

Program						
Room Time	SHANGHAI HALL	YUNNAN HALL	HAINAN HALL	JIANGSU HALL	SHANDONG HALL	
Wednesday, May 8 <sup>th</sup>						
All Day	Registration (Lobby)					
Thursday, May 9 <sup>th</sup>						
09:30-09:50	Opening Remark & Welcome Speech (ZHONGHUA HALL II)					
09:50-10:30	Plenary Panel Speech 1: Prof. Huiling Zhao, China Institute of Communications (ZHONGHUA HALL II)					
10:30-10:50	Coffee Break					
10:50-11:30	Plenary Panel Speech 2: Dr. Xiang Liu, Futurewei Technologies, Huawei USA (ZHONGHUA HALL II)					
11:30-12:10	Plenary Panel Speech 3: Dr. Tao Sun, China Mobile Research Institute (ZHONGHUA HALL II)					
12:10-13:30	Luncheon (Century Cafe)					
13:30-14:00	Keynote Talk W1: Dr. Zesong Fei, Beijing Institute of Technology		Keynote Talk N1: Dr. Lijun Dong, Huawei USA	Keynote Talk A1: Dr. Bob Li, Univ. of Electronic S&T of China	Keynote Talk O1: Dr. Li Pei, Beijing Jiaotong University	
14:00-14:30	Break					
14:30-17:00	WS-I	Poster	WS-II	NS-I	AS-I	OS-I
17:00-17:30	Break					
17:30	Banquet (Best Paper Award, CENTURY HALL II)					
Friday, May 10 <sup>th</sup>						
09:00-9:40	Plenary Panel Speech 4: Dr. Yudong Yao, Stevens Institute of Technology (ZHONGHUA HALL II)					
09:40-10:20	Plenary Panel Speech 5: Dr. Zhisheng Niu, Tsinghua University (ZHONGHUA HALL II)					
10:20-10:40	Coffee Break					
10:40-11:20	Plenary Panel Speech 6: Dr. Li-Chun Wang, National Chiao Tung University (ZHONGHUA HALL II)					
11:20-12:00	Plenary Panel Speech 7: Dr. Kevin Lu, Stevens Institute of Technology (ZHONGHUA HALL II)					
12:00-13:30	Luncheon (Century Cafe)					
13:30-14:00	Keynote Talk W2: Dr. Xiaodong Xu, Beijing University of Posts and Telecommunications		Keynote Talk N2: Dr. Yejun He, Shenzhen University	Keynote Talk A2: Dr. Jen-Yeu Chen, National Dong Hwa University	Keynote Talk O2: Dr. Changyuan Yu, The Hong Kong Polytechnic University	
14:00-14:30	Break					
14:30-17:15	WS-III	Poster	WS-IV	WS-V	AS-II	OS-II +NS-II

## Wednesday, May 8<sup>th</sup>

### Registration

Registration lasts for one day.

## Thursday, May 9<sup>th</sup>

Thursday, May 9<sup>th</sup>, 09:30-09:50

### Opening Remark & Welcome Speech

Honorary General Chair & General Chair,  
Leader of University of Science & Technology Beijing,  
Leader of State Key Lab of Rail Traffic Control & Safety of Beijing Jiaotong University,  
Organizing Co-chair.

Thursday, May 9<sup>th</sup>, 09:50-10:30

### Plenary Panel Speech 1: Prof. Huiling Zhao

Title: **Challenges of 5G Network Technologies**  
Speaker: Prof. Huiling Zhao (China Institute of Communications)

Thursday, May 9<sup>th</sup>, 10:50-11:30

### Plenary Panel Speech 2: Dr. Xiang Liu

Title: **Evolving Optical Networks towards the Decade of the 2020s**  
Speaker: Dr. Xiang Liu (Futurewei Technologies, Huawei USA)

Thursday, May 9<sup>th</sup>, 11:30-12:10

### Plenary Panel Speech 3: Dr. Tao Sun

Title: **Service-based 5G Architecture: from standard to practice**  
Speaker: Dr. Tao Sun (China Mobile Research Institute)

Thursday, May 9<sup>th</sup>, 13:30-14:00

### Keynote Talk W1: Dr. Zesong Fei

Room: SHANGHAI HALL  
Title: **UAV Communications for 5G and Beyond**  
Speaker: Dr. Zesong Fei (Beijing Institute of Technology)

### Keynote Talk N1: Dr. Lijun Dong

Room: HAINAN HALL  
Title: **In-Network Intelligence for Future Internet**  
Speaker: Dr. Lijun Dong (Huawei USA)

### Keynote Talk A1: Dr. Bob Li

Room: JIANGSU HALL  
Title: **Intuitive Applications of Network Coding——Tactics for Exploring New Applications & Efficient Computation**  
Speaker: Dr. Bob Li (Univ. of Electronic S&T of China)

### Keynote Talk O1: Dr. Li Pei

Room: SHANDONG HALL  
Title: **Opto-electronic Devices based on Graphene**  
Speaker: Dr. Li Pei (Beijing Jiaotong University)

Thursday, May 9<sup>th</sup>, 14:30-17:00

WS-I

**Room: SHANGHAI HALL**

**14:30 *Relaxed Polar Codes under AWGN Channels with Low Complexity and Low Latency***

Xinyi Wang, Ce Sun, Dai Jia, Yifan Jiang and Deliang Song (Beijing Institute of Technology, China); Jingxuan Huang (Science and Technology on Communication Networks Laboratory, China)

**14:45 *Design of a Multi-Core Scheduling Scheme for Tera-bit/s LDPC Decoding***

Qiangyi Zhao and Liuguo (Tsinghua University, Beijing National Research Center for Information Science and Technology and Research Institute of Tsinghua University in Shenzhen, China)

**15:00 *Target Localization in Industrial Environment based on TOA Ranging***

Yue Qi, Pan Luo, Cheng Xu, Jiawang Wan and Jie He (University of Science and Technology Beijing, Beijing Key Laboratory of Knowledge Engineering for Materials Science and Institute of Artificial Intelligence, University of Science and Technology Beijing)

**15:15 *UAV-Enabled Accompanying Coverage for Hybrid Satellite-UAV-Terrestrial Maritime Communications***

Xiangling Li, Wei Feng, and Ning Ge (Tsinghua University, China); Yunfei Chen (University of Warwick, U.K.); Cheng-Xiang Wang (Southeast University, China)

**15:30 *Satellite communication used in the non-geostationary Fixed-satellite service systems and Earth-exploration satellite service (passive) systems***

Jianxin Li and Xiaoyan Zhang (*Satellite Engineering Division The State Radio Monitoring Center*); Honggang Yin (*National Satellite Meteorological China Meteorological Administration*)

**15:45 *Low-complexity Successive Cancellation List Decoding for Polar Codes based on SPRT***

Wenpeng Li, Liping Du and Yueyun Chen (University of Science & Technology, China)

**16:00 *Improved Sphere Decoding Detection Algorithm Based on Lattice-Reduction-Aided***

Hu Xu, Zushen Liu, Yunzhi Ling and Yu Zhang (The 41st institute of CETC, China)

**16:15 *5G Trials on 28 GHz Band in Indonesia***

Anna C. Situmorang and Dadang Gunawan (Electrical Engineering Universitas Indonesia Depok, Indonesia); Vivi G. Anggraini (Ministry of Communications and Informatics, Indonesia)

**16:30 *A Cross-region Wireless-synchronization-based TDOA Method for Indoor Positioning Applications***

Xinghang Zhou, Cheng Xu, Jie He and Jiawang Wan (*University of Science and Technology Beijing and Beijing Key Laboratory of Knowledge Engineering for Materials Science, China*)

**16:45 *A Resource Allocation Algorithm Based on Overall User Satisfaction of Internet of Things***

Anqi Zhu, Songtao Guo, Mingfang Ma, Hao Feng and Qiuken Jiang (Southwest University, China); Bei Liu and Xin Su (Tsinghua University, China)

## Poster-I

### Room: SHANGHAI HALL

#### **5G Enhanced Service-based Core Design**

Jiegang Lu, Limin Xiao, Zhigang Tian, Ming Zhao and Wenbo Wang (Tsinghua University, P.R. China)

#### **Hybrid Precoding Based on MMSE-EDS for Multi-user Multi-stream Massive MIMO Systems**

Zhan Liu, Yueyun Chen, Meijie Yang and Rongling Jian (University of Science & Technology Beijing, P.R. China)

#### **Secrecy Performance Analysis for Hybrid Satellite Terrestrial Relay Networks with Multiple Eavesdroppers**

Rui Xu, Daoxing Guo and Bangning Zhang (Army Engineering University of PLA, P.R. China); Kefeng Guo (Space Engineering University, P.R. China); Cheng Li (Army Engineering University of PLA, P.R. China)

#### **5G Fronthaul Design Based on Software-defined and Virtualized Radio Access Network**

Shihao Su, Xibin Xu, Zhigang Tian, Ming Zhao and Wenbo Wang (Tsinghua University, P.R. China)

#### **A Fast-Convergent Detector Based on Joint Jacobi and Richardson Method for Uplink Massive MIMO Systems**

Imran Ali Khoso and Talha Bin Javed (University of Science and Technology Beijing, P.R. China); Shanshan Tu (Beijing University of Technology, P.R. China); Yuanyuan Dong and Hua Li (University of Science and Technology Beijing, P.R. China); Xiyuan Wang (Beijing Information Science and Technology University, P.R. China); Xiaoming Dai (University of Science and Technology Beijing, P.R. China)

#### **Research on Modeling of Radio Propagation in Vacuum Pipeline Scene**

Yan Wang, Yinghong Wen, Jinbao Zhang, and Dan Zhang (Beijing Jiaotong University, P.R. China); Yue Xu (CRCC QINGDAO SIFANG CO., LTD, P.R. China)

## WS-II

### Room: YUNNAN HALL

#### **14:30 Connected-coding Retransmission Scheme for Low-density Parity-check Codes in 5G**

Jingwen Zhang, Jingxuan Huang, Ce Sun, Dai Jia, Xinyi Wang and Fei zesong (Beijing Institute of Technology, China)

#### **14:45 Joint Slot Number Detection and Synchronization for 5G Non-signaling Test**

Yuan Yao, Xinyi Wang and Deliang Song (Beijing institute of technology, China)

#### **15:00 TOA based Target Tracking using Optimal Estimation Methods**

Shihong Duan, Yuanyuan Li, Cheng Xu, Jiawang Wan and Jie He (University of Science and Technology Beijing, Beijing Key Laboratory of Knowledge Engineering for Materials Science and Institute of Artificial Intelligence, University of Science and Technology Beijing)

#### **15:15 A Low Complexity Channel Estimator for LTE Uplink in Non-sample-spaced Multipath Channels**

Hua Li, Yuanyuan Dong, Zhenyu Zhang and Xiaoming Dai (University of Science and Technology Beijing, China); Xiyuan Wang (Beijing Information Science and Technology University, China)

#### **15:30 A Low Complexity High Performance Weighted Neumann Series-based Massive MIMO Detection**

Xiaofei Liu, Zhenyu Zhang, Jing Lian and Xiaoming Dai (University of Science and Technology Beijing, China); Xiyuan Wang (Beijing Information Science and Technology University, China)

#### **15:45 Universal Filtered OFDM Index Modulation System with Enhanced ICI compression**

Chaoyue Jin, Li Wei and Youyun Xu (Nanjing University of Posts and Telecommunications, China)

#### **16:00 Mixed RF-VLC Relaying System with Radio-Access Diversity**

Milica I. Petkovic (Aleksandra Cvetkovic); Milan Narandzic (Dejan Vukobratovic)

#### **16:15 Joint Iteration Belief Propagation Decoding for Generalized Polar Coded BICM System**

Fengyi Cheng, Aijun Liu, Jing Ren, Xiaohu Liang, Yurong Wang, Biao Cai and Hao Liang (Army Engineering University of PLA, China)

#### **16:30 Satellite communication on the non-geostationary system and the geostationary system in the Fixed-satellite service**

Jianxin Li and Wei Li (Satellite Engineering Division The State Radio Monitoring Center, China); Meng Li (DFH Satellite Co., Ltd China Space Technology, China)

#### **16:45 Power Allocation with Buffer Constraint for Distributed Antenna System in High-Speed Railway Scenarios**

Mi Yu, Xiaoming Wang, Youyun Xu and Dapeng Li (Nanjing University of Posts and Telecommunications, China); Jianping Chen (Nanjing Ticom Tech Co. Ltd, China)

**Room: HAINAN HALL****14:30 Task Execution Latency Minimization-based Joint Computation Offloading and Cell Selection for MEC-Enabled HetNets**

Waleed Almughalles, Rong Chai, Junliang Lin and Ahmad Zubair (Chongqing University of Posts and Telecommunications, China)

**14:45 Traffic Classification for Mobile Video Streaming Using Dynamic Warping Network**

Shuang Tang, Xiaowei Qin, Chensheng Li and Guo Wei (University of Science and Technology of China Hefei, China.)

**15:00 A Multi-Controller Placement Strategy Based on Delay and Reliability Optimization in SDN**

Zifu Fan, Jie Yao, Xianhui Yang, Zhengqiang Wang and Xiaoyu Wan (Chongqing University of Posts and Telecommunications, Chongqing, P. R. China)

**15:15 A Dynamic Game Model for Resource Allocation in Fog Computing for Ubiquitous Smart Grid**

Zhi Li (State Grid Information & Telecommunication Group Co., Ltd. Beijing, China); Yanzhu Liu (Great Wall Computer Software and Systems Inc. Beijing, China); Rui Xin (State Grid Hebei Information & Telecommunication Branch. Shijiazhuang, China); Lifang Gao (State Grid Hebei Information & Telecommunication Branch. Shijiazhuang, China); Xueying Ding (State Grid Information & Telecommunication Group Co., Ltd. Beijing, China); Yubo Hu (Great Wall Computer Software and Systems Inc. Beijing, China)

**15:30 Multi-UAV Delay Optimization in Edge Caching Networks: A Mean Field Game Approach**

Kaiyuan Xue (School of Electronics and Information); Lixin Li (Northwestern Polytechnical University, Xi'an, China); Fucheng Yang (Research Institute of Information Fusion); Huisheng Zhang (Naval Aviation University, Yantai, China); Xu Li (Department of Electrical and Computer Engineering); Zhu Han (University of Houston, Houston, TX 77004, USA)

**15:45 Asynchronous Laser Transponder Method for High-Precision Ranging and Clock Synchronization**

Hongquan Zhu, Xin Gao and Chengqiang Lei (Beijing Institute of Tracking and Telecommunication Technology, Beijing, 100094, China)

**16:00 Effect of External Daylight in Smart Dimmable LED Lighting Systems**

Milica Petkovic, Dragana Bajovic and Dejan Vukobratovic (University of Novi Sad); Graeme McCutcheon; Lina Stankovic, Vladimir Stankovic (University of Strathclyde)

**16:15 Latency-Aware Resource-Efficient Virtual Network Embedding in Software Defined Networking**

Zihui Yan, Ning Wei, Qizhen Jin and Xiaobo Zhou (Tianjin University Tianjin 300350, China)

**16:30 A repair Dispatching algorithm based on fog computing in smart grid**

Nan Zhang (State Grid Information & Telecommunication Group Co., Ltd. Beijing, China); Di Liu (State Grid Information & Telecommunication Group Co., Ltd. Beijing, China); Jianbin Zhao (State Grid Hebei Information & Telecommunication Branch. Shijiazhuang, China); Zihui Wang (State Grid Hebei Information & Telecommunication Branch. Shijiazhuang, China); Yan Sun (China Industrial Control Systems Cyber Emergency Response Team Beijing, China); Zhi Li (State Grid Information & Telecommunication Group Co., Ltd. Beijing, China)

**16:45 A Hybrid Solution of SDN Architecture for 5G Mobile Communication to Improve Data Rate Transmission**

Muhammad Nauman Irshad, Liping Du, Imran Ali Khoso, Talha Bin Javed and Muhammad Muzamil Aslam (University of Science & Technology Beijing Beijing, China)

**Room: JIANGSU HALL****14:30 Resource Allocation for Threat Defense in Cybersecurity IoT system**

Manxi Wang(State Key Laboratory of Complex Electromagnetic Environment Effects on Electronics and Information System Luoyang, China); Bingjie Liu and Haitao Xu (University of Science and Technology Beijing, P.R. China)

**14:45 Cellular System Identification Using Deep Learning: GSM, UMTS and LTE**

Khalid Alshathri, Hongtao Xia, Victor Lawrence and Yu-Dong Yao(Stevens Institute of Technology, USA)

**15:00 A Novel Millimeter Wave Channel Estimation Algorithm Based on IC-ELM**

Jie Miao, Yueyun Chen and Zhiyuan Mai (University of Science and Technology Beijing, P.R. China)

**15:15 A Pedestrian Detection Model Based on Binocular Information Fusion**

Juan Zhang, Zhonggui Ma, Nuerxiati Nuermaimaiti (University of Science and Technology Beijing, P.R. China)

**15:30 Deep Learning based Automatic Modulation Classification for Varying SNR Environment**

Xiaojuan Xie, Yanqin Ni, Shengliang Peng (Huaqiao University, P.R. China); Yu-Dong Yao (Stevens Institute of Technology, USA)

**15:45 Modeling Users Behavior in Cellular Networks with Mobile Big Data**

Hongquan Deng (Shanghai Zhi Zhen Jun Zhi Technology Co, P.R. China); Juma S. Ally (Key Laboratory of Wireless-Optical Communications, Chinese Academy of Sciences University of Science and Technology of China, P.R.China); Jia Zhao (Hebei Normal University, P.R. China); Qing Yao (Institute of China Electronic System Engineering Corporation, P.R. China); Changhui Wang (Troop 31431, P.R. China); Qingli Ma (Key Laboratory of Wireless-Optical Communications, Chinese Academy of Sciences University of Science and Technology of China, P.R.China)

**16:00 Research on Human Action Recognition Based on Convolutional Neural Network**

Peng Wang, Yuliang Yang, Wanchong Li, Linhao Zhang, Mengyuan Wang, Xiaobo Zhang (University of Science and Technology Beijing, P.R. China); Mengyu Zhu (Beijing Institute of Technology, P.R. China)

**16:15 Research Framework for the Future Development of IoT Information Service Technology**

Zhanzhong Tang (University of Science and Technology Beijing, P.R. China); Xianwu Zeng (Qingdao University of Science and Technology, P.R. China); Zhiliang Wang (University of Science and Technology Beijing, P.R. China)

**16:30 Computation Offloading for Workflow in Mobile Edge Computing Based on Deep Q-Learning**

Anqi Zhu (Southwest University, P.R, China); Songtao Guo (Chongqing University, P.R. China); Mingfang Ma, Hao Feng (Southwest University, P.R, China); Bei Liu, Xin Su (Tsinghua University, P.R. China); Minghong Guo (Kergez Autonomous Prefecture of Kizilsu Meteorological Bureau, P.R. China); Qiucen Jiang (Southwest University, P.R, China)

**16:45 Active Learning with Spatial Distribution based Semi-Supervised Extreme Learning Machine for Multiclass Classification**

Yuefan Xu (University of Science and Technology Beijing, P.R. China); Li Ma (Beijing Aerospace Petrochemical Technology and Equipment Engineering Corporation, P.R. China); Wendong Xiao (University of Science and Technology Beijing, P.R. China)

**Room: SHANDONG HALL**

**14:30 *Real-time Sound Detection and Regeneration Based on Optical Flow Algorithm of Laser Speckle Images***

Nan Wu and Shinichiro Haruyama (Keio University, Japan)

**14:45 *Dynamic Multicast Traffic Grooming Using Light Trails in Elastic Optical Networks***

Hwa-Chun Lin and Yuan-Xi Zhuang (National Tsing Hua University, Taiwan)

**15:00 *Transmitter Design and Synchronization Concepts for DaViD Display Camera Communication***

Jianshuang Xu, Christian Brauers, Johannes Klein and Rüdiger Kays (TU Dortmund University, Germany)

**15:15 *Plasmonic Modes in 2-Dimensional (2D) Metal-oxide-semiconductor Structure***

Yifeng Huang and Wei Hong (Huazhong University of Science & Technology, P.R. China)

**15:30 *Asymmetrical Emission Beams based Visible Light Communication Access Points Design***

Jupeng Ding (Xinjiang University, P.R. China); Chih-Lin I (China Mobile Research Institute, P.R. China); Xifeng Chen and Huicheng Lai (Xinjiang University, P.R. China)

**15:45 *Generalized Spatial Modulation for Multi-User in Visible Light Communication***

Mahesh Kumar Jha (CMR Institute of Technology, India); Navin Kumar (Amrita University & School of Engineering, India); Y.V.S Lakshmi (Centre for Development of Telematics, India)

**16:00 *High-Speed Visible Light Communication Chipset Based Multi-Color MIMO System***

Ye Xiao, Yi-Jun Zhu, Dong-Fang Zhang and Hai-yong Zhang (National Digital Switching System Engineering & Technological Research Center, P.R. China)

**16:15 *Multi-domain Awareness Energy-efficient Routing Algorithm for Elastic Optical Networks***

Xiaoling Liu, Jingwen Zhang, Cong Yu, Lingqi Luo and Jianhua Shen (Nanjing University of Posts & Telecommunications, P.R. China)

**16:30 *Maximum-Spectrum-Completeness based Routing and Spectrum Assignment Algorithms for Elastic Optical Networks***

Jingwen Zhang, Cong Yu, Xiaoling Liu, Lingqi Luo and Jianhua Shen (Nanjing University of Posts & Telecommunications, P.R. China)

**Friday, May 10<sup>th</sup>**

**Friday, May 10<sup>th</sup>, 09:00-09:40**

**Plenary Panel Speech 4: Dr. Yudong Yao**

**Title: [Full Radio Spectrum Awareness Using Machine Learning and Deep Learning](#)**

**Speaker: Dr. Yudong Yao (Stevens Institute of Technology)**

**Friday, May 10<sup>th</sup>, 09:40-10:20**

**Plenary Panel Speech 5: Dr. Zhisheng Niu**

**Title: [Mobility-Enhanced Edge Intelligence \(MEET\) for 6G](#)**

**Speaker: Dr. Zhisheng Niu (Tsinghua University)**

**Friday, May 10<sup>th</sup>, 10:40-11:20**

**Plenary Panel Speech 6: Dr. Li-Chun Wang**

**Title: [Machine Learning for Future Cellular Mobile Networks](#)**

**Speaker: Dr. Li-Chun Wang (National Chiao Tung University)**

**Friday, May 10<sup>th</sup>, 11:20-12:00**

**Plenary Panel Speech 7: Dr. Kevin Lu**

**Title: [Ethics of Autonomous and Intelligent Systems](#)**

**Speaker: Dr. Kevin Lu (Stevens Institute of Technology)**

**Friday, May 10<sup>th</sup>, 13:30-14:00**

**Keynote Talk W2: Dr. Xiaodong Xu**

**Room: SHANGHAI HALL**

**Title: [Look into the Cross-tier Handover in Ultra-dense Heterogeneous Networks](#)**

**Speaker: Dr. Xiaodong Xu (Beijing University of Posts and Telecommunications)**

**Keynote Talk N2: Dr. Yejun He**

**Room: JIANGSU HALL**

**Title: [Polar Codes: Overview, Recent Research and Challenges](#)**

**Speaker: Dr. Yejun He (Shenzhen University)**

**Keynote Talk A2: Dr. Jen-Yeu Chen**

**Room: HAINAN HALL**

**Title: [QoS-Aware Hybrid Scheduling for Geographical Zone-Based Resource Allocation in Cellular Vehicle-to-Vehicle Communications](#)**

**Speaker: Dr. Jen-Yeu Chen (National Dong Hwa University)**

**Keynote Talk O2: Dr. Changyuan Yu**

**Room: SHANDONG HALL**

**Title: [Smart Multi-core and Few-mode Optical Fiber Sensor Systems](#)**

**Speaker: Dr. Changyuan Yu (The Hong Kong Polytechnic University)**



Friday, May 10<sup>th</sup>, 14:30-17:15

WS-III

**Room: SHANGHAI HALL**

**14:30 *Angle-Domain Channel and DOA Estimation in Airborne Massive MIMO System with Eavesdropper***  
Ming Zhang, Chengjian Liao, Kui Xu and Wei Xie (Army Engineering University of PLA, P.R. China);  
Jianhui Xu and Lihua Chen (PLA University of Science and Technology, P.R. China)

**14:45 *Body-to-Body Network Routing Algorithm Based on Link Comprehensive Stability***  
Lincong Zhang and Xueyi Chen (Shenyang Ligong University, P.R. China); Kefeng Wei (Northeastern  
University, P.R. China); Jifeng Qi, Wenbo Zhang and Yongxin Feng (Shenyang Ligong University, P.R.  
China)

**15:00 *2x-Oversampled Receiver Design for CP-FBMA Based Air Interface***  
Jian Dang, Zaichen Zhang and Liang Wu (Southeast University, P.R. China); Yongpeng Wu (Shanghai Jiao  
Tong University, P.R. China)

**15:15 *A Neighbor Discovery Algorithm for Flying Ad Hoc Network Using Directional Antennas***  
Lingjun Liu (Army Engineering University of PLA, P.R. China); Laixian Peng, Renhui Xu and Wendong  
Zhao (Institute of Communications Engineering, P.R. China)

**15:30 *Error Analysis of Single-Satellite Interference Source Positioning Based on Different Number of Co-Frequency Beams***  
Fan Zhao, Laiding Zhao, Gengxin Zhang and Jidong Xie (Nanjing University of Posts &  
Telecommunications, P.R. China)

**15:45 *A Location- and Mobility-Aware Clustering-Based TDMA MAC Protocol for Vehicular Ad-hoc Networks***  
Aghmaz Ul Haq, Kai Liu and Muhammad Bilal Latif (Beihang University, P.R. China)

**16:00 *Performance Evaluation of LTE-R System with Mobile Relay for Differentiated Services***  
Jingjing Yan, Dapeng Li and Youyun Xu (Nanjing University of Posts & Telecommunications, P.R. China);  
Jianping Chen (Nanjing Ticom Tech Co. Ltd, P.R. China)

**16:15 *SCMA Based Resource Management of D2D Communications for Maximum Sum-revenue***  
Linglin Kong and Li Ling (Fudan University, P.R. China); Xu Zhang (Alibaba Group, P.R. China)

**16:30 *Simultaneously Power and Information Transmission for Half-duplex Massive MIMO with Spatial Basis Expansion Model***  
Na Li, Dongmei Zhang, Wei Xie, Meng Wang and Kui Xu (Army Engineering University of PLA, P.R.  
China); Jianhui Xu (PLA University of Science and Technology, P.R. China); Qingsong Zhang (Army  
Engineering University of PLA, P.R. China)

**16:45 *The Effect of HAPS Unstable Movement on Handover Performance***  
Xiaopeng Wang, Letian Li and Wuyang Zhou (University of Science and Technology of China, P.R. China)

**17:00 *Standardization Evolution and Typical Solutions of IoV***  
Jiahui Qiu, Yi Chen, Xiangyun Zhang and Qi Liu (China Unicom Company, P.R. China); Wenchao Li and  
Yingjie Pei (Beijing Information Science and Technology University, P.R. China); Liu Liu (Beijing Jiaotong  
University, P.R. China)

## Poster-II

### Room: SHANGHAI HALL

#### ***CP Optimization for Multi-numerologies F-OFDM in MIMO System***

Meijie Yang, Yueyun Chen, Yuan Liu and Liping Du (University of Science & Technology Beijing, P.R. China); Zushen Liu (5The 41st Institute of China Electronics Technology Group Corporation, P.R. China)

#### ***Outage Performance of Partial Relay Selection in Underlay CR-NOMA Networks***

Cheng Li and Daoxing Guo (Army Engineering University of PLA, P.R. China); Kefeng Guo (Space Engineering University, P.R. China); Yuan Qin and Rui Xu (Army Engineering University of PLA, P.R. China)

#### ***Low Complexity Signal Detection Based on WL Decomposition for MIMO Systems***

Jing Lian and Zhenyu Zhang (University of Science and Technology Beijing, P.R. China); Xiyuan Wang (Beijing Information Science and Technology University, P.R. China); Xiaofei Liu and Xiaoming Dai (University of Science and Technology Beijing, P.R. China)

#### ***Extreme Learning Machine Ensemble for CSI based Device-free Indoor Localization***

Ruofei Gao, Jianqiang Xue and Wendong Xiao (University of Science and Technology Beijing, P.R. China; Beijing Engineering Research Center of Industrial Spectrum Imaging, P.R. China); Baoyong Zhao and Sen Zhang (University of Science and Technology Beijing, P.R. China)

#### ***A Novel Genetic Algorithm For Base Station Location Optimization In Cellular Networks***

Huan Wang, Fuwei Huang, Yunhui Qin and Keping Long (University of Science and Technology Beijing, P.R. China)

## WS-IV

### Room: YUNNAN HALL

#### ***14:30 High energy efficient relay adaptive transmission strategy***

Shu Gui, Runhe Qiu (Donghua University, P.R. China)

#### ***14:45 Hybrid Self-Organization based Cluster Management Scheme for Group Mobility Aware MANET***

Farooq Aftab (University of Science and Technology Beijing, P.R. China); Zhongshan Zhang (Beijing Institute of Technology, Beijing, P.R. China)

#### ***15:00 Cooperative Vehicle Localization Base on Extended Kalman Filter In Intelligent Transportation System***

Liping Du, Longji Chen, Xiaotian Hou and Yueyun Chen (University of Science and Technology Beijing, P.R. China)

#### ***15:15 Linear Array Pattern Synthesis Using Multi-Objective Optimization Algorithm Based on Reference Vectors***

Ying-Hao Xu, Ling Wang, Jian Xie, Yue-Xian Wang, Si-Qi Jia and Zheng-Xiang Duan (Northwestern Polytechnical University, P.R. China)

#### ***15:30 Rate Balancing in Full-Duplex MIMO Two-Way Relay Networks***

Erfan Khordad (Macquarie University, Australia); Ata Khalili, Soroush Akhlaghi (Shahed University, Iran);

#### ***15:45 A Constellation Design and Optimization for Simultaneously Transmitting Information and Synchronization Sequence***

Rugui Yao (Northwestern Polytechnical University, P.R. China); Qihong Wu, Xiaoya Zuo, Yuan Zhang and Hailong Liu (Northwestern Polytechnical University, P.R. China)

#### ***16:00 Cooperative Relaying Network Under SWIPT MIMO System***

Saleemullah Memon, Kamran Ali Memon (Beijing University of Posts and Telecommunications, P.R. China)

#### ***16:15 Low Supply Voltage Control Oscillator with Transformer Feedback for Photoplethysmography***

Wen-Cheng Lai (National Penghu University of Science and Technology, Taiwan); Sheng-Lyang Jang and Yan-Cu Lin (National Taiwan University of Science and Technology, Taiwan)

- 16:30 *Modified Successive Cancellation Flip Decoder for Polar Codes Based on Gaussian Approximation***  
Yansong Lv, Jianping Li, Ying Fang, Hang Yin and Weizhang Xu (Communication University of China, P.R. China)
- 16:45 *Enhancing Spectral Efficiency and BER Performance of Spatial Modulation using Layered Architecture***  
Saad Amir Chaudhry, Xiaoya Zuo, Rugui Yao and Hailong Liu (Northwestern Polytechnical University, P.R. China)
- 17:00 *A Multidimensional Trust Inference Model for the Mobile Ad-Hoc Networks***  
Muhammad Khalid Riaz, Fan Yangyu, Imran Akhtar (Northwestern Polytechnical University, P.R. China)

## WS-V

### Room: HAINAN HALL

- 14:30 *An Improved Kalman Filter for TOA Localization using Maximum Correntropy Criterion***  
Yue Qi, Mengmeng Ji, Cheng Xu, Jiawang Wan and Jie He (University of Science and Technology Beijing, P.R.China)
- 14:45 *Price-based Power Allocation for Multi-UAV Enabled Wireless Networks***  
Xiaomin Liu, Lixin Li (Northwestern Polytechnical University, P.R. China); Fucheng Yang (Naval Aviation University, P.R. China); Xu Li (Northwestern Polytechnical University, P.R. China); Wei Chen (Tsinghua University, P.R. China); Wenjun Xu (Beijing University of Posts and Telecommunications, P.R. China)
- 15:00 *A Cooperative Spectrum Sensing Method with Double-Threshold for Fluctuant Noise based on Energy Detection***  
Zheng-Xiang Duan, Jie Zhang, Ling Wang, Jian Xie, Xin Yang, Si-Qi Jia and Ying-Hao Xu (Northwestern Polytechnical University, P.R. China)
- 15:15 *Improved Success Probability of Code-Expanded Single-Attempt Random Access by Massive MIMO***  
Hao Jiang, Jie Ding, and Daiming Qu (Huazhong University of Science and Technology, P.R. China)
- 15:30 *Message Forwarding with Ferries in Delay-Tolerant Networks***  
Chin-Lin Hu, Hau-Yun Lin, Yu-Feng Hsu, Sheng-Zhi Huang (National Central University, Taiwan); Lin Hui (Tamkang University, Taiwan); Zhenjiang Zhang (Beijing Jiaotong University, P.R. China)
- 15:45 *Two Novel Structures of Broadband Wireless Communication for High-speed Flying Train in Vacuum Tube***  
Jiachi Zhang, Liu Liu (Shandong Jiaotong University, P.R. China); Zheng Li (Southeast University, P.R. China); Tao Zhou, Chencheng Qiu, Botao Han, Dong Wang and Zheyang Piao (Shandong Jiaotong University, P.R. China)
- 16:00 *Design and implementation of intelligent walking stick based on OneNET Internet of things development platform***  
Bo Wang, Wei Xiang, Kairen Ma, Yu Quan Mu and Zheng Wu (Southwest Minzu University, P.R. China)
- 16:15 *Air Traffic Surveillance Using IP-Based Space Information Network***  
Abid Murtaza, Syed Jahanzeb Hussain Pirzada and Liu Jianwei (Beihang University, P.R. China)
- 16:30 *Topology Variable Routing Algorithm for WWSN in Disaster Rescue***  
Lincong Zhang, Ce Zhang (Shenyang Ligong University, P.R. China); Kefeng Wei (Northeastern University, P.R. China); Wenbo Zhang (Shenyang Ligong University, P.R. China); Yongxin Feng (Graduate School, Shenyang Ligong University, P.R. China)
- 16:45 *Noise-Resistant Estimation Algorithm for TDOA and FDOA in Passive Emitter Localization***  
Zhixin Liu, Dexiu Hu, Yongjun Zhao, Yongsheng Zhao, Rui Wang and Hongzhi Jiang (Information Engineering University, P.R. China)
- 17:00 *Modeling and Performance Optimization of Heterogeneous Cellular and D2D Networks***  
Nuerxiati Nuermaiti, Zhonggui Ma and Xingye Wu (University of Science and Technology Beijing, P.R. China)

## AS-II

### Room: JIANGSU HALL

**14:30** *A Deep Bidirectional LSTM Recurrent Neural Networks For Identifying Humans Indoors Using Channel State Information*

Kabo Poloko Nkabiti, Yueyun Chen, Kashif Sultan and Bika Armand (University of Science and Technology Beijing, P.R. China)

**14:45** *Research on Facial Expression Recognition Algorithm Based on Convolutional Neural Network*

Xiaobo Zhang, Yuliang Yang, Linhao Zhang, Wanchong Li, Shuai Dang, Peng Wang (University of Science and Technology Beijing, P.R. China); Mengyu Zhu (Beijing Institute of Technology, P.R. China)

**15:00** *Latency Optimization for Multi-user NOMA-MEC Offloading Using Reinforcement Learning*

Peitong Yang, Lixin Li, Wei Liang, Huisheng Zhang (Northwestern Polytechnical University, P.R. China); Zhiguo Ding (University of Manchester, UK)

**15:15** *A Modified DAG-SVM Algorithm for the Fault Diagnosis in Satellite Communication System*

Xiubo Sun, Hongbo Zhao (Beihang University, P.R. China); Changbiao Lei (Institute of Satellite Navigation and Communication, P.R. China); Haoqiang Liu, Guangxuan Zhu (Beihang University, P.R. China)

**15:30** *Dynamic Tasks Assignment for Face Recognition in Edge Computing*

Yawei Song, Yunfeng Peng and Liang Zhang (University of Science and Technology Beijing, P.R. China)

**15:45** *Understanding and Partitioning Mobile Traffic using Internet Activity Records Data - A Spatiotemporal Approach*

Kashif Sultan (University of Science and Technology Beijing, P.R. China); Hazrat Ali (COMSATS University Islamabad, Pakistan); Haris Anwaar (University of Engineering and Technology Lahore, Pakistan); Zhongshan Zhang (University of Science and Technology Beijing, P.R. China)

**16:00** *Wireless Powered D2D Communication Security Using LSTM in Emergency Communication System*

Youbing Hu, Lixin Li, Huisheng Zhang, Wei Liang, and Ang Gao (Northwestern Polytechnical University, P.R. China)

**16:15** *Rogue Base Station Detection Using A Machine Learning Approach*

Jian Jin, ChangLiang Lian and Ming Xu (China Academy of Information and Communication Technology, P.R. China)

**16:30** *Challenges of Big Data Implementation in a Public Hospital*

Wasinee Noonpakdee, Acharaphun Phothichai and Thitiporn Khunkornsiri (Thammasat University, Thailand)

**16:45** *Study on the Detecting Technology of Mine Internet of Things Based on RSSI Technology*

Jian Ming, Aibing Jin, Jinhai Sun, Dongdong Hu and Yan Xia (University of Science and Technology Beijing, P.R. China)

**17:00** *Fast Bi-dimensional Empirical Mode based Multi-source Image Fusion Decomposition*

Huijuan Wang, Yong Jiang (First Research Institute of The Ministry of Public Security of PRC, P.R. China); Xingmin Ma (University of Science and Technology Beijing, P.R. China)

## OS-II +NS-II

### Room: SHANDONG HALL

**14:30** *Blocking-triggered Defragmentation Mechanism based on the Selected Path for Elastic Optical Network*

Lingqi Luo, Xiaoling Liu, Jingwen Zhang, Cong Yu and Jianhua Shen (Nanjing University of Posts and Telecommunications (NJUPT) Nanjing, China)

**14:45** *5G Oriented Optical Communications in Highspeed Trains: A Review*

Xifeng Chen, Jupeng Ding and Huicheng Lai (Xinjiang University, Urumqi 830046, China)

**15:00 *Routing and Spectrum Assignment Algorithm based on Spectrum Fragment Assessment of Arriving Services***

Bokai Cheng, Cheng Hang, Yunfei Hu, Shixin Liu, Jiaoliang Yu, Yutong Wang and Jianhua Shen (Nanjing University of Posts and Telecommunications (NJUPT) Nanjing, China)

**15:15 *A Load Transfer based Energy Saving Scheme for Hybrid Optical Wireless Access Networks***

YU Cong, LUO Lingqi, LIU Xiaoling, ZHANG Jingwen, SHEN Jianhua (Nanjing University of Posts and Telecommunications (NJUPT) Nanjing, China)

**15:30 *A User Mobility Prediction Method to Reduce Unnecessary Handover for Ultra Dense Network***

Rao Shi, Yunfeng Peng, Liang Zhang (University of Science and Technology Beijing Beijing, China)

**15:45 *Cost Minimization for Cooperative Mobile Edge Computing Systems***

Weijian Chen, Yejun He and Jian Qiao (Shenzhen University, Shenzhen, 518060, China)

**16:00 *A Novel Wideband Shorted-Patch Antenna with A  $\pi$ -Shaped Slot Under Three Resonant Modes***

Taohua Chen, Yueyun Chen and Rongling Jian (University of Science & Technology Beijing, China); Zushen Liu (The 41st Institute of China Electronics Technology Group Corporation, Bengbu 233006, China)

**16:15 *Crosstalk Prediction of Cables Based on Cosserat Elastic Rod Theory***

Ceyi Ma, Yinghong Wen, Dan Zhang and Jianjun Xiao (Beijing Jiaotong University, Beijing, China); Wangqun Sheng (China Railway First Survey and Design Institute Group Co., Ltd Xi'an, China)

**16:30 *Miniaturized Broadband Slot-Coupled Antenna With Metamaterial Loading***

Guanping He, Chenjiang Guo and Jun Ding (Northwestern Polytechnical University, Xi'an, China)

**16:45 *Design and Implementation of  $\Sigma\Delta$ -3DT Based on Multi-Core DSP***

Li jingjing and Liyu (Xi'an Electronic Engineering Research Institute Xi'an, China)