WCSP 2021

Brief Program

13th International Conference on Wireless Communications and Signal Processing

October 20-22, 2021 | Virtual Meeting

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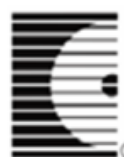
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10
TUESDAY

09:00 — Zoom Testing For Keynote Speakers & Authors

12:00 — Lunch Time

14:00 — Zoom Testing For Keynote Speakers & Authors

17:00 — End of Test Session

Guidelines

◆ Time Zone
China Standard Time (CST), UTC +8
Please set up your laptop time in advance

◆ Equipment needed
- A computer with an internet connection (wired connection recommended)
- USB plug-in headset with a microphone (recommended for optimal audio quality)
- Webcam (optional): built-in or USB plug-in

◆ Environment requirement
- Quiet Location
- Stable Internet Connection
- Proper lighting

◆ Download Zoom:
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TEST Schedule

Time	Meeting ID					
	950 4183 3582	913 5172 5451	942 9345 1987	861 1449 1861	819 3834 1173	852 1601 9002
9:00-10:00	Keynote Speakers & Session Chairs	Session 1 & 2	Session 3	Session 4	Session 5	Session 6
		Session 7 & 8	Session 9	Session 10	Session 11	Session 12
10:00-11:00		Session 13 & 14	Session 15	Session 16	Session 17	Session 18
		Session 19 & 20	Session 21	Session 22	Session 23	Session 24
11:00-12:00		Session 25 & 26	Session 27	Session 28	Session 29	Session 30
14:00-15:00	Keynote Speakers & Session Chairs	Session 31 & 32	Session 33	Session 34	Session 35	Session 36
		Session 37 & 38	Session 39	Session 40	Session 41	Session 42
15:00-16:00		Session 43 & 44	Session 45	Session 46	Session 47	Session 48
		Session 49 & 50	Session 51	Session 52	Session 53	Session 54
16:00-17:00		If you missed the test time above, please join the meeting room to test during the time.				

WCSP 2021

OCTOBER, 2021

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WEDNESDAY

Meeting ID: 950 4183 3582

08:30 Welcome Remarks & Opening Remarks

Chair: Prof. Yulong Zou, Nanjing Univ. of Posts & Telecom., China

Welcome Address
Prof. Meilan Ye, President, Nanjing Univ. of Posts & Telecom., China

TPC Report:
Prof. Xiang-Gen Xia, TPC Co-Chair, Univ. of Delaware, USA

09:00 Keynote Speaker I

Chair: Prof. Jun Zheng Southeast Univ., China

Ten Challenges in Advancing Machine Learning Technologies towards 6G
Prof. Nei Kato, IEEE Fellow
Tohoku University, Japan

10:00 Keynote Speaker II

C-V2X technology, standard and Industry Development
Dr. Shanzhi Chen, IEEE Fellow
Vice President and Director of expert Committee of China Information and Communication Technology Group Corporation limited (CICT)
Director of state Key Laboratory of Wireless Mobile Communication

10:50 Break

Technical Sessions

Session 01 EA-1	Session 02 ISP-1	Session 03 WT-1	Session 04 EC-1	Session 05 CV-1	Session 06 IP-1
Meeting ID: 950 4183 3582	**Meeting ID:** 913 5172 5451	**Meeting ID:** 942 9345 1987	**Meeting ID:** 861 1449 1861	**Meeting ID:** 819 3834 1173	**Meeting ID:** 852 1601 9002

11:00

12:30 Noon Break

14:00

Session 07 EA-2	Session 08 ISP-2	Session 09 WT-2	Session 10 EC-2	Session 11 CV-2	Session 12 IP-2
Meeting ID: 950 4183 3582	**Meeting ID:** 913 5172 5451	**Meeting ID:** 942 9345 1987	**Meeting ID:** 861 1449 1861	**Meeting ID:** 819 3834 1173	**Meeting ID:** 852 1601 9002

15:30 Break

15:45

Session 13 EA-3	Session 14 ISP-3	Session 15 WT-3	Session 16 WT-9	Session 17 CV-3	Session 18 IP-3
Meeting ID: 950 4183 3582	**Meeting ID:** 913 5172 5451	**Meeting ID:** 942 9345 1987	**Meeting ID:** 861 1449 1861	**Meeting ID:** 819 3834 1173	**Meeting ID:** 852 1601 9002

Meeting ID: 950 4183 3582

09:00 — **Keynote Speaker I**

Chair: *Prof. Yiwen Zhang, University of Science and Technology of China*

TinyML Systems for Edge Intelligence: Theory, Algorithm and System Design
Prof. Song Guo, IEEE Fellow
The Hong Kong Polytechnic University

10:00 — **Keynote Speaker II**

5G-Advanced: Trends and Challenges
Mr. Rui Sun
Huawei, China

10:50 — **Break**

Technical Sessions

Session 19 EA-4	Session 20 ISP-4	Session 21 WT-4	Session 22 EC-3	Session 23 CV-4	Session 24 IOT-1
Meeting ID: 950 4183 3582	**Meeting ID: 913 5172 5451**	**Meeting ID: 942 9345 1987**	**Meeting ID: 861 1449 1861**	**Meeting ID: 819 3834 1173**	**Meeting ID: 852 1601 9002**

11:00

12:30 — **Noon Break**

Session 25 EA-5	Session 26 ISP-5	Session 27 WT-5	Session 28 EC-4	Session 29 IOT-4	Session 30 IOT-2
Meeting ID: 950 4183 3582	**Meeting ID: 913 5172 5451**	**Meeting ID: 942 9345 1987**	**Meeting ID: 861 1449 1861**	**Meeting ID: 819 3834 1173**	**Meeting ID: 852 1601 9002**

14:00

15:30 — **Break**

Session 31 EA-6	Session 32 ISP-6	Session 33 WT-6	Session 34 AI-1	Session 35 AI-2	Session 36 IOT-3
Meeting ID: 950 4183 3582	**Meeting ID: 913 5172 5451**	**Meeting ID: 942 9345 1987**	**Meeting ID: 861 1449 1861**	**Meeting ID: 819 3834 1173**	**Meeting ID: 852 1601 9002**

15:45

Meeting ID: 950 4183 3582

Chair: *Prof. Qianqian Yang*
Zhejiang Univ., China

09:00 — **Keynote Speaker I**

Pervasive AI for Internet of Things (IoT) Applications
Prof. Mohsen Guizani, IEEE Fellow, Senior EiC, IEEE Network
Qatar University, Qatar

10:00 — **Keynote Speaker II**

Symbiotic Communications: Where Marconi Meets Darwin
Prof. Ying-Chang Liang, IEEE Fellow and Foreign Member of Academia Europaea
University of Electronic Science and Technology of China (UESTC), China

10:50 — **Break**

Technical Sessions

Session 37 EA-7	Session 38 ISP-7	Session 39 WT-7	Session 40 QS-1	Session 41 QS-2	Session 42 IOT-4
Meeting ID: 950 4183 3582	**Meeting ID: 913 5172 5451**	**Meeting ID: 942 9345 1987**	**Meeting ID: 861 1449 1861**	**Meeting ID: 819 3834 1173**	**Meeting ID: 852 1601 9002**

11:00

12:30 — **Noon Break**

13:30

Session 43 IT-1	Session 44 ISP-8	Session 45 WT-8	Session 46 MC-1	Session 47 AI-3	Session 48 AI-5
Meeting ID: 950 4183 3582	**Meeting ID: 913 5172 5451**	**Meeting ID: 942 9345 1987**	**Meeting ID: 861 1449 1861**	**Meeting ID: 819 3834 1173**	**Meeting ID: 852 1601 9002**

15:00 — **Break**

15:15

Session 49 IT-2	Session 50 IT-3	Session 51 EC-5	Session 52 MC-2	Session 53 AI-4	Session 54 AI-6
Meeting ID: 950 4183 3582	**Meeting ID: 913 5172 5451**	**Meeting ID: 942 9345 1987**	**Meeting ID: 861 1449 1861**	**Meeting ID: 819 3834 1173**	**Meeting ID: 852 1601 9002**

Meeting ID: 950 4183 3582

Closing Ceremony

Chair: *Prof. Liang Zhou, Nanjing Univ. of*
Posts & Telecom., China

17:00 — Best Paper Award Announcement:
Prof. Xiang-Gen Xia, TPC Co-Chair, Univ. of Delaware, USA

Conference Handover & Closing Announcement:
Prof. Yulong Zou, Nanjing Univ. of Posts & Telecom., China

09:00-09:50

Meeting ID: 950 4183 3582

Keynote I

Prof. Nei Kato, IEEE Fellow
Tohoku University, Japan

Ten Challenges in Advancing Machine Learning Technologies towards 6G

As the 5G standard is being completed, the academia and industry have begun to consider more developed cellular communication technique, 6G, which is expected to achieve high data rate up to 1Tb/s and broad frequency bands of 100GHz to 3THz. Besides the significant upgrade of the key communication metrics, Artificial Intelligence (AI) has been envisioned by many researchers as the most important feature of 6G, since the state-of-the-art machine learning technique has been adopted as the top solution in many extremely complex scenarios. Network intelligentization will be the new trend to address the challenges of exponentially increasing number of connected heterogeneous devices. However, compared with the application of machine learning in other fields, such as computer games, current research on intelligent networking still has a long way to go for realizing the automatically-configured cellular communication systems. Various problems in terms of communication system, machine learning architectures, and computation efficiency should be addressed for the full use of this technique in 6G. In this talk, I will introduce ten most critical challenges in advancing the intelligent 6G system. These challenges are analyzed from the perspectives of 6G service requirements, AI algorithm design, practical deployment, and future standardization.

Nei Kato is a full professor and the Dean with Graduate School of Information Sciences and was the Director (2015–2019) of Research Organization of Electrical Communication and the Strategic Adviser to the President, Tohoku University (2013). He has researched on computer networking, wireless mobile communications, satellite communications, ad hoc & sensor & mesh networks, UAV networks, smart grid, AI, IoT, Big Data, and pattern recognition. He has published more than 450 papers in prestigious peer-reviewed journals and conferences. He is the Vice-President (Member & Global Activities) of IEEE Communications Society (2018–), and the Editor-in-Chief of IEEE Transactions on Vehicular Technology (2017-). He is a fellow of The Engineering Academy of Japan, a Fellow of IEEE, and a Fellow of IEICE.

10:00-10:50

Keynote II

Prof. Shanzhi Chen, IEEE Fellow
Vice President and Director of expert
Committee of China Information and
Communication Technology Group
Corporation limited (CICT),
Director of state Key Laboratory of
Wireless Mobile Communication

TOPIC

C-V2X technology, standard and Industry Development

The report points out that the Internet of vehicles (IoV) is the frontier of international science and technology and a major strategic demand of the country, as well as the frontier technology of automobile, transportation and communication integration. This report analyzes the unique fast-changing network topology of IoV communication, and the severe communication problems and technical challenges with low delay and high reliability under the special communication environment of high-frequency group sending and receiving. And analyzes the shortcomings of the existing technologies in communication scenarios, communication methods and communication performance.

This paper introduces the overall design and key technologies of the cellular vehicle networking (C-V2X), which was first proposed by the reporter's team and led by Chinese enterprises. It solves the problem of low delay and high reliability communication between vehicle-to-vehicle and vehicle-to-road, and lays a foundation for the development of intelligent transportation and automatic driving with coordinated vehicles and roads. Combined with the demand of basic road safety application and enhanced application of IoV, two technical stages and standard evolution of LTE-V2X and NR-V2X are introduced. It points out that C-V2X led by China has become an international mainstream standard, which has technical advantages over DRSC(IEEE 802.11p) and has formed a surpassing trend in global industrial competition. At present, C-V2X technology has been recognized by two major automobile and transportation countries in China and the United States, and China is a global leader in the development of C-V2X car networking industry.

The report also points out that the C-V2X IoV will support the realization from single-car intelligence to network intelligence; C-V2X technology led by China is in the leading position in international competition, and its industry has matured. At present, there are landing application scenarios and conditions for scale commercial use. C-V2X vehicle-road collaboration is the development mode of intelligent transportation and automatic driving with Chinese characteristics, which will bring about the business model change and cross-border integration innovation under the background of China's new infrastructure. On the basis of the industry's staged development needs and industry laws, the development stages of the collaborative application of C-V2X vehicles and roads are put forward. Further, it discusses the policy suggestions and the research direction of the follow-up technology of vehicle networking communication to promote the development mode of vehicle-road collaborative innovation based on C-V2X.

10:00-10:50

Meeting ID: 950 4183 3582

Keynote II
Prof. Shanzhi Chen, IEEE Fellow
Vice President and Director of expert
Committee of China Information and
Communication Technology Group
Corporation limited (CICT),
Director of state Key Laboratory of
Wireless Mobile Communication

BIOGRAPHY

Shanzhi Chen, professor-level senior engineer/doctoral supervisor, IEEE Fellow, winner of National Science Fund for Outstanding Youth, director and member of China Electronics Society, executive director and member of China Institute of Communications. Currently, he is deputy general manager and director of expert committee of China Information and Communication Technology Group Corporation limited (CICT), director of the State Key Laboratory of Wireless Mobile Communications, and director of Semiconductor Manufacturing International Corporation (SMIC). He has been engaged in the research and industrialization of mobile communication technology and standards for a long time, and has made important contributions to the breakthrough of China's leading 4G and 5G core technologies, the formulation of international standards and industrialization; He put forward the concept and key technologies of LTE-V2X vehicle networking, which laid the framework and technical route of C-V2X vehicle networking system, promoted it to become the 3GPP international standard, and participated in the construction of China's intelligent networked vehicle demonstration area and intelligent transportation practice. At present, he is in charge of the research and industrialization of B5G, 6G and C-V2X car networking technologies and standards.

At present, he is a visiting professor at Beijing University of Posts and Telecommunications and Beijing University of Aeronautics and Astronautics. He is the editor-in-chief of Telecommunications Science and the editorial board of IEEE Internet of Things Journal, IEEE Network and Journal of Communication. Six academic monographs have been published, including three English academic monographs published by SPRINGER. Published more than 60 SCI papers in IEEE and other journals. Authorized more than 80 invention patents in China, Europe, America, Japan and South Korea, of which about half were disclosed as essential patents for 4G and 5G standards by European Telecommunications Standardization Institute (ETSI)--the global IPR authority for mobile communications. He has won special prize, first prize and second prize of National Award for Science and Technology Progress, second prize of National Award for Technological Invention, He Liang He Li foundation Science and Technology Innovation Award, Guanghua Engineering Science and Technology Award and other honors.

09:00-09:50

Meeting ID: 950 4183 3582

Keynote I

Prof. Song Guo , IEEE Fellow
The Hong Kong Polytechnic University

TOPIC

TinyML Systems for Edge Intelligence: Theory, Algorithm and System Design

This talk will focus on the field of Edge Learning. Specifically, learning paradigms, fundamental theories, and enabling technologies for Edge Learning consist the main components of this tutorial. We will first explain the background and motivation for ML running at the network edge. Then, we will review the challenge issues existing in Edge Learning. Furthermore, we will provide an overview of the overarching architectures, frameworks, and emerging key technologies for learning performance, security, privacy, and incentive issues toward training/inference at the network edge. Finally, we will discuss future research opportunities on Edge Learning.

BIOGRAPHY

Song Guo is a Full Professor at the Department of Computing, The Hong Kong Polytechnic University. He also holds a Changjiang Chair Professorship awarded by the Ministry of Education of China. Prof. Guo is a Fellow of the Canadian Academy of Engineering, Fellow of the IEEE, and ACM Distinguished Member. Prof. Guo's research interests are mainly in edge AI, big data and machine learning, mobile computing, and distributed systems. He published many papers in top venues with wide impact in these areas and was recognized as a Highly Cited Researcher (Clarivate Web of Science). He is the recipient of over 12 Best Paper Awards from IEEE/ACM conferences, journals and technical committees.

Prof. Guo has served as an IEEE ComSoc Distinguished Lecturer, Director of ComSoc Membership Services, member of IEEE ComSoc Board of Governors, and the current Chair of IEEE Communications Society Space and Satellite Communications Technical Committee. He has also served for IEEE Computer Society on Fellow Evaluation Committee, the inaugural Editor-in-Chief of IEEE Open Journal of the Computer Society, and on editorial board of a number of prestigious IEEE Transactions and Journals. He has served as chair of organizing and technical committees of numerous international conferences.

10:00-10:50

Meeting ID: 950 4183 3582

Keynote II

Mr. Rui Sun
Huawei, China

5G-Advanced: Trends and Challenges

With the wide deployments of 5G in commercial markets, more and more requirements from global public telecommunications services as well vertical industries motivate the research of 5G evolution towards the market in next ten years 2021 ~ 2030. It is not only that 3GPP has named 5G Advanced and approved the standard timeline for the 5G evolution, but also needs both industry and academy to take efforts to reach commonality to the 5G advanced in aspects of vision, requirements, key technology, and the industrial ecosystems for the rapid increasing markets. In this speech, we start from the global commercialization drivers, and investigate the top ten trends for wireless network. Finally we propose ten technical challenges and research directions for 5G Advanced system, which may be lighting the road to the 5G evolution.

Mr. Rui Sun, Senior Vice President of Huawei Wireless Research, is currently leading the 5G and Beyond technologies research and development. He joined Huawei in 2000. For the past twenty years in Huawei, Mr. Sun has been served as Director of 2G/3G/4G R&D and business teams, and has been accumulated remarkable expertise in the fields of product development, basic research and industrial innovation. He has also made many outstanding achievements in each generation of mobile communications technology.

In 2017, Mr. Sun was appointed to direct the Wireless Network Research Department, which was in charge of 5G technology research and standardization. From since, he has been devoting himself to the development and commercialization of 5G and beyond. The concept and vision of 5.5G was first proposed by Mr. Sun and his team. His team is collaborating with global universities and research institutes on more than 100 projects. Their work aims to help overcome worldwide technological challenges in 5.5G, including theoretical breakthrough, structure design, and prototype implementation.

09:00-09:50

Meeting ID: 950 4183 3582

Keynote I

Prof. Mohsen Guizani, IEEE Fellow
Senior EiC, IEEE Network
Qatar University, Qatar

TOPIC

Pervasive AI for Internet of Things (IoT) Applications

As the Internet-of-Things devices are being widely adopted in all fields, such as smart houses, healthcare, and transportation, large amounts of data are being collected, shared, and processed. This fact raises many challenges on how to make the best use of this huge amount of data to improve the IoT systems' security using artificial intelligence, taking into consideration the resource limitations in IoT devices and issues regarding data privacy. Different techniques have been studied and developed throughout the years. For example, Federated Learning (FL), which is an emerging learning technique that is very well known for preserving and respecting the privacy of the collaborating clients' data during model training. The concepts of FL and Hierarchical Federated Learning (HFL) are evaluated and compared with respect of detection accuracy and speed of convergence, through simulating an Intrusion Detection System for Internet-of-Things applications. Different kinds of datasets (e.g., NSL-KDD) are used in our work to prove that our developed schemes are superior compared to other schemes in terms of training loss, testing accuracy, and speed of convergence. HFL also showed its efficiency over FL in reducing the effect of the non-identically and independently distributed data on the collaborative learning process.

In this Keynote, we review the current efforts by experts around the world to mitigate some of these challenges. Then, we showcase our research activities to contribute to these efforts and advocate possible solutions using AI and other tools. We provide ways on how to manage the available resources intelligently and efficiently in order to offer better conditions and provide improved services. Finally, we discuss some of our research results to support a variety of applications including how to secure these devices for successful healthcare service delivery in different aspects.

BIOGRAPHY

Mohsen Guizani (S'85–M'89–SM'99–F'09) received the B.S. (with distinction), M.S. and Ph.D. degrees in Electrical and Computer engineering from Syracuse University, Syracuse, NY, USA. He is currently a Professor at the Computer Science & Engineering Department in Qatar University, Qatar. Previously, he worked in different institutions: University of Idaho, Western Michigan University, University of West Florida, University of Missouri-Kansas City, University of Colorado-Boulder, and Syracuse University. His research interests include wireless communications and mobile computing, applied machine learning, cloud computing, security and its application to healthcare systems. He was elevated to the IEEE Fellow in 2009. He was listed as a Clarivate Analytics Highly Cited Researcher in Computer Science in 2019 and 2020. Dr. Guizani has won several research awards including the "2015 IEEE Communications Society Best Survey Paper Award" as well 4 Best Paper Awards from ICC and Globecom Conferences. He is the author of nine books and more than 800 publications. He is also the recipient of the 2017 IEEE Communications Society Wireless Technical Committee (WTC) Recognition Award, the 2018 AdHoc Technical Committee Recognition Award, and the 2019 IEEE Communications and Information Security Technical Recognition (CISTC) Award. He served as the Editor-in-Chief of IEEE Network and is currently serves on the Editorial Boards of many IEEE journals/Transactions. He was the Chair of the IEEE Communications Society Wireless Technical Committee and the Chair of the TAOS Technical Committee. He served as the IEEE Computer Society Distinguished Speaker and is currently the IEEE ComSoc Distinguished Lecturer.

10:00-10:50

Meeting ID: 950 4183 3582

Keynote II

Prof. Ying-Chang Liang, IEEE Fellow and Foreign Member of Academia Europaea; University of Electronic Science and Technology of China (UESTC), China

TOPIC

Symbiotic Communications: Where Marconi Meets Darwin

With the proliferation of wireless applications, the electromagnetic (EM) space is becoming more and more crowded and complex. This makes it a challenging task to accommodate the growing number of radio systems with limited radio resources. In this talk, symbiotic communication (SC) paradigm, which is an evolution of cognitive radio, is proposed through which the relevant radio systems in a radio ecosystem form a mutualistic symbiosis through intelligent resource/service exchange. Promisingly, the proposed SC paradigm breaks the boundary of radio systems, thus providing us a fresh perspective on radio resource management for future wireless communication systems. We will also address its applications in low-power Internet-of-Things (IoT) communications in 6G and beyond.

BIOGRAPHY

Ying-Chang Liang is currently a Professor with the University of Electronic Science and Technology of China, China, where he leads the Center for Intelligent Networking and Communications (CINC). He was a Professor with The University of Sydney, Australia, a Principal Scientist and Technical Advisor with the Institute for Infocomm Research, Singapore, and a Visiting Scholar with Stanford University, USA. His research interests include wireless networking and communications, cognitive radio, symbiotic communications, dynamic spectrum access, the Internet-of-Things, artificial intelligence, and machine learning techniques.

Dr. Liang has been recognized by Thomson Reuters (now Clarivate Analytics) as a Highly Cited Researcher since 2014. He received the Prestigious Engineering Achievement Award from The Institution of Engineers, Singapore, in 2007, the Outstanding Contribution Appreciation Award from the IEEE Standards Association in 2011, and the Recognition Award from the IEEE Communications Society Technical Committee on Cognitive Networks in 2018. He is the recipient of numerous paper awards, including the IEEE Communications Society Stephen O. Rice Prize in 2021, the IEEE Vehicular Technology Society Jack Neubauer Memorial Award in 2014, and the IEEE Communications Society APB Outstanding Paper Award in 2012. He is a Fellow of IEEE, and a foreign member of Academia Europaea.

He is the Founding Editor-in-Chief of the IEEE JOURNAL ON SELECTED AREAS IN COMMUNICATIONS: COGNITIVE RADIO SERIES, and the Key Founder and now the Editor-in-Chief of the IEEE TRANSACTIONS ON COGNITIVE COMMUNICATIONS AND NETWORKING. He is also serving as an Associate Editor-in-Chief for China Communications. He was a Guest/Associate Editor of the IEEE TRANSACTIONS ON WIRELESS COMMUNICATIONS, the IEEE JOURNAL OF SELECTED AREAS IN COMMUNICATIONS, the IEEE Signal Processing Magazine, the IEEE TRANSACTIONS ON VEHICULAR TECHNOLOGY, and the IEEE TRANSACTIONS ON SIGNAL AND INFORMATION PROCESSING OVER NETWORK. He was also an Associate Editor-in-Chief of the World Scientific Journal on Random Matrices: Theory and Applications. He was a Distinguished Lecturer of the IEEE Communications Society and the IEEE Vehicular Technology Society. He was the Chair of the IEEE Communications Society Technical Committee on Cognitive Networks, and served as the TPC Chair and Executive Co-Chair of the IEEE Globecom'17.

11:00-12:30

Meeting ID: 950 4183 3582

Session 01 | EA-1

Emerging Areas in Communications Symposium

Chair

Shuying Lin, Nanjing University of Posts and Telecommunications, China

ID	TITLE	AUTHORS
1570744936	Joint Transceiver and IRS Design in MIMO PS-SWIPT System	Xie Xie (School of Information Science and Technology, Northwest University, Xi'an, China); Yangrui Dong (Northwest University, China); Chen He (Northwest University, China & University of British Columbia, Canada); Feifei Gao (Tsinghua University, China); Z. Jane Wang (University of British Columbia, Canada)
1570755495	Joint Precoding in Power-Efficient System With Low-Precision Intelligent Reflecting Surfaces and Phase Shifters	Linghui Ge, Hua Zhang and Jun-Bo Wang (Southeast University, China); Xiaohu You (National Mobile communication Research Lab., Southeast University, China)
1570755723	An Efficient Precoding Algorithm for Reconfigurable Intelligent Surface-Based MIMO Communications	Yimeng Feng and Yi Jiang (Fudan University, China); Shi Jin (Southeast University, China)
1570758393	Outage Probability Analysis of RIS-Assisted Wireless Powered Multi-User Communications	Shuying Lin (NJUPT, China); Yulong Zou, Jia Zhu, Haiyan Guo, Bin Li and Fei Xie (Nanjing University of Posts and Telecommunications, China)
1570745594	DFT Based Compression Algorithm for Configuration Coefficients of Reconfigurable Intelligent Surface	Shouheng Xia, Xiaohui Chen and Huarui Yin (University of Science and Technology of China, China)

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11:00-12:30

Meeting ID: 913 5172 5451

Session 02 | ISP-1

Machine Learning Techniques

Chair

Xuguang Zhang, Nanjing University of Posts and Telecommunications, China

ID	TITLE	AUTHORS
1570741915	Capsule Network Based on Self-Attention Mechanism	Yunhao Shang, Ning Xu, Zhenzhou Jin and Xiao Yao (Hohai University, China)
1570744721	Efficient Capsule Network With Multi-Subspace Learning	Zhenzhou Jin, Ning Xu, Yunhao Shang and Xiao Yao (Hohai University, China)
1570745643	Novel LSTM-GAN Based Music Generation	Guangwei Li, Shuxue Ding and Yujie Li (Guilin University of Electronic Technology, China)
1570752195	Machine-Learning-Based Aortic Stenosis Detection for Electronic Stethoscope	Zhen Shi (Soochow University, China); Neng Dai (Zhongshan Hospital, Fudan University, China); Renyu Liu and Jaijun Wang (Soochow University, China); Shengsheng Cai (Suzhou Melodicare Medical, China); Nan Hu (Soochow University, China)
1570732176	An Attention-Based Bidirectional Gated Recurrent Unit Network for Location Prediction	Yu Cao (Nanjing University of Posts and Telecommunications, China); Ang Li (Nanjing University of Posts and Telecommunacations, China); Jinglei Lou and Mingkai Chen (Nanjing University of Posts and Telecommunications, China); Xuguang Zhang (NERCCN, Nanjing University of Posts and Telecommunications, China); Bin Kang (Nanjing University of Posts and Telecommunications, China)

11:00-12:30

Meeting ID: 942 9345 1987

Session 03 | WT-1

Wireless Transmission Technology and Networking Symposium

Chair

Ting Qi, Nanjing University of Posts and Telecommunications, China

ID	TITLE	AUTHORS
1570736019	Non-Orthogonal Multiple Access With Signal Alignment in Two-Way Relay System	Mengyi Ji, Jian Chen and Lu Lv (Xidian University, China)
1570737616	Flexible Duplexing Mode Selection Optimization for Network-Assisted Full-Duplex Cell-Free Massive MIMO Systems	Yue Zhu (Southeast University, China); Jiamin Li (National Mobile Communications Research Lab., Southeast University, China); Pengcheng Zhu (National Mobile Communications Research Laboratory, Southeast University, China); Dongming Wang (Southeast University & National Mobile Communications Research Lab., China); Xiaohu You (National Mobile communication Research Lab., Southeast University, China)
1570738935	DFECsiNet: Exploiting Diverse Channel Features for Massive MIMO CSI Feedback	Yamei Xu, Ming Zhao and Sihai Zhang (University of Science and Technology of China, China); Hu Jin (Hanyang University, Korea (South))
1570742233	Intelligent Reflecting Surface Aided Secure Transmission With Energy Harvesting Eavesdropper	Lian Liu and Deyi Peng (Chongqing University of Posts and Telecommunications, China); Yun Li (ChongQing University of Posts and Telecommunications of China, China)
1570742290	Energy-Age Tradeoff in Status Update Communication Systems Based on HARQ	Jiajie Huang (Sun Yat-Sen University, China); Jie Gong and Wen Zhan (Sun Yat-sen University, China)

11:00-12:30

Session 04 | EC-1

Edge Computing and Intelligence Symposium

Chair

Dapeng Li, Nanjing University of Posts and Telecommunications, China

ID	TITLE	AUTHORS
1570736226	Pricing for Using Operator Platforms With Sharing Edge Services	Zhaoying Jing (Nanjing University of Posts and Telecommunications, China); Tianlin Zhu (NanJing University of Post and Telecommunications, China); Dapeng Li, Xiaoming Wang, Rui Jiang and Youyun Xu (Nanjing University of Posts and Telecommunications, China)
1570739004	Curriculum Reinforcement Learning-Based Computation Offloading Approach in Space-Air-Ground Integrated Network	Zheng Wang, Hui Yu, Shichao Zhu and Bo Yang (Shanghai Jiao Tong University, China)
1570740248	Mobility-Aware Energy Saving Content Placement in Vehicular Edge Networks	Ye Wang (China Mobile Communications Group Jiangsu Co., Ltd,China); XiaoLei Jia and Hao Ji (Nanjing University of Posts and Telecommunications, China); En Tong (China Mobile Communications Group Jiangsu Co., Ltd,China); Shu Cai (Nanjing University of Posts and Telecommunications, China)
1570741888	QoE-Driven Computation Offloading: Performance Analysis and Adaptive Method	Quyuan Luo (Southwest Jiaotong University, China); Weisong Shi (Wayne State Universiry, USA); Pingzhi Fan (Southwest Jiaotong Universityiversity, China)
1570744344	Selective Federated Learning for Mobile Edge Intelligence	Xin Yuan and Ke Zhang (University of Electronic Science and Technology of China, China); Yan Zhang (University of Oslo, Norway)

11:00-12:30

Session 05 | CV-1

Low level Vision

Chair

Zongliang Gan, Nanjing University of Posts and Telecommunications, China

ID	TITLE	AUTHORS
1570745378	Improved BM3D for Real Image Denoising	Hui T Lin (Fuzhou University, China)
1570744731	Gated Bi-Recurrent Separate Network for Video Super-Resolution	Lihang Gao (Soochow University, School of Electronic and Information Engineering, China); Jiajia Qian, Fan Xu, Jiqiang Yan, Tianqi Yu, Shi Fanwei and Jianling Hu (Soochow University, China)
1570742714	Flicker-Free Adaptive Enhancement for Infrared Video	Caixia Wei and Zongliang Gan (Nanjing University of Posts and Telecommunications, China)
1570744301	Block Diagonal Sparse Subspace Clustering	Lili Fan, Guifu Lu, Yong Wang and Tao Liu (Anhui Polytechnic University, China)
1570743425	Implementation and Acceleration of Image Recognition Algorithm Under Limited Resources	Bin Jiang (Nanjing University of Posts and Telecommunications, China)

11:00-12:30

Meeting ID: 852 1601 9002

Session 06 | IP-1

Integrated positioning and communications Symposium

Chair

Zaichen Zhang, Southeast University, China

ID	TITLE	AUTHORS
1570742615	Location Aware Multi-Cell MIMO Communications Assisted by Optical Positioning	Haibo Wang (Southeast University, China); Zaichen Zhang (National Mobile Communications Research Laboratory, Southeast University, China); Huiping Shi (Hengtong Optic-Electric Co., China); Jian Dang (Southeast University & National Mobile Communications Research Laboratory, China); Liang Wu (Southeast University, China); Zheng Wei and Liangyuan Zhao (Hengtong Qasky Quantum Information Research Institute Co., China)
1570743144	Design of a Broadband Microwave Sampler Based on Step Recovery Diode	Tianyi Ge and Peng Chen (Southeast University, China); Xutao Yu (Southest Uni. National Mobile Communication Research Laboratory, China); Zaichen Zhang (National Mobile Communications Research Laboratory, Southeast University, China)
1570752702	Robust Localization Based on RSS and TDOA Combination in Complex Environment	Pengwu Wan (XI'AN University of Posts&Telecommunications, China); Jian Wei, Chaowen Liu and Yuanyuan Yao (Xi'an University of Posts and Telecommunications, China); Guangyue Lu (Xian University of Posts and Telecommunications, China)
1570756457	Intelligent Reflecting Surface Aided Environment Sensing With CNN-Based Correction	Ziqing Xing, Fandong Kong and Zhaoyang Zhang (Zhejiang University, China)
1570752269	AoA-And-Amplitude Fingerprint Based Indoor Intelligent Localization Scheme for 5G Wireless Communications	Zhaohan Zhang (National Mobile Communications Research Laboratory, Southeast University, China); Liang Wu (Southeast University, China); Zaichen Zhang (National Mobile Communications Research Laboratory, Southeast University, China); Jian Dang (Southeast University & National Mobile Communications Research Laboratory, China); Bingcheng Zhu (Southeast University, China); Lei Wang (National Mobile Communications Research Laboratory, Southeast University, China)

14:00-15:30

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10
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Meeting ID: 950 4183 3582

Session 07 | EA-2

Emerging Areas in Communications Symposium

Chair

Yuhan Jiang, Nanjing University of Posts and Telecommunications, China

ID	TITLE	AUTHORS
1570741184	Laser Charging for UAV-Based FSO-RF Communication Systems	Xiaoqiong Long (Guangdong University of Techonology, China); Liang Yang (Hunan University, China); Yi Fang (Guangdong University of Technology, China); Jianchao Chen (Sun Yat-sen University, China)
1570742253	UAV-Aided Secure NOMA Transmission via Trajectory and Resource Optimization	Yanxin Li and Wei Wang (Dalian University of Technology, China); Mingqian Liu (Xidian University, China); Nan Zhao and Xu Jiang (Dalian University of Technology, China); Yunfei Chen (University of Warwick, United Kingdom (Great Britain)); Xianbin Wang (Western University, Canada)
1570755836	Mode Selection and Power Allocation for UAV-Assisted Cellular Networks	Daquan Feng (Shenzhen University, China); Wei Jiang (University of Electronic Science and Technology of China, China); Qian Gongbin and Long Litai (Shenzhen University, China); Sa Xiao (University of Electronic Science and Technology of China, China); Xiang-Gen Xia (University of Delaware, USA)
1570752590	A 3D Non-Stationary Geometry-Based Stochastic Model for 6G UAV Air-To-Air Channels	Xichen Mao (Southeast University, China); Cheng-Xiang Wang (Southeast University & Heriot-Watt University, China); Hengtai Chang (Purple Mountain Laboratories & Southeast University, China)
1570742528	A 3GPP-Based Height-Dependent LoS Probability Model for A2G Communications	Fei Bai, Minghui Pang, Qiuming Zhu, Hanpeng Li, Xiao-min Chen, Weizhi Zhong and Naeem Ahmed (Nanjing University of Aeronautics and Astronautics, China)

14:00-15:30

Session 08 | ISP-2

MIMO signal processing

Chair

Lindong Zhao, Nanjing University of Posts and Telecommunications, China

ID	TITLE	AUTHORS
1570745260	Adaptive Signal Detection Method Based on Model-Driven for Massive MIMO Systems	Qian Cao, Fei Li and Ting Li (Nanjing University of Posts and Telecommunications, China); Wei Ji (NanJing University of Posts and Telecommunications, China); Yan Liang (Nanjing University of Posts and Telecommunications, China)
1570745586	Serving the Mobile User in Massive MIMO System	Xiaotao Wang (China Electronics Technology Group Corporation NO. 38 Research Institute, Hefei, China); Yunbo Hu (Shanghai Advanced Research Institute, Chinese Academy of Sciences (CAS), China); Sudhan Majhi (Indian Institute of Science, India & Indian Insitute of Technology Patna, India); Kai Kang and Hua Qian (Shanghai Advanced Research Institute, Chinese Academy of Sciences, China)
1570745663	Pilot Assignment in Cell-Free Massive MIMO Based on Quantum Bacterial Foraging Optimization	Caiyun Zhu, Yan Liang, Ting Li and Fei Li (Nanjing University of Posts and Telecommunications, China)
1570745671	A Compressive Sensing Based Channel Prediction Scheme With Uneven Pilot Design in Mobile Massive MIMO Systems	Yi Shi, Zhiyuan Jiang and Yan Liu (Shanghai University, China); Ying Wang (ShangHai University, China); Shugong Xu (Shanghai University, China)
1570757895	A Deep Learning Detector for 3D Massive MIMO Systems With Impulsive Noise	Shuchen Wang, Fei Li and Ting Li (Nanjing University of Posts and Telecommunications, China); Wei Ji (NanJing University of Posts and Telecommunications, China); Yan Liang (Nanjing University of Posts and Telecommunications, China)

14:00-15:30

Session 09 | WT-2

Wireless Transmission Technology and Networking Symposium

Chair

Zhiping Xu，Xiamen University, China

ID	TITLE	AUTHORS
1570742694	Joint User Grouping and Resource Allocation for Multi-Beam Satellite System With Non-Orthogonal Multiple Access	Yonghong Xia and Deyi Peng (Chongqing University of Posts and Telecommunications, China); Yun Li (ChongQing University of Posts and Telecommunications of China, China); Yongju Xian (College of Communication Engineering, Chongqing University, China); Bensi Zhang (Chongqing University of Posts and Telecommunications, China)
1570743835	Average Peak Age of Information in the Cognitive IoT Systems With Prediction	Baoquan Yu (Army Engineering University of PLA, China); Yueming Cai (Institute of Communications Engineering, PLA Army Engineering University, China); Yulong Zou and Bin Li (Nanjing University of Posts and Telecommunications, China); Yong Chen (Army Engineering University of PLA, China)
1570743880	Cognitive Radio Primary Network Secure Communication Strategy Based on Energy Harvesting and Destination Assistance	Xiaorong Xu, Yujun Wang and Jianrong Bao (Hangzhou Dianzi University, China); Andi Hu (Beijing Byte Dance Technology Company, China); Bin Zhao (Hangzhou Dianzi University, China)
1570744893	Performance Analysis of Mixed THz/FSO Relaying Systems	Sai Li and Liang Yang (Hunan University, China)
1570744998	Research on Resource Allocation Algorithm for NOMA System Based on Fairness and Optimal Energy Efficiency	Linna Hu and Qinzi Wu (Nanjing University of Science & Technology, China)

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24

14:00-15:30

Meeting ID: 861 1449 1861

Session 10 | EC-2

Edge Computing and Intelligence Symposium

Chair

Chao Dong, Nanjing University of Aeronautics and Astronautics, China

ID	TITLE	AUTHORS
1570745218	A Real-Time UAV Crowd Counting System Based on Edge Computing	Zilin Hu, Wenxing Cao, Feiyu Wu, Zaichuan Zhang, Chao Dong and Yuben Qu (Nanjing University of Aeronautics and Astronautics, China)
1570745337	Dynamic Task Offloading for Mobile Edge Computing in Urban Rail Transit	Lin He, Junhui Zhao, Xiaoke Sun and Danyang Zhang (Beijing Jiaotong University, China)
1570745639	Federated Learning in SWIPT-Enabled Micro-UAV Swarm Networks: A Joint Design of Scheduling and Resource Allocation	Wanli Wen and Yunjian Jia (Chongqing University, China); Wenchao Xia (Nanjing University of Posts and Telecommunications, China)
1570748863	Joint Transceiver and Passive Beamforming Optimization for RIS-Assisted MIMO Systems	Yaqiong Zhao, Wei Xu and Yongming Huang (Southeast University, China); Xiaohu You (National Mobile communication Research Lab., Southeast University, China); Derrick Wing Kwan Ng (University of New South Wales, Australia); Zhaohua Lu (ZTE Corporation, China)
1570749808	Advanced and Secure Agricultural Platform Based on Artificial Intelligence for Cyber Physical Systems	Feng Tian (Nanjing University of Posts and Telecommunications, China)

14:00-15:30

Meeting ID: 819 3834 1173

Session 11 | CV-2

Medical Vision and Applications

Chair

Dong Hu, Nanjing University of Posts and Telecommunications, China

ID	TITLE	AUTHORS
1570745306	Predicting the Size of the Pre-Expanded Balloon for Coronary Denove Lesion by Deep Learning	Jinjia Wang, Haopan Guo, Wanli Chang, Ying Zhou and Jiarui Song (Yanshan University, China); Yan Chen (General Hospital of Tianjin Medical University, China)
1570741989	Liver Tumor Segmentation Based on Three-Channel Cascaded SEU-Nets and C-LSTM	Yarong Li and Dong Hu (Nanjing University of Posts and Telecommunications, China)
1570752645	Review of Vessel Segmentation and Stenosis Classification in X-Ray Coronary Angiography	Ying Zhou, Haopan Guo and Jiarui Song (Yanshan University, China); Yan Chen (General Hospital of Tianjin Medical University, China); Jinjia Wang (Yanshan University, China)
1570756200	Left Ventricle Segmentation Based on a Segmentation-Adversarial Network With Complementary Labels	Xijing Zou, Qian Wang and Zhang Hao (Zhongnan University of Economics and Law, China)
1570756706	PACNet: A High-Precision Point Cloud Registration Network Based on Deep Learning	Qing Mei, Fuxiang Wang and Cheng Tong (Nanjing University of Posts and Telecommunications, China); Jiaqi Zhang (The Nanjing University of Posts and Telecommunications, China); Bin Jiang and Jian Xiao (Nanjing University of Posts and Telecommunications, China)

14:00-15:30

Session 12 | IP-2

Integrated positioning and communications Symposium

Chair

Rongfang Song, Nanjing University of Posts and Telecommunications, China

ID	TITLE	AUTHORS
1570739035	A 3D Stochastic Channel Model for 6G Wireless Double-IRS Cooperatively Assisted MIMO Communications	Hao Jiang (Southeast University, China); Zaichen Zhang (National Mobile Communications Research Laboratory, Southeast University, China); Baiping Xiong (Southeast University, China); Jian Dang (Southeast University & National Mobile Communications Research Laboratory, China); Zhou Jie (Nanjing University of Information Science and Technology, China); Liang Wu (Southeast University, China)
1570752112	An Improved Optical Positioning System With LED Selection	Lang Cao and Bingcheng Zhu (Southeast University, China); Zaichen Zhang and Lei Wang (National Mobile Communications Research Laboratory, Southeast University, China); Liang Wu (Southeast University, China); Jian Dang (Southeast University & National Mobile Communications Research Laboratory, China)
1570752392	Integrated Localization and Communication Aided Multi-USV Network	Hongming Zhang (Beijing University of Posts and Telecommunications, China); Mugen Peng (Beijing University of posts & Telecommunications, China)
1570752540	A BLE Indoor Positioning Algorithm Based on Weighted Fingerprint Feature Matching Using AOA and RSSI	Da Sun (National Mobile Communications Research Laboratory, Southeast University, China); Yinong Zhang (West Aware System Corporation, China); Weiwei Xia, Zhiyuan Geng, Feng Yan and Lianfeng Shen (National Mobile Communications Research Laboratory, Southeast University, China); Yingbin Gao (Zgmicro Co., Ltd., China)
1570752694	A Location-Aware Hybrid Beamforming System for High Speed Trains	Xiaowen Shi (Southwest Jiaotong University, China); Yuxin Ma, Luohui Liu and Yi Han (Casco Signal Ltd, China)

15:45-17:15

Meeting ID: 950 4183 3582

Session 13 | EA-3

Emerging Areas in Communications Symposium

Chair

Tong Wu, Nanjing University of Posts and Telecommunications, China

ID	TITLE	AUTHORS
1570744857	Two User Clustering Schemes for Cell-Free Massive MIMO-NOMA System	Wei Zhao, Hong Wang and Rongfang Song (Nanjing University of Posts and Telecommunications, China)
1570745107	Resource Allocation in Distributed Massive MIMO Systems for Slicing eMBB and URLLC Services	Bo Liu (Southeast University, China); Zhen Zhang and Pengcheng Zhu (National Mobile Communications Research Laboratory, Southeast University, China); Jiamin Li (National Mobile Communications Research Lab., Southeast University, China); Dongming Wang (Southeast University & National Mobile Communications Research Lab., China)
1570745273	Fast Beam-Training Based on Huffman-Like Hierarchical Codebook for Mm-Wave Massive MIMO	Ximing Chen and Fasheng Zhou (Guangzhou University, China); Ning Wang (Zhengzhou University, China); Jie Tang (South China University of Technology, China)
1570745279	Robust MMSE-Based Beamforming for Massive MIMO Multi-Pair Two-Way Relay Systems With Low-Resolution ADCs/DACs	Zhiqiang Wang and Yi Wu (University of Electronic Science and Technology of China, China); Yunlong Cai (Zhejiang University, China); Jun Wang and Guangrong Yue (University of Electronic Science and Technology of China, China)
1570752543	Massive MU-MIMO Relaying IIoT Networks With Short-Packet: Timely Status Updates	Tian Yu (Amy Engieering University of PLA, China); Baoquan Yu (Army Engineering University of PLA, China); Shengwei Liu and Xizhi Wang (Unit 31401 of PLA, China); Yueming Cai (Institute of Communications Engineering, PLA Army Engineering University, China); Zeyuan Zhu (Army Engineering University of PLA, China); Zongwei Li (Unit 31401 of PLA, China)

15:45-17:15

Session 14 | ISP-3

Intelligent signal processing system

Chair

Yun Gao, Nanjing University of Posts and Telecommunications, China

ID	TITLE	AUTHORS
1570745243	Web UI Layout Issue Detection in Internationalization Automation Testing	Yu Xin and Qiong Wang (Nanjing University of Science and Technology, China)
1570752615	A Lightweight People Counting Approach for Smart Buildings	HongFei Wang (Nanjing University of Posts and Telecommunications, China); Yanzhou Zhang (Nanjing Yangtze River Urban Architectural Design Co., Ltd, China); Zhanyuan Ye, Hengfa Liu and Xin Wei (Nanjing University of Posts and Telecommunications, China); Juemin Tang (Nanjing Yangtze River Urban Architectural Design Co., Ltd, China)
1570752647	Low-Resolution IR Sensor-Based Occupancy Detection Scheme for Smart Buildings	YaXin Kuang (Nanjing University of Posts and Telecommunications, China); XiaoJun Gu (Nanjing Yangtze River Urban Architectural Design Co., Ltd, China); Zhanyuan Ye, Yun Gao and Xin Wei (Nanjing University of Posts and Telecommunications, China); Juemin Tang (Nanjing Yangtze River Urban Architectural Design Co., Ltd, China)
1570744395	Deep Learning-Aided Receiver Against Nonlinear Distortion of HPA in OFDM Systems	Shuntian Zheng, Sheng Wu and Haihan Li (Beijing University of Posts and Telecommunications, China); Chunxiao Jiang (Tsinghua University, Beijing, China); Xiao jun Jing (Beijing University of Posts and Telecommunications, China)
1570756711	A Novel Sparse Reconstruction Based DOA Estimation Method Under Grid Mismatch	Dingke Yu, Xin Wang, Wenwei Fang, Yuzhang Xi, Min Li, Chunyi Song and Zhiwei Xu (Zhejiang University, China)

15:45-17:30

Meeting ID: 942 9345 1987

Session 15 | WT-3

Wireless Transmission Technology and Networking Symposium

Chair

Wei Wu, Nanjing University of Posts and Telecommunications, China

ID	TITLE	AUTHORS
1570755047	An Optimization Method to Maximize the Service Quality of SCMA Grant-Free Access With MPR	Lei Wang, Jing Xu, Ting Qi and Xue Jiang (Nanjing University of Posts and Telecommunications, China); JingWu Cui (Nanjing University of Posts And Telecomm, China); Baoyu Zheng (Nanjing University of Posts and Telecommunications, China)
1570755480	Secure Energy Efficiency Resource Allocation for D2D Communication With Full-Duplex Radio	Cun Wei, Teng Zhang, Jun Wang and Lei Wang (Nanjing University of Posts and Telecommunications, China); JingWu Cui (Nanjing University of Posts And Telecomm, China); Baoyu Zheng (Nanjing University of Posts and Telecommunications, China)
1570755650	Transmit Power Minimization for IRS-Assisted Cooperative NOMA Networks With SWIPT	Lu Xia and Zheng Yang (Fujian Normal University, China); Jingjing Cui (University of Southampton, United Kingdom (Great Britain)); Yi Wu (Fujian normal University, China); Zhicheng Dong (Tibet University, China); Zhiguo Ding (University of Manchester, United Kingdom (Great Britain))
1570755668	AI-Enabled Quality Prediction of 5G Wireless Network in Smart Grid	Xi Song (State Grid Gansu Electric Power Company, China); Li Wenhui, Liu Chao, Wang Kemin, Hou Yuting, Bao Zhengrui and Yuan Yaling (State Grid Corporation of China Gansu Power Company, China)
1570755895	Optimal Transmission Strategy for Solar Harvesting Communication	Xiaoying Liu (Zhejiang University of Technology, China); Haifeng Zheng (Fuzhou University, China); Kechen Zheng and Ping Hu (Zhejiang University of Technology, China)
1570755897	Serially Concatenated Polar Coded CPM System With Iterative Decoding	Weilong Dou, Ming-Min Zhao, Ming Lei and Minjian Zhao (Zhejiang University, China)

15:45-17:30

Session 16 | WT-9

Wireless Transmission Technology and Networking Symposium

Chair

Ming Cheng, Nanjing University of Posts and Telecommunications, China

ID	TITLE	AUTHORS
1570756471	A Virtual Network Mapping Method Based on Power Service Delay Sensitivity and Service Reliability	Weijun Zheng (State Grid Jiaxing Power Supply Company, China); Hong Xu (State Grid Tongxiang Electric Power Supply Company, China); Zheng Wang, Jinjiang Tang and Jingbo Hu (State Grid Jiaxing Electric Power Supply Company, China); Chongxi Zhu (State Grid Tongxiang Electric Power Supply Company, China); Jiming Yao (Global Energy Interconnection Research Institute, China)
1570756812	Realize Ultra-Reliability and Low-Latency in Haptic Communication Through Prediction	Song Wang, Meng Wang, Yan Wu and Gui Fang (Army Engineering University of PLA, China)
1570756828	Dynamic Resource Scheduling Strategy With QoE-Aware for the Coexistence of eMBB and URLLC Traffic	Lei Wang, Jie Yuan and Xue Jiang (Nanjing University of Posts and Telecommunications, China); JingWu Cui (Nanjing University of Posts And Telecomm, China); Baoyu Zheng (Nanjing University of Posts and Telecommunications, China)
1570756855	Mobile Edge Computing Based Task Offloading and Resource Allocation in Smart Grid	Haie Dou and Xue Jiang (Nanjing University of Posts and Telecommunications, China); JingWu Cui (Nanjing University of Posts And Telecomm, China); Baoyu Zheng (Nanjing University of Posts and Telecommunications, China)
1570757304	Joint Optimization of Trajectory and Power Allocation for USV-Assisted Maritime Wireless Network	Cheng Zeng (Southeast University, China); Chuanwen Chang (Nanjing Les Electronic Equipment Co., ltd, China); Jun-Bo Wang, Changfeng Ding and Hua Zhang (Southeast University, China); Julian Cheng (University of British Columbia, Canada)
1570761767	Social Awareness-Based Collaboration Interferes With Physical Layer Secure Communication	Teng Zhang, Cun Wei, Jun Wang and Lei Wang (Nanjing University of Posts and Telecommunications, China)

15:45-17:30

Meeting ID: 819 3834 1173

Session 17 | CV-3

High level Vision

Chair

Suofei Zhang, Nanjing University of Posts and Telecommunications, China

ID	TITLE	AUTHORS
1570745448	Expression Recognition Based on Attention Mechanism and Length Feature of Facial Landmark	Qian Yang (Nanjing University of Posts and Telecommunications, China); Zhenglai Zhao (Jiangsu Bzisland Intelligent Technology Institute, China); Feng Liu (Nanjing University of Posts and Telecommunications, China)
1570750489	Multiple Stream Oriented Siamese Network for RGB-T Tracking	Yimo Wang and Songlin Du (Southeast University, China); Quan Zhou and Bin Kang (Nanjing University of Posts and Telecommunications, China)
1570752097	L1-Norm Distance Metric Learning for Gait Recognition	Dong Liu (Beijing University of Chemical Technology, China); Junlin Hu (Beihang University, China)
1570752327	Pyramid Dilated Attention Network for Action Segmentation	Zexing Du (Northwestern Polytechnical University, China); Feng Mei and Xiaohan Lai (State Grid Zhejiang Electric Power Co., Ltd., China); Qing Wang (Northwestern Polytechnical University, China)
1570759373	L-VDA: A Lightweight Deep Learning Algorithm for Vehicle Detection	Zifan Sha, Xuelian Cai, Wenwei Yue, Peiang Zuo, Yuchuan Fu and Changle Li (Xidian University, China)
1570752636	Efficient Person Re-Identification With Multi-Scale Feature Fusion	Jia Lin, Suofei Zhang, Jiangping Chen, Xiaofu Wu and Quan Zhou (Nanjing University of Posts and Telecommunications, China)

15:45-17:30

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Session 18 | IP-3

Integrated positioning and communications Symposium

Chair

Feng Shu, Hainan University, China

ID	TITLE	AUTHORS
1570740712	A Novel Method to Estimate the Coordinates of LEDs in Wireless Optical Positioning Systems	Kehan Zhang (Southeast University, China); Zaichen Zhang (National Mobile Communications Research Laboratory, Southeast University, China); Bingcheng Zhu (Southeast University, China)
1570742291	An Efficient Gridless Vehicle Positioning Method via Angle Estimation	Zhilei Chen and Kai Chen (Nanjing University of Posts and Telecommunications, China); Ruofan Xu (Nanjing University of Post and Telecommunications, China); Xiaohuan Wu (Nanjing University of Posts and Telecommunications, China)
1570745447	Space-Borne GNSS Receiver Autonomous Integrity Monitoring by Deviations of Semi-Major Axis	Xiaowei Wang, Xi Chen, Qihui Wei and Yafeng Zhan (Tsinghua University, China)
1570745632	A Novel Constellation Selection Strategy of Multi-Satellite Joint Positioning	Chengjun Duan (Harbin Institute of Technology(Shenzhen), China); Bowen Feng (Harbin Institute of Technology (Shenzhen), China); Qinyu Zhang (Shenzhen Graduate School, Harbin Institute of Technology, China); Zhang Ke (Harbin Institute of Technology, Shen Zhen, China); Jiayin Xue (Peng Cheng Laboratory, China)
1570752660	Integrated Radar-Aided Localization and QoS-Aware Communications for UAV-UGV Cooperative Systems	Xiangqian Xu (JiShou University, China); Yingjing Qian (Huaihua University, China); Renmin Zhang (Jishou University, China); Xi Yang (Southeast University, China)
1570755826	Full-Duplex Integrated Sensing and Communication: Waveform Design and Performance Analysis	Zhiqiang Xiao (National Mobile Communications Research Laboratory, Southeast University, China); Yong Zeng (Southeast University, China)

11:00-12:30

Meeting ID: 950 4183 3582

Session 19 | EA-4

Emerging Areas in Communications Symposium

Chair

Gao Li, Nanjing University of Aeronautics and Astronautics, China

ID	TITLE	AUTHORS
1570752564	Spectrum Situation Completion Based on Model-Enhanced Generative Learning	Dong Liu and Yang Huang (Nanjing University of Aeronautics and Astronautics, China); Zhen Gao (Beijing Institute of Technology, China)
1570756371	Joint Channel, Power and Bandwidth Optimization for Anti-Jamming Communications: A Multi-Agent Q-Learning Approach	Xiaobo Zhang, Wang Hai, Lang Ruan, Yifan Xu and Zhibin Feng (Army Engineering University of PLA, China)
1570756426	Multi-Agent Reinforcement Learning for Cooperative Edge Caching in Heterogeneous Networks	Yuan Zhi, Jie Tian and Qianqian Liu (Shandong Normal University, China); Haixia Zhang (Shandong University, China); Dalei Wu (The University of Tennessee at Chattanooga, USA)
1570751546	Location-Aided Deep Learning-Based Channel Estimation for Hybrid Massive MIMO Systems	Jiabao Gao, Caijun Zhong and Zhaoyang Zhang (Zhejiang University, China)
1570756417	Chaotic Frequency Hopping Prediction Based on Temporal Convolutional Network	Gao Li and Wei Wang (Nanjing University of Aeronautics and Astronautics, China); Guoru Ding (Army Engineering University of PLA, China)

11:00-12:30

Session 20 | ISP-4

Aerospace communications, underwater communications

Chair

Hengfa Liu, Nanjing University of Posts and Telecommunications, China

ID	TITLE	AUTHORS
1570742294	Integrated Interference Solutions Between 5G and Satellite Systems	Tangbai Cheng (Shanghai Technical Institute of Electronics & Information, China); Fang Zhou (Anhui University of Technology, China)
1570745219	QoE-Driven Tactile Internet: Scenario, Architecture and Analysis	Jianlong Li (Nanjing University of Posts and Telecommunications, China); Lindong Zhao (Nanjing University of Post and Telecommunications, China); Ang Li (Nanjing University of Posts and Telecommunacations, China); Bin Kang and Mingkai Chen (Nanjing University of Posts and Telecommunications, China)
1570752465	Resource Optimization for Signal Recognition in Satellite MEC With Federated Learning	Yi Jing (Tsinghua University, China); Chunxiao Jiang (Tsinghua University, Beijing, China); Ning Ge and Linling Kuang (Tsinghua University, China)
1570752755	Impact of Scattering on Communication and Secrecy Performance Over Underwater Quantum Links	Qingqing Hu (University of Science and Technology of China, China); Chen Gong (USTC, China); Nuo Huang (University of Science and Technology of China, China); Jianghua Luo (Yangtze University); Zhengyuan Xu (University of Science and Technology of China, China)
1570744889	Near-Field Beam Management in LIS-Assisted mmWave Systems	Tao Wang (Beijing Unversity of Posts and Telecommunications, China); Kai Zhang, Yanbin Zhang, Haonan Tong and Changchuan Yin (Beijing University of Posts and Telecommunications, China)

11:00-12:30

Meeting ID: 942 9345 1987

Session 21 | WT-4

Wireless Transmission Technology and Networking Symposium

Chair

Wencheng He, Beijing University of Posts and Telecommunications, China

ID	TITLE	AUTHORS
1570750876	Power Allocation for Minimizing Outage Probability of Cognitive Multi-Hop Relay Networks	Fei Xie, Yulong Zou, Jia Zhu and Kerun Chen (Nanjing University of Posts and Telecommunications, China)
1570750936	Robust MMSE Beamforming of Downlink Multi-User MISO Systems in the Presence of Beam Pointing Error	Xiaoyu Cao and Yuan Zhang (Southeast University, China); Peng Du (Nanjing University of Posts and Telecommunications, China)
1570751550	Uplink Ergodic Capacity of Reconfigurable Intelligent Surface-Aided Multi-User MISO Communications With Statistical CSI	Xu Gan, Caijun Zhong, Chongwen Huang and Zhaoyang Zhang (Zhejiang University, China)
1570751922	Outage Performance of Ambient Backscatter Communication System With Distributed Antennas	Lei Rao, Qin Tao and Caijun Zhong (Zhejiang University, China)
1570751952	Multi-Agent Resource Allocation for NOMA-Based Broadcasting Vehicular Networks	Wei Jiang (Southeast University, China); Tiecheng Song (National Mobile Communications Research Laboratory, Southeast University, China); Cong Wang (Southeast University, China); Jing Hu (Southest University, PRC, China)

11:00-12:30

Session 22 | EC-3

Edge Computing and Intelligence Symposium

Chair

Wenchao Xia, Nanjing University of Posts and Telecommunications, China

ID	TITLE	AUTHORS
1570752059	Cell-Free Massive MIMO With Normalized Conjugate Beamforming and Channel Non-Reciprocities	Yao Zhang (Zhejiang Normal University, China); Wenchao Xia (Nanjing University of Posts and Telecommunications, China); Yongxu Zhu (South Bank University, United Kingdom (Great Britain)); Gan Zheng (Loughborough University, United Kingdom (Great Britain)); Feifei Gao (Tsinghua University, China)
1570752087	Multi-Edge Computing Offloading for Ultra-Reliable and Low-Latency Communication	Jiayu Chen (Shenzhen University, China); Chenyuan Feng (SUTD, Singapore); Daquan Feng and Shan Meng (Shenzhen University, China)
1570752225	Contract-Based Resource Allocation Approach in Cooperative Parked Vehicular Computing Networks	Zhixu Cheng (Southeast University, China); Tiecheng Song (National Mobile Communications Research Laboratory, Southeast University, China); Jing Hu (Southest University, PRC, China); Xu Bao (Jiangsu University, China)
1570752683	Distributed Deep Reinforcement Learning-Based Content Caching in Edge Computing-Enabled Blockchain Networks	Mengqi Chen, Guangming Wu, Yuhuang Zhang, Yan Lin, Yijin Zhang and Jun Li (Nanjing University of Science and Technology, China)
1570755870	Edge Computing Empowered Indoor Positioning: A Brief Introduction	Zhonglin Ding and Wei Cao (State Grid Electric Power Research Institute, China); Zheng Zhang, Yaxuan Liu and Zhikun Wang (Nanjing University of Posts and Telecommunications, China); Yi Zhang (State Grid Zhejiang Electric Power Company Information Telecommunication Branch, China); Shuang Yang (State Grid Electric Power Research Institute, China)

11:00-12:45

Meeting ID: 819 3834 1173

Session 23 | CV-4

Vision Applications

Chair

Weiye Cao, Nanjing University of Posts and Telecommunications, China

ID	TITLE	AUTHORS
1570755830	Defect Detection From Power Line Images Using Advanced Deep Detectors	Hongxing Wang, Zheng Huang, Yuquan Chen, Xin Zhang and Jie Shen (Jiangsu Frontier Electric Power Technology Co., Ltd., China); Weiping Mao and Zhenyang Hao (Huazhong University of Science and Technology, China)
1570752445	A Method for Automatic Detection of Teachers' Gaze Area Based on Smart Classroom System	WenJin Pan, Peng Han, Jian Qiu, Li Peng, Dongmei Liu and Kaiqing Luo (South China Normal University, China)
1570744985	DMVO: A Multi-Motion Visual Odometry for Dynamic Environments	Zhao Jinlong (ZheJiang University, China); Zhiyu Xiang (Zhejiang University, China)
1570741522	Graph and Sparsity Regularized Decomposition Model for Hyperspectral Anomaly Detection	Jinduo Wang, Jun Liu and Siyu Sun (University of Science and Technology of China, China)
1570745225	Fast Small Object Detection Algorithm Based on Feature Enhancement and Reconstruction	Zhiyong Huo, Tianwen Yan and Weiye Cao (Nanjing University of Posts and Telecommunications, China)
1570744942	Collaborative Spatial-Temporal Interaction for Language-Based Moment Retrieval	Shanshan Qi, Luxi Yang, Chunguo Li and Yongming Huang (Southeast University, China)

11:00-12:30

Session 24 | IOT-1

Internet of Things Symposium

Chair

Liu Huaping, Oregon State University, USA

ID	TITLE	AUTHORS
1570745073	5G Radio Resource Slicing Based on Equivalent Bandwidth for IOT of the Power Grid	Dongxu Zhou; Hong Zhu; Wendi Wang; Lisha Gao; Linqing Yang
1570745194	An Improved Support Vector Machine Based Electric Power Grid Terminal Security Access	Hong Zhu; Wendi Wang; Dongxu Zhou; Xu Honghua; Shaojun Liu
1570754055	Design of High School Dormitory Management System Based on IoT Technology	ChuYing Yang; Yin Lu; Xuan Li; Zhang Qi
1570756779	Neural Network Approach to the Estimation of Radiated Emissions From Printed Circuit Boards	Yin Lu; En Feng
1570745629	A Cascaded Adaboost-BP Diabetes Prediction Model	Pengtao Liu; Jin Qi; Bin Xun; Yan-fei Sun

14:00-15:30

Meeting ID: 950 4183 3582

Session 25 | EA-5

Emerging Areas in Communications Symposium

Chair

Yirun Wang, Beijing Jiaotong University, China

ID	TITLE	AUTHORS
1570752782	A 3D Non-Stationary GBSM for Underwater Acoustic MIMO Communication Systems	Yilin Ma (Southeast University, China); Cheng-Xiang Wang (Southeast University & Heriot-Watt University, China); Xiuming Zhu (Southeast University, China); Ruofei Ma (Harbin Institute of Technology, China); Jie Huang (Southeast University, China)
1570756496	Experimental Investigation of Polarization Shift Keying in Underwater Optical Wireless Communication Under Turbulence	Zhangwei Ye, Weijie Liu and Wenli Jiang (University of Science and Technology of China, China); Shangbin Li (USTC, China); Zhengyuan Xu (University of Science and Technology of China, China)
1570745309	Joint Sensing, Communication, and Computation Resource Allocation for Cooperative Perception in Fog-Based Vehicular Networks	Xinran Zhang and Zhimin He (Beijing University of Posts and Telecommunications, China); Yaohua Sun (Beijing University of posts and Telecommunications, China); Shuo Yuan (Beijing University of Posts and Telecommunications, China); Mugen Peng (Beijing University of posts & Telecommunications, China)
1570737233	Data Privacy Protection for Maritime Mobile Terminals	Jiang Su and Xin Su (Hohai University, China); Yiqing Zhou (Chinese Academy of Science, China)
1570737236	Joint Channel Estimation and Data Detection for Intelligent Transparent Surface (ITS) Aided Wireless Communications on Railways	Yirun Wang, Gongpu Wang, Rongtao Xu, Ruisi He and Bo Ai (Beijing Jiaotong University, China); Huahua Xiao (ZTE Corporation, China)

14:00-15:30

Meeting ID: 913 5172 5451

Session 26 | ISP-5

Intelligent Signal Estimation

Chair

Xin Wei, Nanjing University of Posts and Telecommunications, China

ID	TITLE	AUTHORS
1570738704	2D-DOA Estimation Using L-Shaped Distributed Augmented Nested Array	Yanping Liao, Yihong Lin and Ruigang Zhao (Harbin Engineering University, China)
1570745109	A Frequency Domain Direction of Arrival Estimation Algorithm for UAV Remote-Control Signal	Beizuo Zhu (Nanjing University of Aeronautics and Astronautics, China); Kazunori Hayashi (Kyoto University, Japan); Baobao Li, Jianfeng Li and Xiaofei Zhang (Nanjing University of Aeronautics and Astronautics, China)
1570745334	A Deep Learning Based Mutual Coupling Correction and DOA Estimation Algorithm	Wenwei Fang, Dingke Yu, Xin Wang, Yuzhang Xi, Zhihui Cao, Chunyi Song and Zhiwei Xu (Zhejiang University, China)
1570752750	Joint Estimation of DOA and Channel Response Aided by Magnitude Measurements	Ke Nie (Beijing University of Posts and Telecommunications China, China); Shengchu Wang (Beijing University Of Posts And Telecommunications, China)
1570746242	On Channel Estimation and PAPR Reduction of an OFDM Signal Using Partial Transmit Sequences	Bin Sheng (Southeast University, China)

14:00-15:30

Session 27 | WT-5

Wireless Transmission Technology and Networking Symposium

Chair

Xiaozhen Lu, Xiamen University, China

ID	TITLE	AUTHORS
1570752525	Subcarrier Multiplexing OFDM-Based Radar Communication Integration	Biao Yang, Shanshan Zhao and Minju Yi (Nanjing University of Posts and Telecommunications, China)
1570752605	Minimizing Age of Information Based on Predictions and Short Packet Communications in UAV Relay Systems	Yangyi Zhang, Yong Chen and Baoquan Yu (Army Engineering University of PLA, China); Xianbang Diao (PLA Army Engineering University, China); Yueming Cai (Institute of Communications Engineering, PLA Army Engineering University, China)
1570752678	RIS-Aided Wireless Power Transfer for Unmanned Aerial Vehicles	Yajun Cheng and Wei Peng (Huazhong University of Science and Technology, China); Chongwen Huang (Zhejiang University, China); Yongjun Xu (Chongqing University of Posts and Telecommunications, China); Chau Yuen (Singapore University of Technology and Design, Singapore)
1570753922	Adaptive Modulation for High-Speed Mobile Visible Light Communications	Feng Liu (Southeast University, China); Huiping Shi (Hengtong Optic-Electric Co., China); Liang Wu (Southeast University, China); Zheng Wei and Liangyuan Zhao (Hengtong Qasky Quantum Information Research Institute Co., China); Zaichen Zhang (National Mobile Communications Research Laboratory, Southeast University, China); Jian Dang (Southeast University & National Mobile Communications Research Laboratory, China)
1570754021	Joint Trajectory and Beamforming Optimization for Secure UAV Transmission Aided by IRS	Xiaowei Pang and Nan Zhao (Dalian University of Technology, China); Jie Tang (South China University of Technology, China); Dusit Niyato (Nanyang Technological University, Singapore); Kai Kit Wong (University College London, United Kingdom (Great Britain))

14:00-15:30

Meeting ID: 861 1449 1861

Session 28 | EC-4

Edge Computing and Intelligence Symposium

Chair

Wei Wang, Nanjing University of Aeronautics and Astronautics, China

ID	TITLE	AUTHORS
1570755993	Mobility and Traffic Prediction-Based Resource Allocation With Edge Intelligence in Wireless Network	Yukun Sun (Beijing University of Posts and Telecommunication, China); Xing Zhang (BUPT, China); Yongdong Zhu (Zhejiang Lab, China)
1570756402	Computation Offloading Management for MEC Assisted UAV Networks: A Multi-Leader Multi-Follower Game Approach	Wenjing Xu, Zuguang Li, Wei Wang and Qihui Wu (Nanjing University of Aeronautics and Astronautics, China)
1570756555	TPF-MAC: Traffic Prediction Based MAC Protocol for FANETs	Ting Tao, Chao Dong and Xiaojun Zhu (Nanjing University of Aeronautics and Astronautics, China); He Rong (Nanjing University of Aeronautics & Astronautics, China)
1570756738	Communication-Efficient Task Scheduling for Real-Time Distributed Computing	Jiannan Pang, Wei Wang and Zhaoyang Zhang (Zhejiang University, China)
1570756833	Optimal Task Allocation Policy for Energy Efficient D2D-Enabled Mobile Edge Computing	Yan Cai (Nanjing University of Posts and Telecommunications, China); Jiacheng Shi and Laing Ran (NJUPT, China); Jun Zhang and Hongbo Zhu (Nanjing University of Posts and Telecommunications, China)

14:00-15:45

Session 29 | IOT-5

Internet of Things Symposium

Chair

Xu Li, Fujian Normal University, China

ID	TITLE	AUTHORS
1570744641	An Energy-Efficient Hierarchical Topology Control Algorithm in Software-Defined Wireless Sensor Network	Zhiyuan Geng; Weiwei Xia; Weikun Cao; Tao Wu; Feng Yan; Lianfeng Shen; Jingming Pang
1570745208	Decentralized Multi-Robot Collision Avoidance Algorithm Based on RSSI	Na Fan; Nan Bao; Jiakuo Zuo; Xixia Sun
1570752424	Achievable Harvested Energy Region of IRS-Assisted Wireless Power Transfer System	Haibo Dai; Wei Huang; Haiyang Zhang; Jiajun Luo; Chunguo Li; Bao-Yun Wang
1570756692	LoRa Performance Analysis for LEO Satellite IoT Networks	Wendong Zhou; Tao Hong; Xiaojin Ding; Gengxin Zhang
1570757609	Energy-Efficient Design for IRS-Assisted MEC Networks With NOMA	Qun Wang; Fuhui Zhou; Han Hu; Rose Qingyang Hu
1570756323	Spectrum Analysis of 2.4 GHz Band Based on Successive Signal Detection	Yiping Pu; Fengyuan Zhu; Mingqi Xie; Meng Jin; Xiaohua Tian

14:00-15:30

Meeting ID: 852 1601 9002

Session 30 | IOT-2

Internet of Things Symposium

Chair

Zhang Dengyin, Nanjing University of Posts and Telecommunications, China, China

ID	TITLE	AUTHORS
1570741303	Isolated Words Recognition Algorithm Based on Deep Learning in Heliumspeech Unscrambling	Ming Li; Dongmei Li; Peixin Yan; Shibing Zhang
1570748281	Interference Avoidance Based Multiplex Channel Scheme in High-Density C-V2X	Jiao Wang; Shibing Zhang; Gongan Qiu; Zhihua Bao
1570752478	Moncode: A Multiscale Network Coding Software Implementation Library	Jun Yin; Jiaxin Wen; Xian Ling; Yukun Yao; Lei Wang; Yuwang Yang
1570756602	QoE-Driven Resource Allocation for Secure URLLC in 6G-Enabled IoT Networks	Haibo Dai; Chenyu Zhang; Jiajun Luo; Chunguo Li; Bao-Yun Wang
1570756313	Transfer Learning-Based Intelligent Diagnosis for Skin Lesion in Cloud-Edge Computing Networks	Minjie Gu; Xue Li; Siguang Chen

15:45-17:15

Meeting ID: 950 4183 3582

Session 31 | EA-6

Emerging Areas in Communications Symposium

Chair

Liangsen Zhai, Nanjing University of Posts and Telecommunications, China, China

ID	TITLE	AUTHORS
1570745593	Impacts of Angles-Of-Arrival on the Performance of Space-Constrained MIMO Antenna Array	Chang Liu (Beijing University of Posts and Telecommnications, China); Sheng Wu (Beijing University of Posts and Telecommunications, China); Chunxiao Jiang (Tsinghua University, Beijing, China); Hongwen Yang (Beijing University of Posts and Telecommunications, China)
1570752582	A Novel Circuit-Based MIMO Channel Model Considering Antenna Size and Mutual Coupling	Jiajun Gao (Southeast University, China); Cheng-Xiang Wang (Southeast University & Heriot-Watt University, China); Jie Huang and Yue Yang (Southeast University, China)
1570752606	Covert Communication for Multi-Channel Transmission With A Full-Duplex Receiver	Bohan Che (Army Engineering University of PLA, China); Weiwei Yang (PLA Army Engineering University, China); Xingbo Lu (Army Engineering University of PLA, China)
1570755853	OFDMA based Massive Grant-free Transmission in the Presence of Timing Offset	Gangle Sun and Yining Li (Southeast University, China); Xinping Yi (University of Liverpool, United Kingdom (Great Britain)); Wenjin Wang and Xiqi Gao (Southeast University, China); Lei Wang (Huawei Technologies, Inc., China)
1570754144	A FAST-WMMSE Approach to Distributed Sum-Rate Maximization for a MIMO-BC Channel	Kaixuan Bao and Yin Lu (Nanjing University of Posts and Telecommunications, China)

15:45-17:15

Meeting ID: 913 5172 5451

Session 32 | ISP-6

Intelligent optimization

Chair

Mingzi Chen, Nanjing University of Posts and Telecommunications, China

ID	TITLE	AUTHORS
1570738634	Joint Placement and Scheduling Optimization for Wireless Content Caching Networks: An I/O Latency Minimization Consideration	Yaru Fu (The Open University of Hong Kong, China); Quan Yu (Wuhan University of Technology, China); Yue Zhang (City University of Hong Kong, China); Zheng Shi (Jinan University, China); Hong Wang (Nanjing University of Posts and Telecommunications, China); Hangguan Shan (Zhejiang University, China)
1570740905	3D-Fingerprint Augment Based on Super-Resolution for Indoor 3D WiFi Localization	Zhaoni Liu, Xianmin Wang, Zhikun Chen, Ming Zhao and Sihai Zhang (University of Science and Technology of China, China); Jingyue Li (Norwegian University of Science and Technology, Norway)
1570745590	Subjective Rate Distortion Optimization for Screen Content Coding Based on SVR	Shun Hu, Tong Tang and Haiying Peng (Chongqing University of Posts and Telecommunications, China)
1570745619	Implementation of KDML-Based Channel Estimator on GNU Radio Platform	Yi Ding, Weipeng Lai, Zhaoni Liu, Ming Zhao and Sihai Zhang (University of Science and Technology of China, China); Shengly Zhou (University of Connecticut, USA)
1570742087	Artificial Intelligence Routing Method in Wireless Sensor Network for Sewage Treatment Monitoring	Fang Zhou, Zhonglou Lu and Zhifeng Zhu (Anhui University of Technology, China); Tangbai Cheng (Shanghai Technical Institute of Electronics & Information, China)

15:45-17:30

Meeting ID: 942 9345 1987

Session 33 | WT-6

Wireless Transmission Technology and Networking Symposium

Chair

Zhe Zhang, Nanjing University of Posts and Telecommunications, China

ID	TITLE	AUTHORS
1570756081	A Secure Data Transmission Method for Power 5G Edge Computing Scenarios	Jiming Yao, Wei Wang and Peng Wu (Global Energy Interconnection Research Institute, China); Ningzhe Xing and Chun Yang (State Grid Jibei Electric Power Co., Ltd, China)
1570756106	Resource Optimization for Noncoherent Short-Packet Communications With IR-HARQ	Na Li and Deli Qiao (East China Normal University, China)
1570756110	Off-Policy: Soft Actor-Critic-Based Adaptive Streaming for 360-Degree Video in Heterogeneous Wireless Networks	Chen Jiang (Fuzhou University, China); Feng Chen (FuZhou University, China); Pingping Chen (Fuzhou University, China)
1570756122	Precoding Design for IRS-Assisted Full-Duplex Self-Backhauled Communications	Baiping Xu, Fan Yang, Jun-Bo Wang and Hua Zhang (Southeast University, China)
1570756315	Reliability and Latency of MmWave Communications Based on Blockage Avoidance in Internet of Vehicles	Yongxu Cao, Xinxin He, Congqing YU and Changchuan Yin (Beijing University of Posts and Telecommunications, China)
1570756459	Spectral Efficient Resource Allocation Algorithm in Indoor Terahertz Downlink Networks	Fanshu Zhu (Southeast University, China); Feng Yan (National Mobile Communications Research Laboratory, Southeast University, China); Fei Shen (Shanghai Institute of Microsystem and Information Technology, Chinese Academy of Sciences, China); Weiwei Xia (National Mobile Communications Research Laboratory, Southeast University, China); Jin Hu (724 Research Institute of CSIC, China); Lianfeng Shen (National Mobile Communications Research Laboratory, Southeast University, China)

11:00-12:30

Session 34 | AI-1

AI-Enabled Communications and Security Symposium

Chair

Mu Zhou, Chongqing University of Posts and Telecommunications, China

ID	TITLE	AUTHORS
1570742121	CSI Ranging-Based Wi-Fi Indoor Localization Error Analysis	Yuexin Long (Chongqing University of posts and Telecommunications, China); Mu Zhou, Zhenya Zhang and Wei Nie (Chongqing University of Posts and Telecommunications, China)
1570742901	Machine Learning Based Angle Estimation for Air-To-Ground Channel Measurements	Benzhe Ning (Nanjing University of Aeronautics and Astronautics & None, China); Kai Mao (Nanjing University of Aeronautics and Astronautics, China); Manxi Wang (CEMEE, China); Hanpeng Li and Xiaomin Chen (Nanjing University of Aeronautics and Astronautics, China); Taotao Zhang (CEMEE, China); Qiuming Zhu (Nanjing University of Aeronautics and Astronautics, China)
1570744883	A Novel Convolutional Neural Network Architecture of Deep Joint Source-Channel Coding for Wireless Image Transmission	Xin Huang and Xiaohui Chen (University of Science and Technology of China, China); Chen Li (University of Science And Technology of China, China); Huarui Yin and Weidong Wang (University of Science and Technology of China, China)
1570744994	A Learning Approach Towards Secure Cognitive Networks With UAV Relaying and Active Jamming	Na Liu and Xiao Tang (Northwestern Polytechnical University, China); Dongyang Xu (Xi'an Jiaotong University, China); Dawei Wang (Northwestern Polytechnical University, China); Daosen Zhai (Northwestren Polytechnical University, China); Ruonan Zhang (Northwestern Polytechnical University, China)
1570745163	Deep Reinforcement Learning Based Wireless Resource Allocation for V2X Communications	Jiahang Li, Junhui Zhao and Xiaoke Sun (Beijing Jiaotong University, China)

11:00-12:30

Meeting ID: 819 3834 1173

Session 35 | AI-2

AI-Enabled Communications and Security Symposium

Chair

Junhui Zhao, Beijing Jiaotong University, China

ID	TITLE	AUTHORS
1570745267	UAV-Aided Anti-Jamming Maritime Communications: A Deep Reinforcement Learning Approach	Kexin Liu, Pengmin Li, Chuhuan Liu and Liang Xiao (Xiamen University, China); Luliang Jia (PLA Army Engineering University, China)
1570745348	Generative Adversarial Network-Based Channel Estimation in High-Speed Mobile Scenarios	Danyang Zhang, Junhui Zhao, Lihua Yang, Yiwen Nie and Xiangcheng Lin (Beijing Jiaotong University, China)
1570748569	Impact of Mobile Access Points on Indoor Wi-Fi Localization Error Bound	Yaohua Li and Mu Zhou (Chongqing University of Posts and Telecommunications, China); Qiaolin Pu (Chongqing University of posts and Telecommunications, China); Qing Jiang (Chongqing University of Posts and Telecommunications, China)
1570751856	Dynamic Spectrum Aggregation and Access Scheme Based on Multi-Agent Actor-Critic Reinforcement Learning	Wenjiao Ding, Wensheng Zhang and Deqiang Wang (Shandong University, China); Jian Sun (ShanDong University, China); Cheng-Xiang Wang (Southeast University & Heriot-Watt University, China)
1570752192	Frequency Domain Analysis and Convolutional Neural Network Based Modulation Signal Classification Method in OFDM System	Yue Hao, Xianpeng Wang and Xiang Lan (Hainan University, China)

15:45-17:30

Session 36 | IOT-3

Internet of Things Symposium

Chair

Zhang Shibin, Nantong University, China

ID	TITLE	AUTHORS
1570741728	U-Net-Based Medical Image Segmentation Algorithm	Weidan Yan; Can Chen; Zhang Dengyin
1570735351	Correlated Status Update of Energy Harvesting Sensors Based on Reinforcement Learning	Han Zhihui; Jie Gong
1570745126	Single Image Dehazing Method Based on Gradient Matrix and Ternary Parameter Search	Chuheng Chen; Juping Liu; Kai Chen; Mingye Ju
1570745128	Contrast Restoration of Hazy Image in HSV Space	Kai Chen; Juping Liu; Chuheng Chen; Zhe Wang; Mingye Ju
1570752207	A Random Multi-Channel Spectral Graph Convolutional Network	Xin Li; Wei Xu; Hui Yan; Yuhan Zhang; Weichang Chen
1570756587	Dual Attention Fusion Network for Single Image Dehazing	Hong Zhu; Zhang Dengyin; YingJie Kou

11:00-12:30

Session 37 | EA-7

Emerging Areas in Communications Symposium

Chair

Leixin Han, National Mobile Communications Research Lab, Southeast University, China

ID	TITLE	AUTHORS
1570742993	Waveform Shaping for PAPR Reduction in OFDM Systems	Leixin Han (National Mobile Communications Research Lab, Southeast University, China); Jiaheng Wang (National Mobile Communications Research Lab, Southeast University, China); Jianjun Zhang (University College London, United Kingdom (Great Britain)); Yongming Huang (Southeast University, China); Kang Zheng (China Mobile Zijin Innovation Institute, China)
1570744854	Clock Synchronization Based on Physical-Layer Pulse and Timestamp Free Mechanism in 5G	Zichao Chai and Wei Liu (National University of Defense Technology, China); Ke Lai (National University of Defence Technology, China); Jing Lei (National University of Denfense Technology, China)
1570745467	A Preamble Based MAC Mechanism in Ad-Hoc Network	Chenchao Shi, Biqian Feng, Yongpeng Wu and Wenjun Zhang (Shanghai Jiao Tong University, China)
1570752498	A Study of Multi-User Cooperative Spectrum Sensing Based on BOMP Algorithm	Yin Lu, Mingwa Fu and Hongbo Zhu (Nanjing University of Posts and Telecommunications, China)
1570758935	Joint Reception and Parallel Base Stations Selection in Uplink Fully-Decoupled RAN for 6G	Jiwei Zhao, Haibo Zhou, Bo Qian, Yunting Xu and Kai Yu (Nanjing University, China); Sherman Shen (University of Waterloo, Canada)

11:00-12:30

Session 38 | ISP-7

Communication Signal Processing

Chair

Zhe Yuan, Nanjing University of Posts and Telecommunications, China

ID	TITLE	AUTHORS
1570742261	Hybrid Beamforming Design for Securing Large-Scale Antenna Array Empowered UAV Communication System	Runze Dong and Buhong Wang (Air Force Engineering University, China); Kunrui Cao (National University of Defense Technology & Air Force Engineering University, China); Tianhao Cheng and Danyu Diao (Air Force Engineering University, China)
1570742281	Analyzing Uplink Outage Probability of Grant-Free Access and Retransmission for URLLC	Nana Zhang, Hua Zhang and Jun-Bo Wang (Southeast University, China)
1570756803	Achievable Rate Analysis for Distributed Intelligent Reflecting Surface-Aided MIMO Communications	Xuan Wang, Fan Yang, Jun-Bo Wang and Hua Zhang (Southeast University, China)
1570745525	Adjustable Ordered Statistic Decoder for Short Block Length Code Towards URLLC	Fei Wang (Harbin Institute of Technology (Shenzhen), China); Jian Jiao (Harbin Institute of Technology - Shenzhen, China); Zhang Ke (Harbin Institute of Technology, Shen Zhen, China); Shaohua Wu (Harbin Institute of Technology, China); Qinyu Zhang (Shenzhen Graduate School, Harbin Institute of Technology, China)
1570733694	Channel Adaptive Spatial Modulation for Indoor VLC System With Random Direction Mobility	Zinan Zheng, Huiqin Du and ZuJian Wu (Jinan University, China)

11:00-12:30

Session 39 | WT-7

Wireless Transmission Technology and Networking Symposium

Chair

Xintong Ling, Southeast University, China

ID	TITLE	AUTHORS
1570752095	Construction Scheme of Virtual Power Plant Centralized Control Platform Based on Information Interaction	Jie Song (State Grid Electric Power Research Institute Co. Ltd, China); Mingxing Guo (State Grid Shanghai Electric Power Economic and Technology Research Institute, China); Huijie Lin (State Grid Electric Power Research Institute Co. Ltd, China); Ran Lv (State Grid Shanghai Electric Power Economic and Technology Research Institute, China)
1570752129	Modulation Recognition Method of MAPSK Signal	Yingwen Liu and Jing Xu (East China Normal University, China)
1570752334	Diversity Slotted ALOHA With Power Accumulation for Satellite IoT Networks	Tiantian Zhu (Nanjing University of Posts and Telecommunications, China); JiaYing Li (Academy of Military Sciences Systems Engineering Institute, Beijing, China); Ziwei Liu and Gengxin Zhang (Nanjing University of Posts and Telecommunications, China)
1570752360	Collaborative and Distributed Autonomous Driving: A Game Theoretic Approach	Yilong Hui, Xiaoqing Ma, Zhisheng Yin, Nan Cheng and Tom H. Luan (Xidian University, China)
1570752415	Concatenated RS-LDPC Coding for Water-To-Air Visible Light Communication Through Wavy Water Surface	Chunfang Fu (University of Science and Technology of China, China); Chen Gong (USTC, China); Nuo Huang (University of Science and Technology of China, China); Jianghua Luo (Yangtze University); Zhengyuan Xu (University of Science and Technology of China, China)

15:45-17:30

Meeting ID: 861 1449 1861

Session 40 | QS-1

Quantum Signal Processing Symposium

Chair

Wei Chen, University of Science and Technology of China , China

ID	TITLE	AUTHORS
1570756142	Cesium Faraday Optical Filter for Wireless Optical Communication System	Pengyuan Chang, Hangbo Shi, Zhiyang Wang, Jianxiang Miao and Tiantian Shi (Peking University, China); Hong Guo (School of Electrical and Computer Science, Peking University, China); Jingbiao Chen (Peking University, China)
1570752773	Long-Time Characterization of Optical Signal Transmission Through Drone-To-Ground Link	Xiaohui Tian (Nanjing University, China)
1570756948	Two-Mode Thermal-Noise Squeezing in Coupled Graphene Resonators	Zifan Zhao, Hui Chen, Weijie Li, Zedi Cheng and Haizhi Song (University of Electronic Science and Technology of China, China); You Wang (Southwest Institute of Technical Physics, China); Qiang Zhou, Xiaobin Niu and Guangwei Deng (University of Electronic Science and Technology of China, China)
1570756377	Free-Space Phase-Matching Quantum Key Distribution	Yang Yu, Le Wang, Sheng-mei Zhao and Qianping Mao (Nanjing University of Posts and Telecommunications, China)
1570752581	Topological Multiband Photonic Chain With One Pair of Loss and Gain Defects	Xingping Zhou, Aiping Liu and Qin Wang (Nanjing University of Posts and Telecommunications, China); Xingyu Zhou (Njupt, China)
1570742874	Polarization Rotator Based on Adiabatic Waveguide	Aiping Liu, Rui Zhuang, Wei Peng, Jiawei Liu, Jingjing Hong, Xingping Zhou and Qin Wang (Nanjing University of Posts and Telecommunications, China)

15:45-17:30

Meeting ID: 819 3834 1173

Session 41 | QS-2

Quantum Signal Processing Symposium

Chair

Qin Wang, Nanjing University of Posts and Telecommunications, China

ID	TITLE	AUTHORS
1570753204	Optical Maxwell's Demon Phase Space Theory and Its Efficiency Improvement to 90% With Local Online Squeezing	Shengli Zhang (BeiJing Institute of Technology, China)
1570748514	Electromagnetically Induced Transparency in a Coupled NV Spin-Mechanical Resonator System	Qinghong Liao and Xiaoqian Wang (Nanchang University, China)
1570756087	Comparison Study of Laser Vibration Measurement and Quantum Vibration Measurement	Chi Zhang (Wuhan Institute of Technology, China)
1570756004	Study on Micrometer Sized Leakage in an Electromagnetic Shielding Film Based on Quantum Near Field Probe	Xinyu Liu, Xiaohan Yin, Tianran Gao, He WenHao and Wenhao Ma (Nanjing University of Posts and Telecommunications, China); Guanxiang Du (Grünberg Research Centre, Nanjing University of Posts and Telecommunications, China)
1570752526	The Maximal Coin-Walker Entanglement in Quantum Walks With Ballistic Transports	Rong Zhang, Dan-Dan Yang and Bin Chen (Nanjing University of Posts and Telecommunications, China)
1570752720	Experimental Verification of NP-Complete Problems via Linear Optics	TongJun Liu, Jian Li, Tianlei Hou, Chunhui Zhang, Qin Wang and XiaoRun Wang (Nanjing University of Posts and Telecommunications, China)
	Quantum frequency conversion from ultraviolet to visible band through waveguides in a Period-Poled $MgO:LiTao_3$ Crystal	Yong-xiang Zheng, Jin-ming Cu, Ming-Zhong Ai, Zhong-hua Qian, Wei-ran Ye, Yun-feng Huang, Chuan-feng Li and Guang-can Guo

11:00-12:45

Meeting ID: 852 1601 9002

Session 42 | IOT-4

Internet of Things Symposium

Chair

Chen Siguang, Nanjing University of Posts and Telecommunications, China

ID	TITLE	AUTHORS
1570741994	A Medical Image Segmentation Method Based on Multi-Scale Feature Extraction	Zhao Rong; Weidan Yan; Zhang Dengyin
1570752425	Active User Detection and Data Recovery for Quasi-Asynchronous Grant-Free Random Access	Renxiang Zhang; Xiaofu Wu; Chunxiang Li; Jun Yan; Suofei Zhang
1570752568	A Co-Evolutionary Algorithm for Uncertain Scheduling in Cloud Manufacturing	Ning Liu; Ming Zhu; Wu Na
1570756112	Multi-UAV Deployment and Resource Allocation for Energy Efficiency in NOMA Networks	Mohamed Basher; Rong Chai
1570745770	Visual Information Oriented Knowledge Graph	Jinglei Lou; Ang Li; Yu Cao; Mingkai Chen; Mingzi Chen; Xuguang Zhang; Bin Kang
1570745098	Preventing IoT DDoS Attacks Using Blockchain and IP Address Obfuscation	Gaofeng He; Yongrui Si; Xiancai Xiao; Qianfeng Wei; Haiting Zhu; Bingfeng Xu

13:30-15:00

Session 43 | IT-1

Coding for Communications

Chair

Qin Huang, Beihang University, China

ID	TITLE	AUTHORS
1570752335	Secure Precoded Orthogonal Time Frequency Space Modulation	Jinjing Sun (School of Electronic and Information Engineering, Beihang University, China); Zulin Wang (Beihang University, China); Qin Huang (Group 201, Beihang University, China)
1570752546	Lowering the Error Floor of Quantized NR LDPC Decoders by a Post-Processing on Trapping Sets	Hai He, Ming Jiang and Mingyang Zhu (Southeast University, China); Chunming Zhao (National Mobile Communications Research Laboratory, Southeast University, China)
1570752589	Optimized Construction of Short and High Rate Protograph QC-LDPC Codes	Jianrong Bao, Xiaorong Xu, Chao Liu, Jun Wu and Bing Jiang (Hangzhou Dianzi University, China)
1570756824	Design of Protograph LDPC Codes for the Unequal Power Two-User Downlink System	Wei Zhang, Pingping Chen and Zhaopeng Xie (Fuzhou University, China); Feng Chen (FuZhou University, China)
1570757348	Hybrid Decoding of CRC-Polar Codes	Wenxin Liu and Li Chen (Sun Yat-sen University, China); Xingcheng Liu (Sun Yat-sen University & Xinhua College of SYSU, China)

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Session 44 | ISP-8

Physical layer signal processing

Chair

Ang Li, Nanjing University of Posts and Telecommunications, China

ID	TITLE	AUTHORS
1570752373	A Three-Stream CNN-LSTM Network for Automatic Modulation Classification	Ruijie Liang (Beijing University of Posts and Telecommunications, China); Liang Yang (China Academy of Space Technology, China); Sheng Wu and Haihan Li (Beijing University of Posts and Telecommunications, China); Chunxiao Jiang (Tsinghua University, Beijing, China)
1570752669	A Low Complexity Improved Tone Reservation Method Based on ADMM for OFDM Systems' PAPR Reduction	Zhixiang Liu and Wang Liu (Shanghai Jiao Tong University, China); LingNa Hu (Shanghai Institute of Satellite Engineering, China); Li Zhang (Wuhan Maritime Communication Research Institute, China); Feng Yang (Shanghai Jiaotong University, China)
1570755799	Covert Communication Using Interference With Truncated Normal Distribution in Power	Liyu Zhi, Jiawei Li, Bohan Che and Gui Fang (Army Engineering University of PLA, China)
1570756360	Deep Reinforcement Learning-Empowered Beamforming Design for IRS-Assisted MISO Interference Channels	Jing Zhang (Nanjing University of Posts and Telecommunications, China); Haiyang Zhang (Weizmann Institute, Israel); Zhengming Zhang (Southeast University, China); Haibo Dai and Wei Wu (Nanjing University of Posts and Telecommunications, China); Bao-Yun Wang (Nanjing University of Posts & Telecommunications, China)
1570756547	LPI Radar Signal Modulation Recognition With Feature Fusion Based on Time-Frequency Transforms	Shitong Li (China Jiliang University & None, China); Daying Quan, Xiaofeng Wang and Xiaoping Jin (China Jiliang University, China)

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Session 45 | WT-8

Wireless Transmission Technology and Networking Symposium

Chair

Xiaohuan Wu, Nanjing University of Posts and Telecommunications, China

ID	TITLE	AUTHORS
1570745127	Downlink Performance Analysis of the Multi-Beam GEO Satellite Communication Systems	Meng Yuan, Yixiao Gu and Bin Xia (Shanghai Jiao Tong University, China)
1570745433	5G Multi-Service-Oriented User Association and Routing Algorithm for Integrated Terrestrial-Satellite Networks	Miling Chen, Jinhong Li and Rong Chai (Chongqing University of Posts and Telecommunications, China)
1570745507	Channel Estimation for IRS-Assisted Multi-User Millimeter Wave MIMO Systems	Zheng Huang, Chen Liu, Yunchao Song and Hong Wang (Nanjing University of Posts and Telecommunications, China)
1570745668	Optimized Incremental Selection Hybrid Decode-Amplify-Forward Relaying Cooperation With Average Transmission Power Reduction	Jianrong Bao, Xiaoyao Guo, Xiaorong Xu, Chao Liu and Bing Jiang (Hangzhou Dianzi University, China)
1570750821	Error Propagation Reduced Channel Estimation for IRS-Aided Multiuser Communications	Yi Wei, Ming-Min Zhao, Minjian Zhao and Yunlong Cai (Zhejiang University, China)

13:30-15:00

Meeting ID: 861 1449 1861

Session 46 | MC-1

Network Optimization

Chair

Haipeng Dai, Nanjing University, China

ID	TITLE	AUTHORS
1570745641	Mobile Sink LEACH Protocol for Underwater Acoustic Sensor Networks	Chenxi Zhao and Bowen Feng (Harbin Institute of Technology (Shenzhen), China); Qinyu Zhang (Shenzhen Graduate School, Harbin Institute of Technology, China)
1570752406	Energy Consumption Minimization for Wireless Powered NOMA-MEC With User Cooperation	Rui Wang, Jian Chen, Bingtao He, Lu Lv, Yuchen Zhou and Long Yang (Xidian University, China)
1570756685	Robust Low-Tubal-Rank Tensor Completion for Network Latency Estimation and Anomaly Detection	Lingzhen Wang, Lei Deng, Xinxin Feng and Haifeng Zheng (Fuzhou University, China)
1570744927	An Energy Effective Opportunistic Routing Mechanism for BLE Mesh	Weikun Cao (National Mobile Communications Research Laboratory, Southeast University, China); Yinong Zhang (West Aware System Corporation, China); Weiwei Xia, Da Sun, Feng Yan and Lianfeng Shen (National Mobile Communications Research Laboratory, Southeast University, China); Yingbin Gao (Zgmicro Co., Ltd., China)
1570745672	Communication-Efficient Decentralized Zeroth-Order Method on Heterogeneous Data	Zan Li (University of Science and Technology of China, China); Chen Li (University of Science And Technology of China, China)

13:30-15:00

Meeting ID: 819 3834 1173

Session 47 | AI-3

AI-Enabled Communications and Security Symposium

Chair

Yongjun Xu, Chongqing University of Posts and Telecommunications, China

ID	TITLE	AUTHORS
1570752403	Task Delay Minimization in Wireless Powered Mobile Edge Computing Networks: A Deep Reinforcement Learning Approach	Yaling Yu, Yao Yan and Songnong Li (State Grid Chongqing Electric Power Research Institute, China); Zhidu Li (Chongqing University of Posts and Telecommunications, China); Dapeng Wu (CQUPT, China)
1570752403	Task Delay Minimization in Wireless Powered Mobile Edge Computing Networks: A Deep Reinforcement Learning Approach	Yaling Yu, Yao Yan and Songnong Li (State Grid Chongqing Electric Power Research Institute, China); Zhidu Li (Chongqing University of Posts and Telecommunications, China); Dapeng Wu (CQUPT, China)
1570752403	Task Delay Minimization in Wireless Powered Mobile Edge Computing Networks: A Deep Reinforcement Learning Approach	Yaling Yu, Yao Yan and Songnong Li (State Grid Chongqing Electric Power Research Institute, China); Zhidu Li (Chongqing University of Posts and Telecommunications, China); Dapeng Wu (CQUPT, China)
1570752403	Task Delay Minimization in Wireless Powered Mobile Edge Computing Networks: A Deep Reinforcement Learning Approach	Yaling Yu, Yao Yan and Songnong Li (State Grid Chongqing Electric Power Research Institute, China); Zhidu Li (Chongqing University of Posts and Telecommunications, China); Dapeng Wu (CQUPT, China)
1570752403	Task Delay Minimization in Wireless Powered Mobile Edge Computing Networks: A Deep Reinforcement Learning Approach	Yaling Yu, Yao Yan and Songnong Li (State Grid Chongqing Electric Power Research Institute, China); Zhidu Li (Chongqing University of Posts and Telecommunications, China); Dapeng Wu (CQUPT, China)

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Meeting ID: 852 1601 9002

Session 48 | AI-5

AI-Enabled Communications and Security Symposium

Chair

Guan Gui, Nanjing University of Posts and Telecommunications, China

ID	TITLE	AUTHORS
1570752625	Stochastic Delay Performance Guarantee in A Terminal-Edge Collaboration System	Wenying Zhou, Zhihao Yang and Zhidu Li (Chongqing University of Posts and Telecommunications, China); Dapeng Wu (CQUPT, China)
1570752689	Long Short-Term Memory-Based Hybrid V2V/V2I Transmission Latency Method	Hai-tao Zhao, Xiaoqing Li, Jie Yang, Yiyang Ni, Wenchao Xia and Guan Gui (Nanjing University of Posts and Telecommunications, China)
1570752973	Multi-Objective Satellite Selection Strategy Based on Entropy	Shaofeng Zhang (China Research Institute of Radiowave Propagation, China); Lantu Guo (Beijing Institute of Technology, China); Mu Weiqing (China Research Institute of Radiowave Propagation, China); Jie Wang (Nanjing University of Posts and Telecommunications, China); Yanan Liu (Harbin Engineering University, China)
1570753124	Deep Reinforcement Learning-Based Satellite Handover Scheme for Satellite Communications	Jie Wang (Nanjing University of Posts and Telecommunications, China); Mu Weiqing (China Research Institute of Radiowave Propagation); Yanan Liu (Harbin Engineering University, China); Lantu Guo (Beijing Institute of Technology, China); Shaofeng Zhang (China Research Institute of Radiowave Propagation, China); Guan Gui (Nanjing University of Posts and Telecommunications, China)
1570753561	Energy-Harvesting Relaying in Two-Way AF Beamforming Network	Hui Sun, Fengxia Han and Hao Deng (Tongji University, China)

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Meeting ID: 950 4183 3582

Session 49 | IT-2

Topics in Information Theory

Chair

Nan Liu, Southeast University, China

ID	TITLE	AUTHORS
1570738930	Vector Gaussian Heegard-Berger Problem With Common Reconstructions	Jian Lu (SiPaiLou 2, China); Yinfei Xu (Southeast University, China)
1570752201	Robust Steganography Based on Polar Codes	Jinsheng Li and Ling Liu (Shenzhen University, China)
1570755556	Computing the Rate-Distortion Function of Bivariate Gaussian Gray-Wyner Networks	Guojun Chen (Southeast University & National Mobile Communications Research Laboratory, China); Yinfei Xu and Xi Li (Southeast University, China); Tiecheng Song (National Mobile Communications Research Laboratory, Southeast University, China)
1570756046	Set Reconciliation for Blockchains With Slepian-Wolf Coding: Deletion Polar Codes	Ling Liu and Shengli Zhang (Shenzhen University, China); Cong Ling (Imperial College London, United Kingdom (Great Britain))

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Session 50 | IT-3

Communication Theory

Chair

Xiaofu Wu, Nanjing University of Posts and Telecommunications, China

ID	TITLE	AUTHORS
1570740660	Outage Probability Analysis of HARQ-Aided Terahertz Communications	Ziyang Song, Jiahui Feng, Zheng Shi, Qingping Dou and Guanghua Yang (Jinan University, China); Yunfei Li (University of Macao, China); Shaodan Ma (University of Macau, China)
1570742679	An Adaptive Distributed Source Coding Design for Distributed Learning	Naifu Zhang and Meixia Tao (Shanghai Jiao Tong University, China)
1570748903	Sparse vs. Dense Signatures for Grant-Free NOMA With Deep Learning Based Activity Detection	Chunxiang Li, Xiaofu Wu, Renxiang Zhang, Suofei Zhang and Jun Yan (Nanjing University of Posts and Telecommunications, China)
1570755992	Peak AoI vs. Delay: Closed-Form Analysis in the Finite Block Length Regime	Jie Cao (Harbin Institute of Technology, Shenzhen, China); Xu Zhu (University of Liverpool, United Kingdom (Great Britain) & Harbin Institute of Technology, Shenzhen, China); Yufei Jiang (Harbin Institute of Technology, Shenzhen, China); Zhongxiang Wei (Tongji University & School of Electronics and Information Engineering, China); Sumei Sun (Institute for Infocomm Research, Singapore); Yuanchen Wang (University of Liverpool, United Kingdom (Great Britain))

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Meeting ID: 942 9345 1987

Session 51 | EC-5

Edge Computing and Intelligence Symposium

Chair

Jun Zhang, Nanjing University of Posts and Telecommunications, China

ID	TITLE	AUTHORS
1570757464	Research on LTE-V2X Key Technology and Performance Test	Jiaying Feng (Beihang University, China); Xiaobo Lin and Jiahui Qiu (China Unicom Company, China); Yi Feng (China Unicom, China); Chao Cai and Xiangyun Zhang (China Unicom Company, China)
1570758526	Multi-Agent Learning Approach for UAVs Enabled Wireless Networks	Lorenzo De Simone (London South Bank University, United Kingdom (Great Britain)); Yongxu Zhu (South Bank University, United Kingdom (Great Britain)); Wenchao Xia (Nanjing University of Posts and Telecommunications, China); Tasos Dagiuklas (London South Bank University, United Kingdom (Great Britain)); Kai Kit Wong (University College London, United Kingdom (Great Britain))
1570760001	A New Location Algorithm Based on Machine Learning With Fingerprinting in C-V2X	Xiaohan Xia (China Unicom, China); Jiaying Feng (Beihang University, China); Yi Feng (China Unicom, China); Jiahui Qiu, Chao Cai and Xiangyun Zhang (China Unicom Company, China)

15:15-16:45

Session 52 | MC-2

Learning-driven Network

Chair

Linqing Gui, Nanjing University of Posts and Telecommunications, China

ID	TITLE	AUTHORS
1570757399	Reinforcement Learning Routing in Space-Air-Ground Integrated Networks	Xiaojing Shi (Xi'an JiaoTong University, China); Pinyi Ren and Qinghe Du (Xi'an Jiaotong University, China)
1570751587	Location-Assisted Beam Tracking and Selection for Downlink MISO via Unsupervised Learning	Fengqing Huang (Central South University, China); Shiwen He (School of Information Science and Engineering, Central South University, China); Wei Huang (Hefei University of Technology, China); Liang Yang (Hunan University, China)
1570744054	A Bidirectional Q-Learning Routing Protocol for UAV Networks	Junyu Zhou, Jing Liu, Wudong Shi and Bin Xia (Shanghai Jiao Tong University, China)
1570752693	A Cybertwin-Driven Task Offloading Scheme Based on Deep Reinforcement Learning and Graph Attention Networks	Xiaoxu Zhong and Yejun He (Shenzhen University, China)
1570745649	An Enhanced Q-Learning Routing Algorithm Based on Trajectory Prediction for UAV Networks	Haokeke Ye and Jing Liu (Shanghai Jiao Tong University, China)

15:15-16:45

Session 53 | AI-4

AI-Enabled Communications and Security Symposium

Chair

Xujie Li, Hohai University, China

ID	TITLE	AUTHORS
1570755023	A Trusted Distribution Mechanism of Tasks for the Internet of Vehicles Based on Blockchain	Yuan Xu and Xujie Li (Hohai University, China); Mengran Jin (State Information Center, China); Yong Lu (Hohai University, China)
1570755881	A Mobility Aware Task Offloading Scheme for Vehicle Edge Computing	Jing Tang (Hohai Univeisity, China); Xujie Li (Hohai University, China); Mengran Jin (State Information Center, China); Yong Lu (Hohai University, China)
1570756269	Meta-Learning for mmWave Beam Prediction Using Sub-6 GHz Channels	Ruming Yang, Zhengming Zhang and Luxi Yang (Southeast University, China)
1570756379	LRPBFT-Algorithm-Based Consortium Blockchain Traceability Scheme of Dangerous Goods in Commercial Ports	Bin Lin, Fei Xu, Shipeng Xu, Nan Wu and Zhenqiu Liu (Dalian Maritime University, China)
1570756392	Offshore Container Data Transmission Based on UAV-Assisted Relay	Yudi Che and Bin Lin (Dalian Maritime University, China); Lin Liu (Dalian, China)

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Session 54 | AI-6

AI-Enabled Communications and Security Symposium

Chair

Bin Lin, Dalian Maritime University, China

ID	TITLE	AUTHORS
1570756419	Joint UAV-BS Deployment and Power Allocation for Maritime Emergency Communication System	Lin Liu (Dalian, China); Bin Lin and Yudi Che (Dalian Maritime University, China)
1570757567	Aerial Computing Offloading by Distributed Deep Learning in Collaborative Satellite-Terrestrial Networks	Haofei Li, Chen Chen, Cong Li and Lei Liu (Xidian University, China); Guan Gui (Nanjing University of Posts and Telecommunications, China)
1570759189	UAV Position Optimization Based on Information Freshness: A Mean Field Game Approach	Meng Wang, Lixin Li and Wensheng Lin (Northwestern Polytechnical University, China); Baoguo Wei (Northwestern Ploytechnical University, China); Wei Chen (Tsinghua University, China); Zhu Han (University of Houston, USA)
1570759221	Reflection Coefficients Optimization in IRS-Assisted Communication: An Evolutionary Game Approach	Haixin Hu, Lixin Li, Wensheng Lin and Xu Li (Northwestern Polytechnical University, China); Zhu Han (University of Houston, USA)