Conference Program

(DRAFT VERSION - NOVEMBER 5, 2026)

2026 THE 12TH INTERNATIONAL CONFERENCE ON COMMUNICATION AND INFORMATION PROCESSING

Lingshui, Hainan, China | November 13-16, 2026

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WELCOME MESSAGE

Distinguished Guests, Esteemed Colleagues, Ladies and Gentlemen,

It is my great honor to extend a warm welcome to each of you at the 12th International Conference on Communication and Information Processing (ICCIP 2026), held in the picturesque coastal city of Lingshui, Hainan, from November 13 to 15, 2026. Sponsored by the Bureau of Li'an International Education Innovation Pilot Zone, Lingshui, Hainan, co-sponsored by Beijing University of Posts and Telecommunications, and supported by Queen Mary University of London and the National Key Laboratory of Advanced Communication Networks, this conference serves as a premier forum for global researchers, scholars, and industry professionals to converge and explore cutting-edge advances in communication and information processing.

Focused on our core theme, ICCIP 2026 encompasses 13 specialized tracks—from AIoT and 5G/6G sustainability to intelligent biomedical information processing and smart agriculture—reflecting the breadth and depth of our field. The accepted papers, rigorously peer-reviewed, will be published in the IEEE Xplore Digital Library and indexed by Ei Compendex and Scopus, ensuring your valuable research gains global visibility.

We are privileged to gather here, not only to exchange insights, present innovations, and foster collaborations but also to draw inspiration from Lingshui's vibrant coastal environment. Let us seize this opportunity to engage in fruitful discussions, forge lasting partnerships, and drive the future of communication and information processing technologies.

Once again, welcome to ICCIP 2026! May this conference be a resounding success, and may your time in Lingshui be both productive and memorable. Thank you!

ICCIP 2026 Conference Committee

ICCIP 2026

Conference Committee

ORGANIZING COMMITTEE

- Conference Chairs -

Li Guo, Beijing University of Posts and Telecommunications, China

Michael Chai, Queen Mary University of London, UK

- Conference Co-chair -

Haijun Zhang, University of Science and Technology Beijing, China

- Program Chairs -

Jesus Requena Carrion, Queen Mary University of London, UK

Shibiao Xu, Beijing University of Posts and Telecommunications, China

Pascal Lorenz, University of Haute Alsace, France

Xinchao Zhao, BUPT-QMUL Hainan College, China

- Local Organizing Chairs -

Hai Huang, BUPT-QMUL Hainan College, China

Dimitris Chiotis, Queen Mary University of London, UK

- Publicity Co-chairs -

Xiao Kang, Beijing University of Posts and Telecommunications, China

Guanjun Wang, Hainan University, China

Shuwen Dang, Shanghai University of Engineering Science, China

Luyining Gan, Beijing University of Posts and Telecommunications, China

- Track Chairs -

Jie Liu, Beijing University of Posts and Telecommunications, China

Danpu Liu, Beijing University of Posts and Telecommunications, China

Ling Zhao, Beihang University, China

Tiankui Zhang, Beijing University of Posts and Telecommunications, China

Yu Xu, Nanchang University, China

Haitao Zhang, Beijing University of Posts and Telecommunications, China

Lei Li, Beijing University of Posts and Telecommunications, China

Ya Li, Beijing University of Posts and Telecommunications, China

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Rongfeng Li, Beijing University of Posts and Telecommunications, China

Hai Huang, Beijing University of Posts and Telecommunications, China

Lantian Li, Beijing University of Posts and Telecommunications, China

Weilong Ding, Zhejiang University of Technology, China

Jiguang Zhang, Institute of Automation, Chinese Academy of Sciences, China

Wenchao Gao, China University of Mining and Technology, China

Fangrong Zong, Beijing University of Posts and Telecommunications, China

CONFERENCE VENUE

Block B, Multi-function Hall, BUPT-QMUL Hainan College

北京邮电大学玛丽女王海南学院专享楼 B 座多功能厅



Boxue Avenue, Lingshui Li Autonomous County, Hainan Province, China 572423

海南省陵水黎族自治县博学大道

TRAFFIC INFORMATION

➤ From Sanya Phoenix International Airport

Self-driving/Taxi: Distance ~80 km, travel time 1.5 hours via G98 Hainan Island Ring Expressway.

HSR + Taxi: Take a taxi from the airport to Sanya Railway Station (11 km, 15 mins), then HSR to Lingshui Station (21 mins), followed by a taxi to the library (16 km, 25 mins). Total time: ~50 mins.

➤ From Lingshui Railway Station

Taxi/Rideshare: 20 km, 30 mins.

Public Bus: Route 91, 46 mins (walk 1.7 km after alighting at Pilot Zone).



GUIDELINES

- Onsite Oral Presentation

1. The duration of a presentation slot is 15 minutes. Please target your lecture for a duration of about 10 minutes for the presentation plus about 5 minutes for questions from the audience.
2. Your punctual arrival and active involvement in each session will be highly appreciated.

   - Get your presentation PPT or PDF files prepared and backed up.
3. Laptops, projector & screen, laser sticks will be provided by the conference organizer.

- Poster Presentation

1. The Size for poster is A1, please print it out and bring it to the venue.
2. It's expected that at least one author stands by the poster for (most of the time of) the duration of the poster session. This is essential both to present your work to anyone interest in it and to make sure that your presence is verified by committee.

- Online Presentation

1. Meeting Rooms

ZOOM Meeting:

Room A: https://us02web.zoom.us/j/86403455079

Room B: https://us02web.zoom.us/j/86913697975

Room C: https://us02web.zoom.us/j/83948631009

Password: ICCIP2026

Time Zone: China Standard Time (CST), UTC/GMT+8

2. Test Your Presentation

Room A: https://us02web.zoom.us/j/86403455079

Date: Nov. 13, 2026

Prior to the formal meeting, online presenters shall join the test room to ensure everything is on the right track. Please check your test Zoom Meeting ID on this program.

3. Oral Presentation

Please join the meeting room 10 minutes in advance.

Stay online during Keynote & Invited speeches and your own sessions. English Only during the conference. Rename your screen name before entering the room.

4. Follow us on We-chat

5. Photo Stream

AGENDA OVERVIEW

Nov. 13, 2026 | Friday

Time	Activity	Venue
	For Onsite Participants	
10:00-17:00	Onsite Sign-in & Conference Materials-Collection Venue: Lobby, WoQu Serviced Apartment, Lingshui （ 地点：陵水·窝趣服务式公寓， 大堂 ）	
	For Online Participants	
	Room A: https://us02web.zoom.us/j/86403455079 Zoom ID: 864 0345 5079 Password: ICCIP2026	
10:00-12:00	Online-Sign-in & Equipment Testing for Session Chairs, Committees	
14:00-16:00	Online-Sign-in & Equipment Testing for Online Session 1 & 2 & 3 & 4	
16:00-18:00	Online-Sign-in & Equipment Testing for Online Session 5 & 6 & 7	

Nov. 14, 2026 | Saturday

Time	Activity	Venue
08:30-17:00	Onsite Sign-in & Conference Materials Collection	Lobby, Block A
Opening Ceremony		
Multi-function Hall, 1st Floor, Block B		
Host: TBA		
08:45-08:50	WELCOME MESSAGE	
08:50-08:55	OPENING REMARKS	
08:55-09:00	Group Photo	
Keynote Speeches		
09:00-09:40	Prof. Yejun He Shenzhen University, China Speech Title: Enhancing Over-the-Air Computation in Low-Altitude UAV Networks Based on Pinching-Antenna Systems	Multi-function Hall, 1st Floor, Block B
09:40-10:10	Coffee Break	
10:10-10:50	Prof. Feifei Gao Tsinghua University, China Speech Title: Key Technologies and Prototype Design for Integrated Sensing and Communications System	Multi-function Hall, 1st Floor, Block B
10:50-11:30	Prof. Gang Feng University of Electronic Science and Technology of China, China Speech Title: Efficient multi-agent collaborative decision-making mechanisms in 6G networks	Multi-function Hall, 1st Floor, Block B
11:30-13:30	Lunch: Dining Hall No.2	

AFTERNOON ONSITE PRESENTATIONS		
13:30-15:05	Onsite Session 1: Wireless Communication Systems and Cybersecurity Architectures Driven by Edge Intelligence Session Chair: Luyining Gan, Beijing University of Posts and Telecommunications, China Invited Speaker: Kazuya Ueki, Meisei University, Japan CP476; CP496; CP5167; CP5142; CP5132	Meeting room 1
13:30-15:00	Onsite Session 2: Biological Perception and Complex Data Analysis in Intelligent Healthcare CP308; CP358; CP481; CP5114; CP5162-A; CP5156	Meeting room 2
13:30-15:20	Onsite Session 3: Wireless Communication Systems and Cybersecurity Architectures Driven by Edge Intelligence Session Chair: Hai Huang, Beijing University of Posts and Telecommunications, China Invited Speaker: Hongmei Zhang, Guilin University of Electronic Technology, China CP306; CP368; CP478; CP5149; CP5125; CP5126	Meeting room 3
13:30-15:00	Onsite Poster Session 1: Data-Model-Driven Intelligent Sensing and Digital Multimedia Applications CP311; CP326; CP333; CP329; CP486; CP485; CP479; CP5166; CP5163; CP5122; CP5157	Meeting room 4
15:20-16:00	Coffee Break	
16:00-17:15	Onsite Session 4: Intelligent Communication and Computation (Track 3) Session Chair: Yu Xu, Nanchang University, China CP309; CP5107; CP310; CP5173; CP492; CP5123; CP339	Meeting room 1
16:00-18:15	Onsite Session 5: Non-Terrestrial Networks (NTN) (Track 2) CP342; CP349; CP5131; CP484; CP5171; CP204; CP203; CP205;	Meeting room 2

	CP5175	
16:00-17:30	Onsite Poster Session 2: Advanced Satellite Communications, Radar Sensing, and Wireless Intelligent Network Joint Optimization Technologies CP301; CP332; CP307; CP347; CP488; CP201; CP497; CP5159; CP5158; CP5136; CP5134; CP5143	Meeting room 4
18:30-20:30	Dinner: Dining Hall No.1	

Nov. 15, 2026 | Sunday

Room A: 86403455079
Room B: 86913697975
Room C: 83948631009
Password: ICCIP2026

Time	Activity	Venue
10:00-12:00	Online Session 1: Large Language Model-Driven Intelligent Information Processing Technologies CP487; CP361; CP359; CP4100; CP340; CP319; CP206; CP489	Room A
10:00-12:00	Online Session 2: Machine Vision-Driven Industrial Process Intelligent Monitoring and Optimization Methods CP302; CP337; CP499; CP357; CP331; CP330; CP362; CP364	Room B
10:00-12:00	Online Session 3: Key Technologies for Visual Detection and Object Recognition in Complex Scenes CP316; CP312; CP321; CP336; CP335; CP325; CP4104; CP5145	Room C
12:00-13:30	Break Time	
13:30-15:30	Online Session 4: Three-Dimensional Reconstruction and Image Generation Synergized by Neural Rendering and Generative Models CP313; CP344; CP343; CP353; CP354; CP493; CP498; CP5165	Room A
13:30-15:30	Online Session 5: Key Technologies for Space-Ground Integrated Satellite Networks and Cooperative Communications CP5130; CP5144; CP5135; CP360; CP472; CP4102; CP5154; CP5174	Room B
13:30-15:45	Online Session 6: Intelligent Prediction Models and Application Technologies Driven by Multi-Modal Information Fusion CP495; CP328; CP315; CP338; CP346; CP350; CP469; CP5164; CP345	Room C
15:30-15:50	Break Time	

15:50-17:50	Online Session 7: Physical Layer Technologies and Intelligent Signal Processing for 6G Wireless Communications CP304; CP317; CP474; CP5129; CP5119; CP5172; CP341; CP303	Room A

KEYNOTE SPEAKER



Prof. Yejun He

Shenzhen University, China

Multi-function Hall, 1st Floor, Block B | B 座一层多功能厅

9:00-9:40, Nov. 14th, 2026

Biography: Yejun He received the Ph.D. degree in information and communication engineering from the Huazhong University of Science and Technology (HUST), Wuhan, China, in 2005. In 2006, he joined Shenzhen University, where he is currently a Distinguished Professor and the Director of Sino-British Antennas and Propagation Joint Laboratory of MOST, the Director of Guangdong Engineering Research Center of Base Station Antennas and Propagation, and the Director of the Shenzhen Key Laboratory of Antennas and Propagation. He was selected as an Expert with Special Government Allowance from the State Council in China in 2024. He has authored or coauthored more than 380 research articles, eight books, and holds about 40 patents, with an h-index of 52 and over 10,000 citations. His research interests include wireless communications, antennas, and radio frequency. Dr. He is a Fellow of IET and a Fellow of the China Institute of Communications.

Speech Title: Enhancing Over-the-Air Computation in Low-Altitude UAV Networks Based on Pinching-Antenna Systems

Abstract: In low-altitude networks, unmanned aerial vehicle (UAV) swarms are expected to serve as distributed sensing platforms that continuously collect environmental and operational data, where efficient aggregation of distributed data is critical for latency-critical aerial applications. Over-the-air computation (AirComp) improves spectral efficiency through analog signal superposition, but its performance is often limited by heterogeneous air-to-ground channels and strict UAV peakpower constraints, resulting in computation distortion dominated by the weakest link. This talk introduces a pinching-antenna system (PASS) enhancing AirComp in low-altitude UAV network, where the base station (BS) employs dielectric waveguides and can adjust the radiation (pinching) positions to flexibly shape the effective transmission channels. Such a BS-side antenn reconfiguration provides an additional degree of freedom, thereby enhancing the received signal strength and facilitating magnitude alignment. We aim to minimize the computation mean squared error (MSE) by jointly optimizing the BS receive decoding

vector, the UAV transmit power, the PASS pinching positions, and the UAV locations. To solve the resulting non-convex problem, we develop an alternating-optimization framework that admits closedform update for the design of decoding vectors and transmit power, alternating linear search for the pinching positions, and a successive convex approximation algorithm with a trust region for UAV location optimization. Related key technologies and challeges are also presented.

KEYNOTE SPEAKER



Prof. Feifei Gao

Tsinghua University, China

Multi-function Hall, 1st Floor, Block B | B 座一层多功能厅

10:10-10:50, Nov. 14th, 2026

Biography: Feifei Gao (Fellow, IEEE) received the B.Eng. degree from Xi'an Jiaotong University, Xi'an, China in 2002, the M.Sc. degree from McMaster University, Hamilton, ON, Canada in 2004, and the Ph.D. degree from National University of Singapore, Singapore in 2007. Since 2011, he joined the Department of Automation, Tsinghua University, Beijing, China, where he is currently a tenured full professor.

Prof. Gao's research interests include signal processing for communications, array signal processing, convex optimizations, and artificial intelligence assisted communications. He has authored/coauthored more than 200 refereed IEEE journal papers and more than 150 IEEE conference proceeding papers that are cited more than 28000 times in Google Scholar. Prof. Gao has served as an Editor of IEEE Transactions on Wireless Communications, IEEE Journal of Selected Topics in Signal Processing (Lead Guest Editor), IEEE Transactions on Cognitive Communications and Networking, IEEE Signal Processing Letters (Senior Editor), IEEE Communications Letters (Senior Editor), IEEE Wireless Communications Letters, and China Communications. He has also served as the symposium co-chair for 2019 IEEE Conference on Communications (ICC), 2018 IEEE Vehicular Technology Conference Spring (VTC), 2015 IEEE Conference on Communications (ICC), 2014 IEEE Global Communications Conference (GLOBECOM), 2014 IEEE Vehicular Technology Conference Fall (VTC), as well as Technical Committee Members for more than 50 IEEE conferences.

Speech Title: Key Technologies and Prototype Design for Integrated Sensing and Communications System

Abstract: In the future, millions of base stations (BSs) and billions of users (UEs) will natively build an integrated sensing and communications (ISAC) system, which can utilize intelligent ubiquitous methods to realize the ultimate goal of sensing, i.e., constructing the global mapping from real physical world to digital twin world, while providing communications services at the same time. For this purpose, we conduct a series of

theoretical and technical researches on ISAC, in which we decompose the real physical world into static environment, dynamic targets, and various object materials. The ubiquitous static environment occupies the vast majority of the physical world, for which we design static environment reconstruction (SER) scheme to obtain the layout and point cloud information of static buildings. The dynamic targets floating in static environments create the spatiotemporal transition of the physical world, for which we design comprehensive dynamic target sensing (DTS) scheme to detect, estimate, track, image and recognize the dynamic targets in real-time. The object materials enrich the electromagnetic laws of the physical world, for which we develop object material recognition (OMR) scheme to estimate the electromagnetic coefficient of the objects. Finally, based on these theoretical researches, we build an ISAC hardware prototype platform working in millimeter wave frequency band, realizing high-precision SER, DTS, and basic OMR, which provides preliminary verification for building the digital twin for communications networks.

KEYNOTE SPEAKER



Prof. Gang Feng

University of Electronic Science and Technology of China, China

Multi-function Hall, 1st Floor, Block B | B 座一层多功能厅

10:50-11:30, Nov. 14th, 2026

Biography: Gang Feng received his BEng and MEng degrees in Electronic Engineering from the University of Electronic Science and Technology of China (UESTC), in 1986 and 1989, respectively, and Ph.D. degree in Information Engineering from The Chinese University of Hong Kong in 1998. He joined the School of Electric and Electronic Engineering, Nanyang Technological University as an assistant professor and an associate professor in 2000 and 2005 respectively. At present he is a professor with the National Key Laboratory of Wireless Communications, UESTC of China. Dr. Feng has extensive research experience and has published widely in wireless networking research. He is the recipient of IEEE Communications Society Technical Committee on Transmission Access and Optical Systems (TAOS) Best Paper Award (2019)，ICC 2019 best paper award , Best Paper Award of IEEE Internet of Things Journal 2022，and Best Paper Award of IEEE Transactions on Services Computing. He served as a Distinguished Lecturer in VTS IEEE 2023. His research interests include AI Enabled wireless networking, distributed and collaborative machine learning, next generation cellular networks, etc. He is a fellow of IEEE.

Speech Title: Efficient multi-agent collaborative decision-making mechanisms in 6G networks

Abstract: To address the core challenges in multi-agent collaborative decision-making, including policy adaptation difficulties and declining inference efficiency under dynamic environments and growing agent populations, this presentation introduces an efficient collaborative decision-making mechanism that integrates three key modules: fine-tuning and continuous optimization, LLM-guided reinforcement learning (RL) decision-making, and joint inference for agent deployment. Specifically, we first employ compression technologies such as LoRA and pruning to perform lightweight fine-tuning, enabling rapid customization of task-specific policies while preserving the generalization capability of pre-trained knowledge. Then, we introduce a large language model (LLM) as a high-

level semantic guide that transforms environmental observations and sub-goals into natural-language-shaped reward potential functions. This guides the underlying RL policy toward directed exploration in sparse-reward scenarios. Finally, we design a multi-scale joint inference framework that integrates local policies with global information at the decision level via shared attention mechanisms and hierarchical message passing among agents, effectively alleviating communication and computational bottlenecks.

INVITED SPEAKER



Hongmei Zhang

Guilin University of Electronic Technology, China

13:30-13:50 Onsite Session 3

Biography: Dr. Zhang Hongmei is currently a professor in Guilin University of Electronic Technology. She received her Ph.D. in Pattern Recognition and Intelligent Systems from East China University of Science and Technology in 2008. She broadened her academic perspective through visiting scholar positions at National Cheng Kung University in Taiwan in 2010, and subsequently at Heriot-Watt University in the UK from 2014 to 2015. Her research areas include information system security, machine learning and embedded system. She has successfully led many projects, including a Regional Program of NSFC, Guangxi Key Natural Science Foundation projects, and initiatives from various provincial key laboratories and engineering research centers. She has published over 70 academic papers in prestigious journals, with more than 30 of these being indexed by SCI and EI. Beyond her research and publications, she has made substantial contributions to the academic community; for instance, she acted as the organizer of the Chinacom 2013 International Conference. Furthermore, she held the position of associate editor for Wireless Communication and Mobile Computing, and currently serves as associate editor for IEEE Access. In addition, she has acted as Co-Chair for the IEEE INFOCOM 2011 Workshop on Cognitive & Cooperative Networks, a Session Chair or Invited Speaker for the IEEE International Conference on Communication Technology (ICCT) from 2020 to 2025, and a Session Chair for the 10th International Conference on Internet Computing for Science and Engineering (ICICSE 2021).

Speech Title: Anti-Jamming Communication for UAV Swarms: Joint Resource Allocation and Trajectory Optimization Using Multi-Agent Reinforcement Learning

Abstract: The Unmanned Aerial Vehicles (UAVs) communication faces challenges arising from scarce spectrum resources and malicious jamming. This presentation introduces a novel spectrum-waterfall-assisted multi-agent anti-jamming framework for UAV swarms by designing joint resource allocation and trajectory optimization strategies. Based upon formulating the problem as a decentralized partially observable parameterized-action Markov Decision Process, a self-attention-based convolutional neural network is first employed to extract spatiotemporal spectrum-waterfall knowledge, and then a multi-

agent hybrid Proximal Policy Optimization based anti-jamming scheme is proposed to maximize the long-term utility-cost trade-off. Simulation results show that the proposed scheme outperforms the benchmarks in terms of both the convergence and the long-term utility-cost trade-off, while achieving higher success rate with lower energy consumption with varying numbers of channels.



Kazuya Ueki

Meisei University, Japan

13:30-13:50 Onsite Session 1

Biography: He received his B.S. degree in Information Engineering in 1997 and his M.S. degree in Computer and Mathematical Sciences in 1999, both from Tohoku University, Sendai, Japan. In 1999, he joined NEC Soft, Ltd., Tokyo, Japan, where he was mainly engaged in research on face recognition. He received his Ph.D. degree from the Graduate School of Science and Engineering, Waseda University, Tokyo, Japan, in 2007. From 2013 to 2017, he served as an Assistant Professor at Waseda University. He is currently an Associate Professor in the School of Information Science, Meisei University. His research interests include information retrieval, video anomaly detection, pattern recognition, and machine learning. He is involved in the video retrieval evaluation benchmark (TRECVID) sponsored by the National Institute of Standards and Technology (NIST), contributing to the development of video retrieval technology. His submitted systems achieved the highest performance in the TRECVID AVS task in 2016, 2017, 2022, and 2025.

Speech Title: From Keywords to Context: Five Years Toward Intent-Aware Video Search

Abstract: Video retrieval is often framed as a matching problem, yet real user intent is rarely captured by keywords alone. Over the past five years, our work has explored how to close this gap through three research questions. First, how can we enrich sparse or ambiguous queries to better reflect what users actually mean? Second, how can retrieval models adapt to new domains without manual annotation? Third, how can we verify that retrieved results truly satisfy the query's intent, rather than merely resembling it? We address these questions through query expansion with large language models and image generation, caption-driven domain adaptation, and VLM-based semantic verification via visual question answering. These techniques contributed to our team achieving the top rank in the TRECVID Ad-hoc Video Search (AVS) task in 2022 and 2025. The talk shares what worked, what didn't, and the challenges that remain in building video search systems that understand not just words, but user intent.

MEMO