 (due to COVID-19), Nanjing (hybrid conference) 2021, Suzhou (hybrid conference) 2022, Wuxi (hybrid conference) 2023, Nanjing (hybrid conference) 2024. 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 related fields. We hope ICSIP 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.

This year's Wuxi conference will consist of 13 oral sessions (onsite+online) and 2 poster sessions, 4 keynote talks from Prof. Kaibin Huang (IEEE Fellow) from The University of Hong Kong (HKU), Hong Kong, China; Prof. Rui Zhang (IEEE Fellow) from The Chinese University of Hong Kong, Shenzhen and National University of Singapore; Prof. Sanghoon Lee (IEEE Fellow) from Yonsei University, South Korea; Prof. Yong Zeng (IEEE Fellow) from Southeast University, China. We also have more than 20 invited talks from different universities and institutions.

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 SAR Fine Imaging and Multi-Domain Anti-Jamming; Wireless communication and signal processing for complex environments; Nonlinear Radar Signal Processing for Target Detection in Complicated Environments; Data-driven intelligent information system design and artificial intelligence technology; High-Precision Detection and High-Resolution Imaging Technology for High-Speed Moving Targets, etc.

We would like to deeply express our heartfelt appreciation to all our delegates, keynote speakers, invited speakers, session chairs, international reviewers as well as all the committee members involved in the technical evaluation of conference papers and in the conference organization for your time, effort, and great contributions. Apart from that, we'd like to extend our thanks to all the authors and external reviewers for your contribution. It is your high competence, enthusiasm, valuable time and expertise that have enabled us to prepare the final program with high quality and make the conference a great success.

I wish to thank all attendees for participating in the conference and hope you have a fruitful and memorable experience!

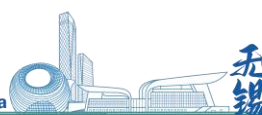
Finally, we wish you a very successful conference! Hope you will enjoy your stay to Wuxi!

With Warmest Regards,

Conference Organizing Committees

Wuxi, July 2025

ICSIP 2025, ICISPP 2025



# Conference Committee

## ICSIP 2025

### Conference Advisory Committees

Prof. Victor C. M. Leung, (IEEE Life Fellow) Shenzhen University, China  
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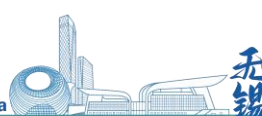
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Prof. Haifei Zhang, Nantong Institute of Technology, China  
Prof. Yong Jia, Chengdu University of Technology, China  
Assoc. Prof. Xiaochen Yuan, Macao Polytechnic University, China

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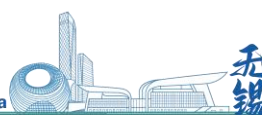
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 Prof. Kaibin Huang, (IEEE Fellow) The University of Hong Kong, Hong Kong, China

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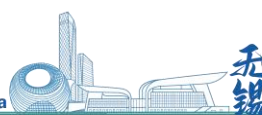
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### Technical Program Committee Chairs

Prof. Zhaohui Wang, Hainan University, China



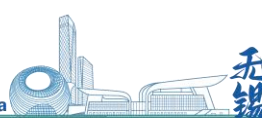
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Prof. Weiwei Wang, Xidian University, China

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Dr. Saeed Mian Qaisar, Effat University, KSA  
Dr. Jie Sun, Southeast University, China  
Dr. Yuan Yuan, Wuhan University, China



# Agenda Overview 会议日程

Saturday, July 12, 2025 (UCT+8 Beijing Time)

Onsite Registration 10:00-17:00 Venue: Crowne Plaza Wuxi Lake View (Lobby)  
无锡融创皇冠假日酒店（大堂）

Zoom Test for online presenters 10:00-14:30 Zoom A: 895 4110 6467

### Zoom Test Timetable

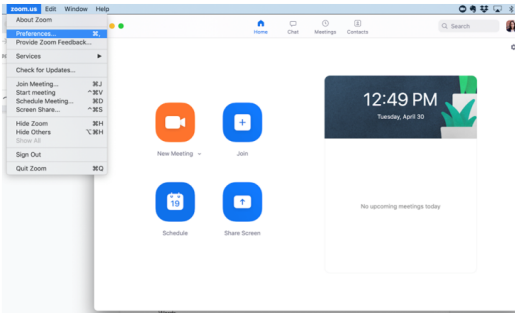
- Participants who are going to do an online presentation are required to join the rehearsal in Zoom on **Saturday, July 12, 2025**. Duration: 3min apiece. Feel free to leave after you finish the test.
- We will test control panel including screen sharing, audio, video, etc. Please get your presentation slides and computer equipment prepared beforehand.

Test Table	10:00-10:30	10:30-11:00	11:00-11:30	11:30-12:00	12:00-12:30
<u>Zoom A: 895 4110 6467</u>	SP153 SP030 SP046 SP062 SP100 SP503 SP602 SP903 SP149 SP128 SP132	SP716 SP717 SP044 SP137 SP066 SP067 SP113 SP117 SP130 SP719	SP077 SP081 SP301 SP024 SP094 SP107 SP156 SP057 SP058 SP118 SP504	SP704 SP706 SP019 SP007 SP710 SP026 SP036 SP068 SP092 SP122 SP125	SP138 SP004 SP015 SP050 SP056 SP059 SP105 SP085 SP103 SP027 SP158
13:30-14:30	Alternative time for participants who are unavailable at allocated time. Other online participants, includes but not limited to keynote speaker, session chair, committee member, delegate.				

### Zoom Guidance

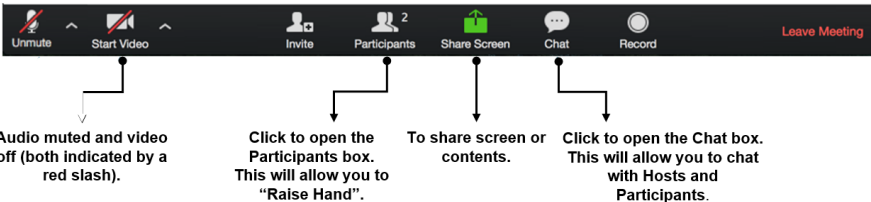
You can join the meeting without sign-in process. Just put the meeting ID and join us.

URL: <https://zoom.us/download>

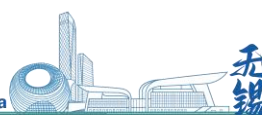



Each meeting has a unique 9, 10, or 11-digit number called a **meeting ID** that will be required to join a Zoom meeting.

For any questions on the meeting day, you can text privately to "Assistant" for help.

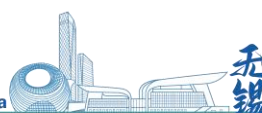


Sunday, July 13, 2025 (UCT+8 Beijing Time)	
<b>Keynote Speeches</b> <Venue: 1F Grand Ballroom 大宴会厅 / Zoom A: 895 4110 6467>	
<b>Chairman:</b> Prof. Liquan Chen, Southeast University, China <Conference General Co-Chair>	
8:50-9:00 <b>Opening Remarks</b>	Prof. Bing Li, Southeast University, China <Conference General Chair>
9:00-9:40 <b>Keynote Speech I</b>	<b>Prof. Kaibin Huang (IEEE Fellow), The University of Hong Kong (HKU), Hong Kong, China</b> Speech Title: Pushing AI to the 6G Edge
9:40-10:20 <b>Keynote Speech II</b>	<b>Prof. Yong Zeng (IEEE Fellow), Southeast University, China</b> Speech Title: Generative AI based Channel Knowledge Map Construction and Utilization
10:20-10:50	Group Photo & Coffee Break
10:50-11:30 <b>Keynote Speech III</b>	<b>Prof. Rui Zhang (IEEE Fellow), The Chinese University of Hong Kong, Shenzhen, China &amp; National University of Singapore, Singapore</b> Speech Title: Movable Antenna Aided Wireless Networks: Opportunities and Challenges
11:30-12:10 <b>Keynote Speech IV</b>	<b>Prof. Sanghoon Lee (IEEE Fellow), Yonsei University, South Korea</b> Speech Title: Redefining Reality: Multi-Camera Systems for Photorealistic Human Avatars
12:10-13:00	Lunch <1F Li Coffee 蠡咖啡>
<b>Parallel Session &lt;Onsite&gt; 1F</b>	
13:00-16:15 <b>Special Session 1</b> <Meeting Room 1 会议厅 1>	<b>SAR Fine Imaging and Multi-Domain Anti-Jamming</b> Invited Speech: Liang Shen; Tinghao Zhang; Wei Pu; Deqing Mao; Yanlei Du; Gang Xu SP603 SP604 SP605 SP606 SP609
13:00-16:05 <b>Special Session 3</b> <b>Oral Session 1</b> <Meeting Room 2 会议厅 2>	<b>Reconfigurable Intelligent Surface for 6G Communication Networks</b> <b>Wireless Communication and Signal Processing for Complex Environments</b> Invited Speech: Tianming Ma; Zemin Zhou; Jian Wu; Zhuang Xie SP079 SP143 SP801 SP718 SP020 SP142 SP719
13:00-15:40 <b>Special Session 5</b> <Meeting Room 3 会议厅 3>	<b>Nonlinear Radar Signal Processing for Target Detection in Complicated Environments</b> Invited Speech: Wei Yang; Wenpeng Zhang SP1001 SP1002 SP011 SP016 SP064 SP108 SP099 SP039
13:00-15:45 <b>Oral Session 2</b> <Grand Ballroom A 大宴会厅 A>	<b>Data-driven Intelligent Information System Design and Artificial Intelligence Technology</b> Invited Speech: Xiaochen Yuan; Haifeng Zhao; Yannick Benezeth SP708 SP715 SP042 SP054 SP061 SP034 SP146
13:00-15:30 <b>Special Session 6</b> <Grand Ballroom B 大宴会厅 B>	<b>High-Precision Detection and High-Resolution Imaging Technology for High-Speed Moving Targets</b> Invited Speech: Zhe Geng; Jiaqiu Ai; Junling Wang SP032 SP047 SP052 SP071 SP031 SP014
	Coffee Break
16:25-18:30 <b>Special Session 2</b> <Meeting Room 1 会议厅 1>	<b>Advanced Signal Processing and Applications on Electromechanical System</b> Invited Speech: Qinwei He SP025 SP402 SP074 SP111 SP116 SP144 SP051



16:15-18:35 <b>Special Session 4</b> <Meeting Room 2 会议厅 2>	<b>Visual Intelligence for Object Detection, Tracking and Behavioral Analysis</b>  Invited Speech: Hongbin Liu SP021 SP055 SP140 SP154 SP155 SP707 SP069 SP104
16:00-18:30 <b>Oral Session 3</b> <Meeting Room 3 会议厅 3>	<b>Intelligent Image analysis And Image Modeling</b>  SP012 SP005 SP023 SP070 SP080 SP006 SP038 SP060 SP141 SP022
16:00-18:00 <b>Poster Session 1</b> <Grand Ballroom A 大宴会厅 A>	<b>AI-based Digital Image Detection, Recognition and Model Analysis</b>  SP017 SP028 SP029 SP083 SP084 SP087 SP601 SP607 SP1005 SP008 SP018 SP078 SP097 SP114 SP120 SP121 SP123 SP124 SP129 SP133 SP135 SP136 SP157 SP152
16:00-18:00 <b>Poster Session 2</b> <Grand Ballroom B 大宴会厅 B>	<b>Radar-based Multimodal Wireless Communication System and Signal Analysis Technology</b>  SP049 SP150 SP009 SP033 SP063 SP065 SP093 SP401 SP501-A SP902 SP1003 SP1004 SP037 SP045 SP048 SP075 SP082 SP089 SP106 SP139 SP147 SP505 SP506 SP711
18:50-21:00	Dinner < Grand Ballroom 大宴会厅>
Awarding 2025 	Best Reviewer 最佳审稿人奖 Best Paper 最佳论文奖 Best Student Paper 最佳学生论文奖 Best Industry Paper 最佳行业文章奖

Monday, July 14, 2025 (UCT+8 Beijing Time)	
Parallel Session <Online>	
9:00-12:10 <b>Online Session 1</b> <Zoom A: 895 4110 6467>	<b>Image Detection and Recognition Algorithms</b>  Invited Speech: Wei Wang; Sinong Quan SP153 SP030 SP046 SP062 SP100 SP503 SP602 SP903 SP149 SP128
9:00-11:20 <b>Online Session 2</b> <Zoom B: 815 0186 6647>	<b>Image Segmentation and Data Privacy</b>  Invited Speech: Thangarajah Akilan SP716 SP044 SP137 SP066 SP067 SP113 SP117 SP130
9:00-12:20 <b>Online Session 3</b> <Zoom C: 825 9385 7507>	<b>Digital Signal Acquisition, Analysis, and Processing Methods</b>  Invited Speech: Ying Wei SP077 SP081 SP301 SP024 SP094 SP107 SP156 SP057 SP058 SP118 SP132 SP504
9:00-11:45 <b>Online Session 4</b> <Zoom D: 819 6180 8210>	<b>Data Communication and Information Security</b>  SP704 SP706 SP019 SP007 SP710 SP026 SP036 SP068 SP092 SP122 SP125
12:05-13:30	Break Time
13:30-16:30 <b>Online Session 5</b> <Zoom A: 895 4110 6467>	<b>Image Modeling and Digital Imaging Technology</b>  SP717 SP138 SP004 SP015 SP050 SP056 SP059 SP105 SP085 SP103 SP027 SP158



# Keynote Speaker

Sunday, July 13, 2025

9:00-9:40 (UTC+8 Beijing Time)

<Venue: 1F Grand Ballroom 大宴会厅 / [Zoom A: 895 4110 6467](#)>

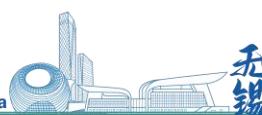


**Prof. Kaibin Huang (IEEE Fellow)**  
The University of Hong Kong (HKU), Hong Kong, China

***Speech Title: Pushing AI to the 6G Edge***

**Abstract:** 6G will feature edge intelligence referring to ubiquitous deployment of AI algorithms at the network edge. To attain unprecedented end-to-end (E2E) performance, researchers embrace the new design approach of integrated communication-and-computing (iCC). While 5G allows coarse message exchange (e.g., performance requirements) between application and physical layers, the new iCC approach in 6G features joint design and control of AI and communication algorithms under E2E objectives. In this talk, I will provide an overview of the design approach and advancements in 6G edge intelligence. Many topics will be covered including ultra-low-latency edge AI, over-the-air computing, in-memory baseband processing, distributed sensing, in-network inference, and AI model downloading.

**Bio:** Kaibin Huang received the B.Eng. and M.Eng. degrees from the National University of Singapore and the Ph.D. degree from The University of Texas at Austin, all in electrical engineering. He is the Philip Wong Wilson Wong Professor and the Department Head at the Dept. of Electrical and Electronic Engineering, The University of Hong Kong (HKU), Hong Kong. His work was recognized with seven Best Paper awards from the IEEE Communication Society. He is a member of the Engineering Panel of Hong Kong Research Grants Council (RGC) and a RGC Research Fellow (2021 Class). He has served on the editorial boards of five major journals and co-edited ten journal special issues, all in the area of wireless communications. He has been active in organizing international conferences such as the 2014, 2017, and 2023 editions of IEEE Globecom, a flagship conference in communication. He has been named as a Highly Cited Researcher by Clarivate in the last six years (2019-2024) and an AI 2000 Most Influential Scholar (Top 30 in Internet of Things) in 2023-2024. He was an IEEE Distinguished Lecturer. He is a Fellow of the IEEE and the US National Academy of Inventors.





**Sunday, July 13, 2025**  
**9:40-10:20 (UTC+8 Beijing Time)**

<Venue: 1F Grand Ballroom 大宴会厅 / Zoom A: 895 4110 6467 >

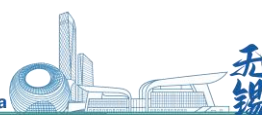


**Prof. Yong Zeng (IEEE Fellow)**  
**Southeast University, China**

***Speech Title: Generative AI based Channel Knowledge Map Construction and Utilization***

**Abstract:** Existing wireless communication and sensing systems are mainly based on the traditional “environment-unaware” paradigm, which fails to fully exploit the prior information of the local wireless environment, resulting in inefficient environment sensing and channel acquisition. This makes it difficult to meet the future needs with the developing trends such as larger channel dimensions, higher node densities, and more cost-effective hardware. On the other hand, the recently proposed concept of channel knowledge map (CKM) aims to build channel knowledge foundations that learn the intrinsic characteristics of the local wireless environment by fusing massive historical data of all terminals in the area, thereby enables the direct acquisition of environmental priors in advance based on (virtual) terminal location information. This enables the paradigm shift from the traditional environment-unaware to the future environment-aware communication and sensing, offering new ideas for efficient environment sensing and channel acquisition. This talk will introduce the latest research progress in the construction and application of CKM. By discussing the basic principles of CKM, typical cases of communication and sensing based on CKM, the theories and methods of CKM construction based on generative AI, as well as preliminary experimental verification, we will try to answer the five fundamental questions about CKM (2W+3H): What is CKM, why needs CKM, how to build and utilize CKM, and how to build prototypes?

**Bio:** Yong Zeng, IEEE Fellow, young chief professor of Southeast University and Purple Mountain Laboratory, national youth high-level talent, Jiangsu province distinguished young researcher, 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), Stanford “Top 2% of Scientists in the World - Lifetime Influence”. Prof. Zeng 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. Prof. Zeng proposed the concept of channel knowledge map (CKM), and his works have been cited by more than 29,000 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. Prof. Zeng was elevated to IEEE Fellow “for contributions to unmanned aerial vehicle communications and wireless power transfer”.



**Sunday, July 13, 2025**  
**10:50-11:30 (UTC+8 Beijing Time)**

<Venue: 1F Grand Ballroom 大宴会厅 / Zoom A: 895 4110 6467 >



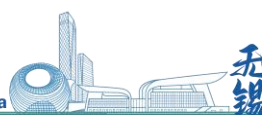
**Prof. Rui Zhang (IEEE Fellow)**

**The Chinese University of Hong Kong, Shenzhen, China & National University of Singapore, Singapore**

***Speech Title: Movable Antenna Aided Wireless Networks: Opportunities and Challenges***

**Abstract:** Movable antenna (MA) has been recently recognized as a promising technology for enhancing wireless communication/sensing performance by exploiting wireless channel spatial variation via antenna movement at the transceiver. In this talk, we provide a comprehensive overview of MAs, including their historical development, practical architectures and implementation methods, contemporary applications in wireless networks, as well as mathematical models, design issues and promising approaches to solve them. Various performance advantages of MAs over conventional fixed-position antennas (FPAs) are demonstrated, in terms of spatial diversity/multiplexing, interference mitigation, and flexible beamforming. Furthermore, a general six-dimensional MA (6DMA) system is introduced, which consists of distributed antenna arrays that can be independently adjusted in terms of 3D position and 3D rotation to achieve the greatest flexibility in antenna movement. It is shown that by jointly designing the positions and rotations of all 6DMA arrays equipped at the base station (BS) based on the users' statistical channel distribution, the wireless network capacity can be significantly improved over the existing BS with FPAs (e.g., sector antennas). Finally, we shed light on the research directions worthy of investigation in future work to unleash the full potential of MAs for wireless networks.

**Bio:** Dr. Rui Zhang received the B.Eng. (first-class Hons.) and M.Eng. degrees from National University of Singapore and the Ph.D. degree from Stanford University, all in electrical engineering. He is now a Principal's Diligence Chair Professor in School of Science and Engineering and Shenzhen Research Institute of Big Data, The Chinese University of Hong Kong, Shenzhen. He is also a Professor with the Department of Electrical and Computer Engineering, National University of Singapore. His current research interests include wireless power transfer, UAV/satellite communications, intelligent reflecting surface (IRS) and reconfigurable MIMO systems. He has published over 500 papers, which have been cited more than 100,000 times with the h-index over 130 (Google Scholar). He has been listed as a Highly Cited Researcher by Thomson Reuters / Clarivate Analytics since 2015. He was the recipient of the IEEE Communications Society Asia-Pacific Region Best Young Researcher Award in 2011, the Young Researcher Award of National University of Singapore in 2015, the Recognition Award of WTC, SPCC and TCCN Technical Committees of the IEEE Communications Society in 2020, 2021 and 2023, respectively. He received 18 IEEE Best Journal Paper Awards, including the IEEE Marconi Prize Paper Award in Wireless Communications (twice), the IEEE Communications Society Heinrich Hertz Prize Paper Award (thrice), the IEEE Communications Society Stephen O. Rice Prize, the IEEE Signal Processing Society Best Paper Award, etc. He has served as an Editor for several IEEE journals, including TWC, TCOM, JSAC, TSP, etc., and as TPC co-chair or organizing committee member for over 30 international conferences. He served as an IEEE Distinguished Lecturer of IEEE Communications Society and IEEE Signal Processing Society. He is a Fellow of IEEE and the Academy of Engineering Singapore.



Sunday, July 13, 2025  
 11:30-12:10 (UTC+8 Beijing Time)

<Venue: 1F Grand Ballroom 大宴会厅 / Zoom A: 895 4110 6467 >

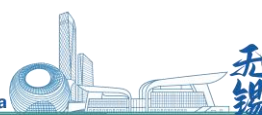


**Prof. Sanghoon Lee (IEEE Fellow)**  
 Yonsei University, South Korea

***Speech Title: Redefining Reality: Multi-Camera Systems for Photorealistic Human Avatars***

**Abstract:** With the advent of generative AI, the future of Metaverse technologies is evolving toward breathtaking movie graphics, immersive video games, and advanced 4D content. To drive the advancement of such 4D generative AI technologies, it is essential to approach the core technology of avatar creation. Since 2019, we have embarked on a journey to achieve the perfect 4D avatar and have been working to integrate this into generative AI-based content. Our current state-of-the-art dome-type multi-camera system enables precise, high-resolution avatar capture in a multi-illuminant environment using deep learning techniques. In this keynote, I will introduce the technologies developed in our lab and discuss the future direction we should take through a comparative analysis with technologies from Meta, Google, Microsoft, and Netflix. In particular, I will present key technologies such as Multi-View Object Registration, 4D Gaussian Splatting, and 4D Light Control Diffusion. I will also explore how these technologies can be integrated into future content applications.

**Bio:** Sanghoon Lee received his Ph.D. in EE from the University of Texas at Austin in 2000. He worked at Korea Telecom (1991–1996) and Lucent Technologies (1999–2002). He has been serving as the Deputy Editor-in-Chief/Associate Editor of the IEEE Transactions on Multimedia (2024–/2022–) and a Member of the Senior Editorial Board of the IEEE Signal Processing Magazine (2022–). He was an Associate/Guest Editor of the IEEE Transactions on Image Processing (2010–2014, 2013), and an Associate/Senior Area Editor of the IEEE Signal Processing Letters (2014–2022). He also served as the Chair of the Asia-Pacific Signal and Information Processing Association (APSIPA) IVM Technical Committee (2018–2019), an APSIPA BoG member (2020, 2022–2024), the Editor-in-Chief of APSIPA Newsletters (2022–2023), the Chair of the IEEE P3333.1 Quality Assessment Working Group (2011–2024), and the President of the Korean Society for Simulation Surgery (2023–2024). Including service as the General Chair of the 2013 IEEE IVMSWP Workshop, he has served as an organizing committee member for major conferences such as IEEE ICASSP, IEEE ICME, IEEE ICIP, and APSIPA ASC. He has also been active as a keynote speaker, invited speaker, and panelist at numerous academic conferences. He has received the Academic (2015), Contribution (2021), and Best Engineering Professor (2023) Awards from Yonsei University, the Chairman's Award from the Presidential Council on Intellectual Property (2021), the Outstanding Area Chair Award at IEEE ICME 2020, the Best Student Paper Award at QoMEX 2018, the IEEE Transactions on Multimedia Excellent Editor Award (2023, 2024), and the Best Demo Paper Award at ACM Multimedia 2024.



# Invited Speech

July 13-July 14, 2025  
(UTC+8 Beijing Time)

<Venue: 1F Meeting Room 1-3 > <Zoom A: 895 4110 6467>  
<Zoom B: 815 0186 6647> <Zoom C: 825 9385 7507>



**Dr. Liang Shen**  
National University of Defense  
Technology, China

**Speech Title:** Research on SAR  
Scene Matching Methods for  
Robust Guidance under  
Jamming Conditions



**Assoc. Prof. Tinghao Zhang**  
Xidian University, China

**Speech Title:** Study on imaging  
algorithm for highsquinted SAR  
with curved trajectory



**Prof. Wei Pu**  
University of Electronic Science  
and Technology of China,  
China

**Speech Title:** Artificial  
Intelligence (AI) for SAR  
imaging



**Assoc. Prof. Deqing Mao**  
University of Electronic Science  
and Technology of China,  
China

**Speech Title:** Advances on real  
aperture radar superresolution  
imaging



**Assoc. Prof. Yanlei Du**  
Aerospace Information  
Research Institute, Chinese  
Academy of Sciences, China

**Speech Title:** Polarimetric  
Radar Sea Clutter: Scattering  
Mechanism and Statistical  
Modeling



**Prof. Gang Xu**  
Southeast University, China

**Speech Title:** SVD-based Joint  
sparsity in SAR tomography for  
urban mapping



**Assoc. Prof. Tianming Ma**  
Shanghai University of  
Engineering Science (SUES),  
China

**Speech Title:** Cost-Optimized  
Resource Allocation in  
Downlink Hybrid Multiple  
Access Protocol with Max-Min  
Fairness



**Assoc. Prof. Zemin Zhou**  
National University of Defense  
Technology, China

**Speech Title:** Underwater  
Acoustic Signal Denoising with  
Diffusion-based Generative  
Models



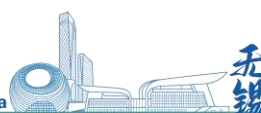
**Assoc. Prof. Wei Yang**  
National University of Defense  
Technology, China

**Speech Title:** Cognitive Radar  
Anti-Jamming Methodologies



**Assoc. Prof. Wenpeng Zhang**  
National University of Defense  
Technology, China

**Speech Title:** Nonlinear  
Representation, Estimation and  
Intelligent Recognition for  
Radar Targets with Micro-  
Motion







**Assoc. Prof. Xiaochen Yuan**  
Macao Polytechnic University,  
China

**Speech Title:** AI-Driven  
Protection for Content and  
Models.



**Prof. Yannick Benezeth**  
Univ. Bourgogne Franche-  
Comté, France

**Speech Title:** Stress  
eEstimation from Multimodal  
Data



**Prof. Haifeng Zhao**  
University of Chinese Academy of  
Sciences, Beijing, China & Key  
Laboratory of Space Utilization,  
Technology and Engineering Center  
for Space Utilization, Chinese  
Academy of Sciences, Beijing, China

**Speech Title:** A Data-Driven  
Machine Learning Approach for  
Correlating Geological Data in  
Extraterrestrial Exploration



**Dr. Zhe Geng**  
Nanjing University of  
Aeronautics and Astronautics,  
China

**Speech Title:** Context-driven  
automatic vehicle detection and  
classification in synthetic  
aperture radar andelectro-  
optical/infrared imagery based  
on cross-modality multiview  
feature fusion



**Prof. Jiaqiu Ai**  
Hefei University of Technology,  
China

**Speech Title:** Research on  
Space-borne Video-SAR High-  
precision Ship  
Detection Method Based on  
Spatio-temporal Correlation  
Learning



**Assoc. Prof. Wei Wang**  
National University of Defense  
Technology, China

**Speech Title:** SAR Target  
Image Generation Based on  
Deep Learning



**Assoc. Prof. Junling Wang**  
Beijing Institute of Technology,  
China

**Speech Title:** Symmetry  
Features in Space Target  
Radar Detection and Imaging



**Dr. Qinwei He**  
Global Energy Interconnection  
Research Institute Europe  
GmbH, Germany

**Speech Title:** Thermal and  
Vibration Energy Harvester  
enabled Batteryless Smart  
Sensor for Condition Monitoring  
of HVDC Converters



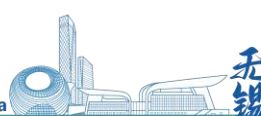
**Dr. Hongbin Liu**  
Shandong Jianzhu University,  
China

**Speech Title:** Object detection  
and long-term tracking in multi-  
camera surveillance



**Assoc. Prof. Thangarajah  
Akilan**  
Lakehead University, Canada

**Speech Title:** The Emergence  
of Self-supervised Learning in  
Medical Image Semantic  
Segmentation





**Prof. Ying Wei**  
Shandong University, China

**Speech Title:** Advances and Challenges in Audio-Visual Speech Separation



**Assoc. Prof. Zhuang Xie**  
National University of Defense Technology, China

**Speech Title:** Robust Radar Sensing Waveform Design Under Target Interpulse Fluctuation



**Assoc. Prof. Jian Wu**  
National University of Defense Technology, China

**Speech Title:** Blind Adaptive Beamforming for a Global Navigation Satellite System Array Receiver



**Assoc. Prof. Sinong Quan,**  
National University of Defense Technology, China

**Speech Title:** Radar Target Polarimetric Decomposition and Anti-Interference Recognition



# Special Session 1

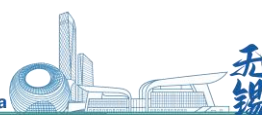
## SAR Fine Imaging and Multi-Domain Anti-Jamming

Chairman: Dr. Liang Shen, National University of Defense Technology, China

13:00-16:15, Saturday, July 13, 2025

<Venue: 1F Meeting Room 1 会议厅 1>

13:00-13:20 Invited Speech	Research on SAR Scene Matching Methods for Robust Guidance under Jamming Conditions  <b>Dr. Liang Shen</b> , National University of Defense Technology, China
13:20-13:40 Invited Speech	Study on imaging algorithm for highsquinted SAR with curved trajectory  <b>Assoc. Prof. Tinghao Zhang</b> , Xidian University, China
13:40-14:00 Invited Speech	Artificial Intelligence (AI) for SAR imaging  <b>Prof. Wei Pu</b> , University of Electronic Science and Technology of China, China
14:00-14:20 Invited Speech	Advances on real aperture radar superresolution imaging  <b>Assoc. Prof. Deqing Mao</b> , University of Electronic Science and Technology of China, China
14:20-14:40 Invited Speech	Polarimetric Radar Sea Clutter: Scattering Mechanism and Statistical Modeling  <b>Assoc. Prof. Yanlei Du</b> , Aerospace Information Research Institute, Chinese Academy of Sciences, China
14:40-15:00 Invited Speech	SVD-based Joint sparsity in SAR tomography for urban mapping  <b>Prof. Gang Xu</b> , Southeast University, China
15:00-15:15 SP603	Method of Refined Facade Model Extraction Based on TOMOSAR Point Cloud  <b>Haoyuan Chen</b> , Xidian University, China
15:15-15:30 SP604	Frequency-Domain Autofocus Method for High-Squint SAR BP Images  <b>Penghui Ma</b> , Xidian University, Chin
15:30-15:45 SP605	Random frequency shift interference suppression technology based on multi-channel SAR  <b>Shenghui Hu</b> , Xidian University, China
15:45-16:00 SP606	A distributed airborne radar anti-spoofing target location method based on SAR and monopulse information fusion  <b>Jiaqing Jiang</b> , Xidian University, China
16:00-16:15 SP609	Range grating lobes suppression techniques for SAR mode based on intra-pulse frequency agility waveform  <b>Tao Han</b> , Xidian University, China



# Special Session 3 & Oral Session 1

## Reconfigurable Intelligent Surface for 6G Communication Networks

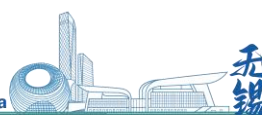
### Wireless Communication and Signal Processing for Complex Environments

Chairman: Assoc. Prof. Tianming Ma, Shanghai University of Engineering Science (SUES), China

13:00-16:05, Saturday, July 13, 2025

<Venue: 1F Meeting Room 2 会议厅 2>

13:00-13:20 Invited Speech	Cost-Optimized Resource Allocation in Downlink Hybrid Multiple Access Protocol with Max–Min Fairness  <b>Assoc. Prof. Tianming Ma</b> , Shanghai University of Engineering Science (SUES), China
13:20-13:40 Invited Speech	Underwater Acoustic Signal Denoising with Diffusion-based Generative Models  <b>Assoc. Prof. Zemin Zhou</b> , National University of Defense Technology, China
13:40-14:00 Invited Speech	Blind Adaptive Beamforming for a Global Navigation Satellite System Array Receiver  <b>Assoc. Prof. Jian Wu</b> , National University of Defense Technology, China
14:00-14:20 Invited Speech	Robust Radar Sensing Waveform Design Under Target Interpulse Fluctuation  <b>Assoc. Prof. Zhuang Xie</b> , National University of Defense Technology, China
14:20-14:35 SP079	A PARAFAC Decomposition Based Direct Tracking algorithm for Wireless Sensor Networks  <b>Hairui Zhang</b> , Northwestern Polytechnical University, School of Electronics And Information Xian, China
14:35-14:50 SP143	Interference Cancellation Technology for LEO Satellite Navigation Transceiver Channels Based on Joint Amplitude-Phase Optimization  <b>Pengpeng Li</b> , National Key Laboratory for Positioning, Navigation and Timing Technology. National University of Defence Technology, China
14:50-15:05 SP801	UAV-RIS assisted Maritime Beamforming based on Reinforcement learning  <b>Yihang Liu</b> , Shanghai Maritime University, China
15:05-15:20 SP718	A Fast Edge-End Threat Disposal Method Based on Kernel Probes and Lightweight Random Forest  <b>Jun Li</b> , Southeast University, China
15:20-15:35 SP020	Learning Traffic Anomalies from Generative Models on Real-Time Observations  <b>Fotis Giasemis</b> , LIP6, Sorbonne University, France
15:35-15:50 SP142	Improved PEGASIS in YRD Maritime Monitoring  <b>Bingjie Zhao</b> , Shanghai Maritime University, China
15:50-16:05 SP719	Deep Transfer Learning-Based Traffic Detection Technology for IoT Devices in Power Grid Integration  <b>Ninghui Tu</b> , Southeast University, China



## Special Session 5

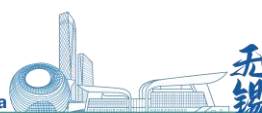
### Nonlinear Radar Signal Processing for Target Detection in Complicated Environments

Chairman: Assoc. Prof. Wenpeng Zhang, National University of Defense Technology, China

13:00-15:40, Saturday, July 13, 2025

<Venue: 1F Meeting Room 3 会议厅 3>

13:00-13:20	Cognitive Radar Anti-Jamming Methodologies
Invited Speech	<b>Assoc. Prof. Wei Yang</b> , National University of Defense Technology, China
13:20-13:40	Nonlinear Representation, Estimation and Intelligent Recognition for Radar Targets with Micro-Motion
Invited Speech	<b>Assoc. Prof. Wenpeng Zhang</b> , National University of Defense Technology, China,
13:40-13:55	Stepped frequency LFM radar signal modulation based on periodic-coded interrupted sampling
SP1001	<b>Kai Zhang</b> , National University of Defense Technology, China
13:55-14:10	Moving Target Imaging in WasSAR System
SP1002	<b>Jingwei Chen</b> , National University of Defense Technology, China
14:10-14:25	A Feature Extraction Framework Based on Relative Polarization Information of Polarimetric Radar
SP011	<b>Guoqing Wu</b> , National University of Defense Technology, China
14:25-14:40	A Novel Knowledge-Data Co-Driven Pol-SAR Target Identification Method
SP016	<b>Zezhou Wu</b> , National University of Defense Technology, China
14:40-14:55	False Alarm Suppressing for Passive Underwater Acoustic Target Detecting with Improved Culstring
SP064	<b>Hao Yin</b> , State Key Laboratory of Acoustics, Institute of Acoustics, Chinese Academy of Sciences, Beijing 100190, China
14:55-15:10	Vital sign detection using millimeter-wave radar based on two-channel VMD with channel selection
SP108	<b>Yong Jia</b> , Chengdu University of Technology, China
15:10-15:25	A DualDriven Intelligent Method for Clear Sky Echo Identification inMillimeter Wave Cloud Radar Observations
SP099	<b>Bingyang Li</b> , National University of Defense Technology, China
15:25-15:40	MCDD: A Novel Macao Change Detection Dataset for Sea Reclamation
SP039	<b>Qiutong Li</b> , Macao Polytechnic University, Macau, China



## Oral Session 2

### Data-driven Intelligent Information System Design and Artificial Intelligence Technology

Chairman: Assoc. Prof. Xiaochen Yuan, Macao Polytechnic University, China

13:00-15:45, Saturday, July 13, 2025		<Venue: 1F Grand Ballroom A 大宴会厅 A >
13:00-13:20 Invited Speech	A Data-Driven Machine Learning Approach for Correlating Geological Data in Extraterrestrial Exploration  <b>Prof. Haifeng Zhao</b> , University of Chinese Academy of Sciences, Beijing, China & Key Laboratory of Space Utilization, Technology and Engineering Center for Space Utilization, Chinese Academy of Sciences, Beijing, China	
13:20-13:40 Invited Speech	AI-Driven Protection for Content and Models.  <b>Assoc. Prof. Xiaochen Yuan</b> , Macao Polytechnic University, China	
13:40-14:00 Invited Speech	Stress eEstimation from Multimodal Data  <b>Prof. Yannick Benezeth</b> , Univ. Bourgogne Franche-Comté, France	
14:00-14:15 SP708	DimplePIR: Multi-Dimensional SimplePIR through Hierarchical Indexing  <b>Chenyang Liu</b> , Academy of Mathematics and Systems Science, Chinese Academy of Sciences, China	
14:15-14:30 SP715	A Game-Theory-Based Risk Assessment Method for Industrial Control Systems via Bayesian Attack Graphs  <b>Zhuoyue Jia</b> , Northeastern University, Shenyang, China	
14:30-14:45 SP042	An Intrinsic Security Issue in Tensorflow: The Potential Threats During the Training Phase  <b>Kailong Zhu</b> , National University of Defense Technology, China	
14:45-15:00 SP054	A Non-Pretrained Few-Shot Online Class Incremental Learning Design Based on Stochastic Adaptive Fourier Decomposition  <b>Chunyu Tan</b> , Anhui University, China	
15:00-15:15 SP061	On the Construction of Even-Length Perfect Gaussian Integer Sequences  <b>Kun-Lin Lee</b> , TAMKANG University, Taiwan	
15:15-15:30 SP034	Cross-Modality Discovery in Fragmented Datasets Leveraging Limited Homemade Data  <b>Yannick BENEZETH</b> , Université Bourgogne Europe, France	
15:30-15:45 SP146	Electronic Voting Scheme Based on Secure Multi-Party Computation  <b>Xiyu Qian</b> , School of Cyber Science and Engineering, Southeast University, China	

## Special Session 6

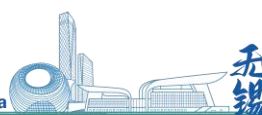
### High-Precision Detection and High-Resolution Imaging Technology for High-Speed Moving Targets

Chairman: Dr. Zhe Geng, Nanjing University of Aeronautics and Astronautics, China

13:00-15:30, Saturday, July 13, 2025

<Venue: 1F Grand Ballroom B 大宴会厅 B >

13:00-13:20 Invited Speech	Research on Space-borne Video-SAR High-precision Ship Detection Method Based on Spatio-temporal Correlation Learning  <b>Prof. Jiaqiu Ai</b> , Hefei University of Technology, China
13:20-13:40 Invited Speech	Context-driven automatic vehicle detection and classification in synthetic aperture radar and electro-optical/infrared imagery based on cross-modality multiview feature fusion  <b>Dr. Zhe Geng</b> , Nanjing University of Aeronautics and Astronautics, China
13:40-14:00 Invited Speech	Symmetry Features in Space Target Radar Detection and Imaging  <b>Assoc. Prof. Junling Wang</b> , Beijing Institute of Technology, China
14:00-14:15 SP032	Total Variation Regularized TDLAS Tomography for Temperature Imaging  <b>Jingjing Si</b> , Yanshan University, China
14:15-14:30 SP047	SVD-based Joint sparsity in SAR tomography for urban mapping  <b>Shuo Cui</b> , Southeast University, China
14:30-14:45 SP052	GEO SAR Squint Imaging Based on Variable Receive Window Opening Time  <b>Faguang Chang</b> , National University of Defense Technology, China
14:45-15:00 SP071	Orthogonal Matching Pursuit-Sparse Bayesian Learning Based SAR Tomographic Inversion of Urban Area  <b>Jin Xu</b> , Nanjing University of Aeronautics and Astronautics, China
15:00-15:15 SP031	MRCAD: A Prediction Algorithm for Alzheimer's Disease in Structural MRI Based on the Correlation of Multi-brain-region ROI Features  <b>Siyi Song</b> , Anhui University, China
15:15-15:30 SP014	Microwave Image Super-Resolution Using Polarization  <b>Yibin Liu</b> , National University of Defense Technology, China



## Special Session 2

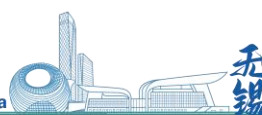
### Advanced Signal Processing and Applications on Electromechanical System

Chairman: Dr. Qinwei He, Global Energy Interconnection Research Institute Europe GmbH, Germany

16:25-18:30, Saturday, July 13, 2025

<Venue: 1F Meeting Room 1 会议厅 1>

16:25-16:45 Invited Speech SP043	Thermal and Vibration Energy Harvester enabled Batteryless Smart Sensor for Condition Monitoring of HVDC Converters  <b>Dr. Qinwei He</b> , Global Energy Interconnection Research Institute Europe GmbH, Germany
16:45-17:00 SP025	Deep Learning-Enhanced MUSIC: An FCDNN-MUSIC Fusion Approach for DOA Estimation in the Presence of Array Phase Errors  <b>Aifei Liu</b> , Xi'an Jiaotong-Liverpool University, China
17:00-17:15 SP402	A separation algorithm for satellite-based AIS signals based on deep learning  <b>Siyu Xiang</b> , Shanghai Maritime University, China
17:15-17:30 SP074	MultiChannel ECG Compression Using SAFD Based Joint Sparse Coding  <b>Chunyu Tan</b> , Anhui University, China
17:30-17:45 SP111	ADS-B Signal Fingerprint Recognition Based on Adaptive Short-Time Fourier Transform and Residual Networks  <b>Haiyan Luan</b> , Yantai Institute of Technology, China
17:45-18:00 SP116	SoRa: Waveform Features Based Soft Range Information Estimation Enabling Robust Tracking in Cluttered Environments  <b>Hongyu Xie</b> , College of Electronic Science and Technology, National University of Defense Technology, Changsha, China & National Key Laboratory for Positioning, Navigation and Timing Technology, Changsha, China
18:00-18:15 SP144	Cryptographically Enforced Cross-Border Data Governance ThroughTransmission Attestation Verification Coupling  <b>Rui Ding</b> , Lingang Special Area, China
18:15-18:30 SP051	Low-Complexity Design of Polynomial Beamformers for Uniform Linear Arrays  <b>Zhiyang Liu</b> , Nanjing University of Aeronautics and Astronautics, China





# Special Session 4

## Visual Intelligence for Object Detection, Tracking and Behavioral Analysis

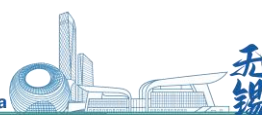
Chairman: Dr. Hongbin Liu, Shandong Jianzhu University, China

Assoc. Prof. Youmei Zhang, Qilu University of Technology, China

16:15-18:35, Saturday, July 13, 2025

<Venue: 1F Meeting Room 2 会议厅 2>

16:15-16:35	Object detection and long-term tracking in multi-camera surveillance
Invited Speech	<b>Dr. Hongbin Liu</b> , Shandong Jianzhu University, China
16:35-16:50	Semantic Embedding Learning-Based Video Anomalous Behavior Detection
SP021	<b>Long Chen</b> , Chongqing University of Posts and Telecommunications, China
16:50-17:05	A Method for Detecting SAR Vehicle Targets at Different Scales in Complex Background
SP055	<b>Zheng Ye</b> , Nanjing University of Aeronautics and Astronautics, China
17:05-17:20	Application of ECV-UNet Model in Semantic Segmentation of Wheat Stripe Rust
SP140	<b>Xin Zhi</b> , China Agricultural University, China
17:20-17:35	Multi-dimensional automatic detection scheme for abnormal video tampering based on digital watermarking and CNN
SP154	<b>Wanru Tang</b> , School of Cyber Science and Engineering, Southeast University, China
17:35-17:50	CSPA-SCA: An Attention-Enhanced YOLOv11 Architecture for Small Ship Detection in Complex Maritime Scenarios
SP155	<b>Yiyang Sun</b> , Qilu University of Technology (Shandong Academy of Sciences), China
17:50-18:05	Face-DeID-Net: Generative Face De-Identification with Identity Removal and Attribute Preservation for Latent Diffusion Model Training
SP707	<b>Yilin Zeng</b> , Beijing University of Posts and Telecommunications, Beijing, China
18:05-18:20	A Synergistic Framework Combining Multiscale Gradient Fusion and Frequency Domain Acceleration for SAR-Optical Image Registration
SP069	<b>Lipeng Lian</b> , National University of Defense Technology, China
18:20-18:35	Polarization-Multiplexed Optical Neural Network for Simultaneous Amplitude Reconstruction and Edge Detection
SP104	<b>Yue Wu</b> , Southeast University, China



## Oral Session 3

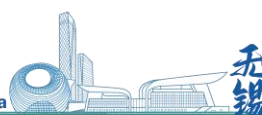
### Intelligent Image analysis And Image Modeling

Chairman: Prof. Robert Kuo-Chung LIN, Certis Group, Singapore

16:00-18:30, Saturday, July 13, 2025

<Venue: 1F Meeting Room 3 会议厅 3>

16:00-16:15 SP012	Case Study: Real-Time Object Remove and FOV to Monitoring AI Camera Cluster in Smart Building  <b>Robert Kuo-Chung LIN</b> , Certis Group, Singapore
16:15-16:30 SP005	Research on Fast insulator positioning algorithm of lightweight FAST-YOLOV5N  <b>Ziwei Zhou</b> , East University of Heilongjiang, China
16:30-16:45 SP023	Lightweight image encryption algorithm based on round-reduced SM4  <b>Shen Xu</b> , Nanjing University of Posts and Telecommunications, China
16:45-17:00 SP070	Parameter Design and Performance Analysis for Geosynchronous SAR Sparse Spotlight Mode  <b>Fuxuan Cai</b> , Nanjing University of Aeronautics and Astronautics, China
17:00-17:15 SP080	Design and Implementation of Smart Sanitation System Based on Unity 3D Modelling and Digital Twin Technology  <b>Xiangyu Gao</b> , Nanjing Normal University, China
17:15-17:30 SP006	Improved U-Net model based on deep Q-network optimisation for COVID-19 lung CT image segmentation  <b>Chaoyang Li</b> , Liaoning Petrochemical University, China
17:30-17:45 SP038	Pixel-Level Thermophysical Field Prediction from Microstructural Images Using U-Net Architectures  <b>Chengcheng Shen</b> , University of Chinese Academy of Sciences, China
17:45-18:00 SP060	Variational Diffusion Method for Blind Image Deblurring  <b>Zelong Wang</b> , National University of Defense Technology, China
18:00-18:15 SP141	SD-Net: Boosting Few-Shot Remote Sensing Scene Classification via Semantic Decomposing  <b>Liu Wang</b> , Beijing University of Technology, China
18:15-18:30 SP022	IncivilityCaps: A Multimodal Dataset for Image Captioning in Urban Incivility Scenes  <b>Yeping Zhao</b> , School of Internet, Anhui University, China



# Poster Session 1

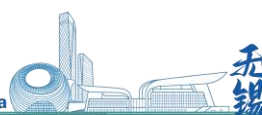
## AI-based Digital Image Detection, Recognition and Model Analysis

Chairman: TBA

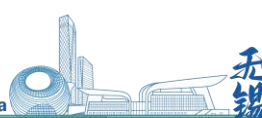
16:00-18:00, Saturday, July 13, 2025

<Venue: 1F Grand Ballroom A 大宴会厅 A>

#1 SP017	Pavement Distress Detection Model Based on Improved YOLOv10-CSS <b>Yuhang Jia</b> , Soochow University, China
#2 SP028	Maritime Target Detection Based on Multi-domain Feature Refinement Fusion Network <b>Yinglin Zhu</b> , University of Electronic Science and Technology of China, China
#3 SP029	Hierarchical State Space Representation Learning for Vehicle Classification in ISAR Imagery <b>Haohao Ren</b> , University of Electronic Science and Technology of China, China
#4 SP083	An Algorithm for high-resolution Multichannel SAR-GMTI Processing using 3D STAP and Continuous Subaperture <b>Rengli Liu</b> , East China Research Institute of Electronic Engineering, China
#5 SP084	NLA-3DUNet: A Non-Local Attention Mechanism-Based Network for Lung Parenchyma Segmentation <b>Yihong Wang</b> , Hohai University, Changzhou, China
#6 SP087	A Method of ISAR Imaging for Low-Altitude Target <b>Jinfeng Wang</b> , CETC38, China
#7 SP601	An Accelerated Back Projection Algorithm via Recursive Spectrum Fusion for High-Speed High-Squint SAR Imaging with Curved Trajectory <b>Gaotian Xu</b> , Xidian University, China
#8 SP607	Few-Shot Radar Modulation Recognition Based on Feature-Level Multi-Time-Frequency Fusion Algorithm <b>Guoliang Hu</b> , College of Electronic Engineering, National University of Defense Technology, China
#9 SP1005	SAR Superpixel Segmentation Based on Spatial Attention Network <b>Meiqi Yuan</b> , National University of Defense Technology, China
#10 SP008	Research on human gait characteristics at different walking speeds based on pose estimation and HHT <b>Yuzhe Tan</b> , School of Electrical and Information Engineering, North Minzu University, China
#11 SP018	Multi-observer Scanpaths for Omnidirectional Image Quality Assessment <b>Yuhang Li</b> , School of Computer Science, Beijing Institute of Technology, China
#12 SP078	Fast Implementation of Detection for Maneuvering Target with Multiple Motion Models based on ACCF <b>Xiaoying Sun</b> , Chinese Flight Test Establishment, China



#13 SP097	<p>Motion Compensation for Squint SAR Based on INS and Spatial Uniform Reconstruction</p> <p><b>Hong Hu</b>, No. 38 Research Institute, China Electronics Technology Group Corporation, China</p>
#14 SP114	<p>A deep learning model for rib fracture classification based on CT sequence images</p> <p><b>Hong Zhang</b>, Tianjin University, China</p>
#15 SP120	<p>CT and MRI Image Fusion Based on Improved Denoising Diffusion Probability Model</p> <p><b>Dilan Sun</b>, Tianjin University of Technology and Education, China</p>
#16 SP121	<p>Experimental Verification of Road Vehicle Detection Algorithm Based on LIDAR and Camera Fusion</p> <p><b>Jianfeng Yao</b>, Shanghai Jiao Tong University, China</p>
#17 SP123	<p>3D Reconstruction of Moving Targets based on SAR Shadow Information</p> <p><b>Shize Shang</b>, Nanjing Research Institute of Electronics Technology, China</p>
#18 SP124	<p>DGC-GatedFusion: An Improved YOLOv11 Model for Low-Light RGB-D Pedestrian Detection</p> <p><b>Jianhao Guo</b>, School of Electronic Engineering, Heilongjiang University, China</p>
#19 SP129	<p>Multi-source Collaborative Annotation and Management Platform for CCA Images Bridging AI Development and Clinical Diagnostics</p> <p><b>Zewei Qin</b>, Tianjin University, China</p>
#20 SP133	<p>Enhancing Rainy Image via Invertible Networks</p> <p><b>Yinghao Chen</b>, College of Electronic Science and Technology, National University of Defense Technology, China</p>
#21 SP135	<p>SExtract-Net: A Lightweight Multi-Scale Feature Fusion Network for Sonar Image Recognition</p> <p><b>Hanren Wang</b>, Hohai University, China</p>
#22 SP136	<p>DAFF-Net: A Detail-Aware Downsampling and Enhanced Feature Fusion Network for Underwater Dam Crack Image Object Detection</p> <p><b>Yueyue Liu</b>, Hohai University, China</p>
#23 SP157	<p>ISAR Image Registration Method Based on PCA-RANSAC Fusion</p> <p><b>Qihong Zou</b>, Minzu University of China, China</p>
#24 SP152	<p>Global-Local Feature Cross Fusion Network for Semantic Segmentation of Remote Sensing Images</p> <p><b>Yu Zhang</b>, Qilu University of Technology (Shandong Academy of Sciences), China</p>



## Poster Session 2

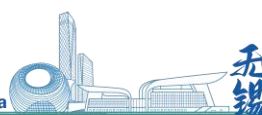
### Radar-based Multimodal Wireless Communication System and Signal Analysis Technology

Chairman: Assoc. Prof. Linning Peng, Southeast University, China

16:00-18:00, Saturday, July 13, 2025

<Venue: 1F Grand Ballroom B 大宴会厅 B>

#1 SP049	<p>SAR Target Detection and Recognition Based on Pixel-Level Prior Knowledge and Cosine Similarity Discrimination</p> <p><b>Erna Guo</b>, Nanjing University of Aeronautics and Astronautics, China</p>
#2 SP150	<p>Feature-Level Fusion Recognition of Radar Targets Based on Regularized Sequential Representation Network</p> <p><b>Haozhe Qiu</b>, National University of Defense Technology, China</p>
#3 SP009	<p>Research on Heart Rate Estimation Algorithm for PPG Signals Based on SVM-D-VP</p> <p><b>Liu Yang</b>, North Minzu University, China</p>
#4 SP033	<p>Joint Phase Noise and Transmitter Power Fluctuation Compensation for Sensing via OFDM ISAC Systems</p> <p><b>Runtong Guo</b>, University of Science and Technology of China, China</p>
#5 SP063	<p>Design and Implementation of Hybrid Sampling Scheme on FPGA for Deep Detection GPR</p> <p><b>Yangyang Fu</b>, National University of Defense Technology, China</p>
#6 SP065	<p>FRI-based DOA estimation of multi-beam data</p> <p><b>Yongfei Li</b>, Nanjing Research Institute of Electronics Technology, China</p>
#7 SP093	<p>Analysis of Nonstop-and-Go Effect in Spaceborne Ultra-High-Resolution SAR</p> <p><b>Pin Li</b>, National University of Defense Technology, China</p>
#8 SP401	<p>Performance study of high-resolution beam domain DOA estimation methods</p> <p><b>Qiufan Chen</b>, Naval Submarine Academy, China</p>
#9 SP501-A	<p>Cardinality Constrained Portfolio Optimization via Alternating Direction Method of Multipliers</p> <p><b>Yu Zhang</b>, China University of Petroleum (East China), China</p>
#10 SP902	<p>Bearing Fault Diagnosis Based on Improved Multi-Scale Feature Fusion and CBMA Attention Mechanism</p> <p><b>Yanling Zhang</b>, School of Information and Electrical Engineering, Shandong Jianzhu University, China</p>
#11 SP1003	<p>A Clustering-Based Measurement Association Method for 3-D Dense Multi-Target Localization in Distributed MIMO Radar Systems</p> <p><b>Siyu Tao</b>, National University of Defense Technology, China</p>



#12 SP1004	Micro-motion Classification for Radar Targets based on Time-Frequency Semantic Structure <b>Zhenye Liu</b> , National University of Defense Technology, China
#13 SP037	Pulse RFI Mitigation for SAR Data by Integrating Hankel Structure and Truncated Nuclear Norm Regularization <b>Bingxu Chen</b> , Xidian University, China
#14 SP045	Strong-PUF Based Identity Authentication Scheme Leveraging Homomorphic Encryption <b>Yikai Jiang</b> , Southeast University, China
#15 SP048	Cognitive Radar Waveform Design with Low PSL against Out-of-band Interference in Spectrally Crowded Environments <b>Meiyingzi Xu</b> , College of Electronic Science and Technology, National University of Defense Technology, China
#16 SP075	Self-Interference Impact Analysis in Low Earth Orbit Navigation Augmentation Systems <b>Yi Wu</b> , National University of Defense Technology, China
#17 SP082	Joint Autofocus and Stabilization for Video SAR by Residual Trajectory Deviation Estimating <b>Yingpei Chen</b> , National University of Defense Technology, China
#18 SP089	UWB-based Positioning Scheme for Indoor NLOS Environments <b>Yan Wang</b> , Northeastern University at Qinhuangdao, China
#19 SP106	Adaptive Quantization for Key Generation: Balancing Rate and Consistency <b>Ruikai Zhang</b> , Southeast University, China
#20 SP139	Heuristic Redundant Routing and Scheduling Algorithm Based on MCQF <b>Weiqliang Pan</b> , South China University of Technology, China
#21 SP147	Active Radar Jamming Recognition Method Based on Dynamic Window-Length STFT Optimization and Dual-Attention Network <b>Yongsheng Sun</b> , Radio Equipment Research Institute, China
#22 SP505	A High-Order Motion Parameter Estimation Method for Multistatic GEO SAR Based on Improved Fractional Fourier Transform <b>Xiaonan Cheng</b> , National University of Defense Technology, China
#233 SP506	DiffRotDet: Diffusion-based Rotated Object Detection Network <b>Lei Xie</b> , National University of Defense Technology, China
#24 SP711	Research on virus detection based on Markov texture and efficient attention network <b>Changxin Wu</b> , Anhui Jianzhu University, Hefei 230601, China



# Online Session 1

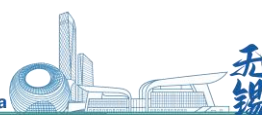
## Image Detection and Recognition Algorithms

Chairman: Assoc. Prof. Chongyi Fan, National University of Defense Technology, China

9:00-12:10, Monday, July 14, 2025

<Zoom A: 895 4110 6467>

9:00-9:20	SAR Target Image Generation Based on Deep Learning
Invited Speech	<b>Assoc. Prof. Wei Wang</b> , National University of Defense Technology, China
9:20-9:40	Radar Target Polarimetric Decomposition and Anti-Interference Recognition
Invited Speech	<b>Assoc. Prof. Sinong Quan</b> , National University of Defense Technology, China
9:40-9:55	Distance Difference for Fast Shape Recognition to Minimum Enclosing Polygons
SP153	<b>Zekun Li</b> , Northwest Institute of Mechanical and Electrical Engineering, China
9:55-10:10	Refined Prototype Classification Network with Multi dimension Feature Embedding for Few shot SAR Target Recognition
SP030	<b>Xinyan Zou</b> , University of Electronic Science and Technology Of China, China
10:10-10:25	SAR Target Recognition with Auxiliary Data Generated by Infrared-to-SAR Translation Models
SP046	<b>Chongqi Xu</b> , Nanjing University of Aeronautics and Astronautics, China
10:25-10:40	Parallel Enhanced DETR: Improving Feature Utilization in Object Detection
SP062	<b>Jiangyu Shi</b> , Wuhan University of Technology, China
10:40-10:55	Traffic target detection method based on improved YOLOv8s
SP100	<b>Wenyan Li</b> , Guangdong University of Technology, China
10:55-11:10	MCSG-YOLOv8 A Lightweight Underwater Pipeline Defect Detection Algorithm
SP503	<b>Yuhang Wang</b> , Ocean University of China, China
11:10-11:25	A UWB-MIMO through-wall radar target detection algorithm based on contrast detection and region- growing feature discrimination
SP602	<b>Yibo Zhao</b> , Central South University, China
11:25-11:40	An Application Study of Car Body Number Recognition Based on PGNet
SP903	<b>Yanfei Zhou</b> , Shandong University of Engineering and Vocational Technology, China
11:40-11:55	Dynamic IoT Device Identification Through Single-Packet Feature Analysis
SP149	<b>Ruihao Wang</b> , Southeast University, China
11:55-12:10	Robustness of PCANet with Block Optimization in Noisy Image Recognition
SP128	<b>Quanyao Zhang</b> , Tianjin Normal University, China



## Online Session 2

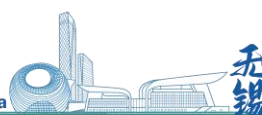
### Image Segmentation and Data Privacy

Chairman: Assoc. Prof. Thangarajah Akilan, Lakehead University, Canada

9:00-11:20, Monday, July 14, 2025

<[Zoom B: 815 0186 6647](#)>

9:00-9:20 Invited Speech	The Emergence of Self-supervised Learning in Medical Image Semantic Segmentation  <b>Assoc. Prof. Thangarajah Akilan</b> , Lakehead University, Canada
9:20-9:35 SP716	Bulkhead: an Optimized Privacy-preserving Neural Network Inference System Design  <b>Yefan Wu</b> , Hainan University, China
9:35-9:50 SP044	An Image Encryption Scheme Integrating PUF-Driven Chaotic Systems and DNA Computing  <b>Hongzhan Song</b> , Southeast University, China
9:50-10:05 SP137	CF-DPGNN: An Edge-Level Differential Privacy Framework for Collaborative Filtering Recommendation System  <b>Xiaoxuan Hu</b> , Beijing Information Science & Technology University, China
10:05-10:20 SP066	Feature-Scale Attentive Pseudo-Labeling for Semi- Supervised Wafer Map Defect Segmentation  <b>Mohammad Mehedi Hasan</b> , Beijing University of Technology, China
10:20-10:35 SP067	A Lightweight Multi-scale Feature Enhancement Network for real-time Sementic Segmentation  <b>Longshuang Li</b> , Wuhan University of Technology, China
10:35-10:50 SP113	Image Segmentation of Integrated Circuit Chips Based on Otsu and Genetic Algorithms  <b>Kai Qi</b> , Tianshui Normal University, China
10:50-11:05 SP117	A boundary-constrained approach for 3D medical image segmentation  <b>Shengwei Qi</b> , School of Software Engineering, Dalian University, China
11:05-11:20 SP130	MSA-Net: Potato pollen image segmentation based on the U-Net model with multi-scale attention mechanism  <b>Xia Lu</b> , Yunnan Normal University, Kunming, China



## Online Session 3

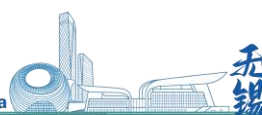
### Digital Signal Acquisition, Analysis, and Processing Methods

Chairman: Assoc. Prof. Aifei Liu, Xi'an Jiaotong-Liverpool University, China

9:00-12:20, Monday, July 14, 2025

<Zoom C: 825 9385 7507>

9:00-9:20 Invited Speech	Advances and Challenges in Audio-Visual Speech Separation <b>Prof. Ying Wei</b> , Shandong University, China
9:20-9:35 SP077	A MultiPath Forwarding Based Congestion Avoidance Strategy for Content Centric Networking <b>Qian Gao</b> , Nanjing Normal University, China
9:35-9:50 SP081	A Localization Method Using Frequency Difference of Arrival with Multiple Moving Observers <b>Wenjun Zhang</b> , National University of Defense Technology, China
9:50-10:05 SP301	Design of a multi-mode RF signal acquisition and storage system based on FPGA <b>Yi WANG</b> , Beijing Institute of Technology, School of Information and Electronics, China
10:05-10:20 SP024	Real-Time MIMO-SAR Signal Processing System on Multi-Core DSP <b>Yifan Gou</b> , Nanjing University of Aeronautics and Astronautics, China
10:20-10:35 SP094	Accurate Frequency Estimation of Sinusoidal Signals Using DFT Interpolation <b>Shen Xu</b> , Beijing JiaoTong University, China
10:35-10:50 SP107	Intelligent Radar Data Acquisition and Processing Method Based on FPGA <b>Ping Zhang</b> , Beijing Polytechnic University, China
10:50-11:05 SP156	Seismic Signal Denoising Technology: A Patent Landscape Review <b>Xiaoli Wang</b> , National Geological Library of China, China
11:05-11:20 SP057	Improved Wave-U-Net network for speech enhancement in ocean noise environment <b>Huarui Cai</b> , Tianjin University of Commerce, China
11:20-11:35 SP058	Distributed Particle Filter with Novel Hybrid Resampling and Balanced Workload <b>Yuanhao Gong</b> , Hunan Normal University, China
11:35-11:50 SP118	MSTC-OCDM: A High-Reliability Transmission Scheme for Power-Line Communications <b>Xiaoyu Zhou</b> , Southeast University, China
11:50-12:05 SP132	Robust DOA Estimation based on Subarray Learning Selection <b>Yudong Wang</b> , Shanghai Jiao Tong University, China
12:05-12:20 SP504	A Self-Organizing Map Neural Network Based RAIM Method for Standalone BDS Receivers <b>Guangyao Cao</b> , Nanjing Nanrui Information and Communication Technology Co., Ltd, China



## Online Session 4

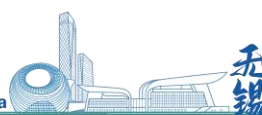
### Data Communication and Information Security

Chairman: Assoc. Prof. Zhongyuan Qin, Southeast University, China

9:00-11:45, Monday, July 14, 2025

<Zoom D: 819 6180 8210>

9:00-9:15 SP704	MSTLC: A Cross-chain Protocol Based on Multi-Signature Timelock <b>Fangyu Liu</b> , Jiangsu Normal University, China
9:15-9:30 SP706	SecuVault: A Secure and Private Self-Sovereign Identity Wallet for Windows Platform <b>Chuanlong Xie</b> , University of Science and Technology of China, China
9:30-9:45 SP019	A Blockchain-Based Integrity Auditing Scheme for Infectious Disease Data Surveillance <b>Ruiting Li</b> , Northwest Normal University, China
9:45-10:00 SP007	A 5G Physical Layer Key Generation Scheme Based on Attention-Integrated Autoencoder <b>Weicheng Zhang</b> , Southeast University, China
10:00-10:15 SP710	Malware Detection in Virtualized Environments Through API Call Graph Analysis <b>Liu Yuxin</b> , State Grid Fujian Electric Power Co., Ltd. Putian Power Supply Company, China
10:15-10:30 SP026	Defending Against Backdoors in Federated Learning by Self Supervised Learning and Anomaly Client Detection <b>Qian Lu</b> , Southeast University, China
10:30-10:45 SP036	Joint Altered Calibration with Linear Interpolation for Cross-sampling <b>Kaiwen Lin</b> , University of Science and Technology of China, China
10:45-11:00 SP068	Intent-based Human-Object Interaction Driven Autonomous Task Acquisition Method for Robots <b>Xu Zhang</b> , Dalian University, China
11:00-11:15 SP092	Study and Realization of DPDK-Based Intelligent Packet Parsing in Heterogeneous Networks <b>Xiaoling Mu</b> , Beijing Polytechnic University, China
11:15-11:30 SP122	An improved method for reducing PAPR based on SLM method in OCDM system <b>Xuan Ling</b> , Southeast University, China
11:30-11:45 SP125	A short-term power load forecasting method taking into account similar days <b>Mingkang Xu</b> , College of Mechanical and Electrical Engineering, Hohai University, China



## Online Session 5

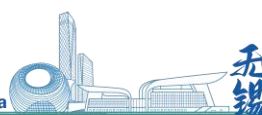
### Image Modeling and Digital Imaging Technology

Chairman: Asst. Prof. Suphongsra Khetkeeree, Mahanakorn University of Technology, Thailand

13:30-16:30, Monday, July 14, 2025

<Zoom A: 895 4110 6467>

13:30-13:45 SP717	Research on Privacy-Preserving Data Sanitization Methods for Power Grid Dispatch Based on Zero-Knowledge Proof Fusion <b>Man Hu</b> , Dispatch Control Center, North China Branch of State Grid Cooperation, Beijing, China
13:45-14:00 SP138	Multi-Model Joint Atmospheric Correction for Wide-Area InSAR Surface Deformation Monitoring <b>Yuan Yuan</b> , Hubei Open University, China
14:00-14:15 SP004	Fast Near-field Radar Imaging Method Based on OFDM Waveform <b>Changhao Shang</b> , University of electronic science and technology of China, China
14:15-14:30 SP015	-map-Guided Attenuation Correction of PET Images Based on Deep Learnin <b>Qingwang Pei</b> , Anhui University, China
14:30-14:45 SP050	A Dual-Domain Parallel Fusion Network for Low-Dose CT Reconstruction <b>Shuang Xie</b> , University of Electronic Science and Technology of China Chengdu, China
14:45-15:00 SP056	Breaking the 2D Barrier: 3D human pose Reconstruction with graph neural networks <b>Pranav G Kashyap</b> , PES UNIVERSITY, INDIA
15:00-15:15 SP059	An Improved CS Algorithm for GEO-LEO BiSAR Ground Moving Target Imaging <b>Xiao Xie</b> , Beijing Research Institute of Telemetry, China
15:15-15:30 SP105	Development and Application of Image Capture System Based on Microcontroller <b>Dabo Dong</b> , Beijing Polytechnic University, China
15:30-15:45 SP085	A comparative study of U-Net-related networks under dental X-Ray <b>Jianqing Xun</b> , Tianjin University of Commerce, China
15:45-16:00 SP103	Precision-Driven MRI Data Recovery: Integrating SAGE Trajectory Optimization with PROPELLER Acquisition <b>Zhanyi Zhou</b> , University of Science and Technology of China, China
16:00-16:15 SP027	MDMF-Net: Multi-Dimensional integrated Multimodal Feature Fusion Alzheimer's Disease Prediction Network <b>Jiahao Mei</b> , Anhui University, China
16:15-16:30 SP158	Measuring the Presence of Wetness in Vapour Flow Using Optical Imaging Technique <b>Ian Kemp</b> , Advanced Engineering Centre, University of Brighton, UK



## Delegates List

Siyu Xiang	Shanghai Maritime University, China
Zhang-Lei Shi	China University of Petroleum (East China), China
Zili Qin	University of Chinese Academy of Sciences, China
Chao LI	Institute of Acoustics, Chinese Academy of Sciences, China
Yi Zhou	National University of Defense Technology, China
Jiarui Wang	National University of Defense Technology, China

