

# ICCC2022 TECHNICAL PROGRAM

## Room 1

**Time: 10:40-12:10, 12 Aug. 2022**

**Session: MAC1**

**Session Chair: Hong Ren (Southeast University)**

### **10:40 Multi-task Federated Learning Based on Client Scheduling in Mobile Edge Computing**

Yushun Zhang, Xing Zhang and Yizhuo Cai (Beijing University of Posts and Telecommunications, China)

### **10:58 Two-Phase Deep Reinforcement Learning of Dynamic Resource Allocation and Client Selection for Hierarchical Federated Learning**

Xiaojing Chen and Zhenyuan Li (Shanghai University, China); Wei Ni (CSIRO, Australia); Xin Wang (Fudan University, China); Shunqing Zhang and Shugong Xu (Shanghai University, China); Qingqi Pei (Xidian University, China)

### **11:16 Stochastic Client Scheduling With Dynamic SINR Thresholds for Fast Federated Learning**

Hongxing Xia (Nantong Normal College, China); Yongzhao Li (Xidian University, China); Chang Liu (Guangdong University of Technology, China); Yueping Zhu (Nantong Normal College, China)

### **11:34 An Efficient Client Clustering Algorithm for Clustered Federated Learning**

Junshen Su, Xijun Wang and Xiang Chen (Sun Yat-sen University, China)

### **11:52 Leveraging Fully-decoupled Radio Access Network for Wireless Federated Learning Acceleration**

Yunting Xu, Luofang Jiao, Tianqi Zhang and Haibo Zhou (Nanjing University, China); Sherman Shen (University of Waterloo, Canada)

## Room 1

**Time: 15:05-16:35, 12 Aug. 2022**

**Session: MAC2**

**Session Chair: Lei Yan (Northeastern University)**

### **15:05 Data Pricing in Vertical Federated Learning**

Zhixian Zhang, Xinchao Li and Shiyong Yang (China Telecom, China)

### **15:23 FedBranch: Heterogeneous Federated Learning via Multi-Branch Neural Network**

Jialuo Cui, Qiong Wu, Zhi Zhou and Xu Chen (Sun Yat-sen University, China)

### **15:41 Bayesian Online Learning for Sensory Data Analysis in Internet of Vehicles**

Shengxian Hu, Xuelian Cai, Yao Zhang, Mengqiu Tian and Yixin Fan (Xidian University, China)

### **15:59 Machine-Learning-Assisted Scenario Classification Using Large-Scale Fading Characteristics and Geographic Information**

Meng Zhao (Southeast University, China); Yiming Yu (China Mobile Group Design Institute Co., Ltd, China); Cheng Yi (Southeast University, China); Haiming Wang (Southeast University, China & Purple Mountain Laboratories, China); Songtao Gao (China Mobile Group Design Institute Co., Ltd, China)

### **16:17 Cost-Effective Two-Stage Network Slicing for Edge-Cloud Orchestrated Vehicular Networks**

Wen Wu (Peng Cheng Laboratory, China); Kaige Qu (University of Waterloo, Canada); Peng Yang (Huazhong University of Science and Technology, China); Ning Zhang (University of Windsor, Canada); Sherman Shen and Weihua Zhuang (University of Waterloo, Canada)

## Room 1

**Time: 16:55-18:25, 12 Aug. 2022**

**Session: MAC3**

**Session Chair: Yayu Gao (Huazhong University of Science and Technology)**

### **16:55 An Adaptive Service Classification Method Based on Stacked Hybrid Auto-Encoder**

Jing Li, Zhi Zhang and Tiankui Zhang (Beijing University of Posts and Telecommunications, China)

### **17:13 Channel Estimation Based on Deep Learning for OCDM Communications**

Daoyong Yang, Yiyin Wang (Shanghai Jiaotong University, China); Lingya Liu (East China Normal University, China); Peishuo Huang (Hainan University, China)

### **17:31 Compound Interference Identification Based on Multi-scale Feature Pyramid using CNN**

Boran Li (China Mobile Research Institute, China); Yue Lei and Zhimin Zhao (China Mobile Communication Group Guangxi Co., Ltd., China); Lei Zhang, Jingwei Dai and Jian Ma (China Mobile Research Institute, China)

### **17:49 Specific Emitter Identification Based on Multi-Input Convolutional Neural Network**

Xin Wang, Jianing Zhao and Tianwen Yang (Southeast University, China); Fei Xu (China Mobile Research Institute, China)

### **18:07 Automatic Model Adaption Method Based on Few-Shot Incremental Learning for IoT Applications**

Dequn Kong and Xiaotao Li (China Mobile Research Institute, China); Wai Chen (CMRI, USA)

## **Room 2**

**Time: 10:40-12:10. 12 Aug. 2022**

**Session: CIT1**

**Session Chair: Shancheng Zhao (Jinan University)**

### **10:40 Some Results on the Improved Bound and Construction of Optimal $(r, \delta)$ LRCs**

Bin Chen (Harbin Institute of Technology, Shenzhen, China); Weijun Fang (Shandong University, China); Yueqi Chen and Shutao Xia (Tsinghua University, China); Fang-Wei Fu (Nankai University, China); Xiangyu Chen (Huawei Technologies, China)

### **10:58 On the adaptive Fano-SC-Flip Decoding of Polar Codes**

Zhenggui Feng, Ling Liu (Shenzhen University, China)

### **11:16 An Improved 5G NR LDPC Decoding Algorithm Based On Box-Plus Operation**

Liming Lu, Yi Li and Li Fang (Beijing University of Posts and Telecommunications, China)

### **11:34 A Polar Coding Scheme for Achieving Secrecy of Fading Wiretap Channels in UAV Communications**

Dongli Yang, Jingxuan Huang, Xiaodong Liu, Ce Sun and Zesong Fei (Beijing Institute of Technology, China)

### **11:52 Partial Product-LDPC Codes Without Rate Loss**

Qianfan Wang, Suihua Cai, Fanhui Meng, Li Chen and Xiao Ma (Sun Yat-sen University, China)

## **Room 2**

**Time: 15:05-16:35. 12 Aug. 2022**

**Session: CIT2**

**Session Chair: Pingping Chen (Fuzhou University)**

### **15:05 Parallel Decoding of PIC-LDPC Codes Aided by Free-ride Coding**

Fanhui Meng, Qianfan Wang, Suihua Cai and Xiao Ma (Sun Yat-sen University, China)

### **15:23 Flexible User Duplexing in Cell-Free Massive MIMO: A Deep Reinforcement Learning Approach**

Danhao Deng and Chaowei Wang (Beijing University of Posts and Telecommunications, China); Lexi Xu (China Unicom Research Institute & Queen Mary University of London, China); Yehao Li, Weidong Wang, Zhi Zhang and Ping Zhang (Beijing University of Posts and Telecommunications, China)

### **15:41 Violation Probability of Age of Information in a Multi-Source Status Update System**

Tianci Zhang and Shutong Chen (Chongqing University, China); Weiheng Zhuang (Rensselaer Polytechnic Institute, USA); Zhengchuan Chen (Chongqing University, China); Min Wang (Chongqing University of Posts and Telecommunications, China); Yunjian Jia (Chongqing University, China)

### **15:59 Outage Performance Analysis of Type-I HARQ Aided V2V Communications**

Huan Zhang (University of Macau, Macau SAR, China); Zhengtao Liao (South China University of Technology, China); Zheng Shi, Guanghua Yang and Qingping Dou (Jinan University, China); Shaodan Ma (University of Macau, Macau SAR, China)

### **16:17 SER Performance of SCMA Networks With Randomly Distributed Users**

Maryam Cheraghy (Shanghai Jiaotong University, China); Meysam Soltanpour (University of Tabriz, Iran)

## **Room 2**

**Time: 16:55-18:25. 12 Aug. 2022**

**Session: CIT3**

**Session Chair: Jie Fan (Northwestern University)**

### **16:55 An Iterative Receiver With Orthogonal AMP-Based Equalization for Doubly Selective Fading Channels**

Yizhuo Wang, Ying Li and Zhaoji Zhang (Xidian University, China)

### **17:13 Receiving Technologies Based on Molecular-Concentration Shift Keying**

Xin Liu (Beijing University of Posts and Telecommunications, China); Jiaying Wang (North China Institute of Aerospace

Engineering, China); Hao Tong (Tsinghua University, China); Zhimin Zheng (China Mobile Research Institute, China); Chuwen Lan, Xiuquan Qiao and Zehua Gao (Beijing University of Posts and Telecommunications, China)

### **17:31 Reconfigurable Intelligent Surface Aided Non-Coaxial OAM Transmission for Capacity Improvement**

Mengnan Jian and Ruiqi Liu (ZTE Corporation, China); Ertugrul Basar (Koc University, Turkey); Yuanwei Liu (Queen Mary University of London, UK); Chongwen Huang (Zhejiang University, China)

### **17:49 On the Age of Information for AMP Based Grant-Free Random Access**

Dongliang Zhang, Jie Gong and Xiang Chen (Sun Yat-sen University, China)

### **18:07 Energy Efficient Rates Control of Sensing and Communication**

Ziqin Zhou, Xiaoyang Li and Changsheng You (Southern University of Science and Technology, China); Kaibin Huang (The University of Hong Kong, Hong Kong SAR, China); Yi Gong (Southern University of Science and Technology, China)

## **Room 3**

**Time: 10:40-12:10, 12 Aug. 2022**

**Session: SPC1**

**Session Chair: Jie Xu (The Chinese University of Hong Kong, Shenzhen)**

### **10:40 Performance Analysis of Relative Localization With Unknown Clock and Orientation**

Yuanpeng Liu (Nanjing Marine Radar Institute, China); Xiao Shen and Yuan Shen (Tsinghua University, China)

### **10:58 A Wiener Filter Denoising Based Intelligent Modulation Recognition System**

Jingreng Lei, Juncheng Zhou, Zijun Jiang, Heng Liu and Lin Zhang (Sun Yat-sen University, China); Yan Feng (Tibet University, China); Zhiqiang Wu (Wright State University, USA)

### **11:16 Penalty-Based Algorithm for Joint Activity and Data Detection in Grant-Free Massive Access**

Qingfeng Lin (The University of Hong Kong, Hong Kong SAR, China); Yang Li (Shenzhen Research Institute of Big Data, China); Yik-Chung Wu (The University of Hong Kong, Hong Kong SAR, China)

### **11:34 A Simple Scheme for 2FSK Signal Extraction Based on Independent Component Analysis With Cosine Pulse Reference Signal**

Jintian Xiong and Zhitao Huang (National University of Defense

Technology, China); Shijun Xie (Nanjing Telecommunication Technology Research Institute, China); Ganhua Ye (National University of Defense Technology, China); Yonggang Wang (PLA University of Science and Technology, China); Ruimin Lu (National University of Defense Technology, China)

### **11:52 A Low Complexity Iterative Receiving Method Based on Message Passing in $\pi/4$ -DQPSK Modulated Frequency-Hopping Communications**

Liuqing Yang and Yuehong Gao (Beijing University of Posts and Telecommunications, China); Zhiyuan Lin, Zuyao Ni and Shuying Zhang (Tsinghua University, China)

## **Room 3**

**Time: 15:05-16:35, 12 Aug. 2022**

**Session: SPC2**

**Session Chair: Jianhua Tang (South China University of Technology)**

### **15:05 Variational Mode Decomposition Based Channel Prediction in Massive MIMO Systems**

Guanzhang Liu, Lei Wang, Zhengyang Hu and Jiang Xue (Xi'an Jiaotong University, China)

### **15:23 Energy Efficiency Maximization for Multicarrier MIMO SWIPT**

Xingxiang Peng, Peiran Wu and Minghua Xia (Sun Yat-sen University, China)

### **15:41 A Polynomial Fourier Transform Based Channel Prediction Scheme for High-Mobility Massive MIMO Scenarios**

Xianling Wang, Yi Shi, Wenbo Xin, Guangli Yang and Zhiyuan Jiang (Shanghai University, China)

### **15:59 Fast Compressive Channel Estimation for MmWave MIMO Hybrid Beamforming Systems**

Songjie Yang, Xie Chenfei, Dongli Wang and Zhongpei Zhang (University of Electronic Science and Technology of China, China)

### **16:17 Joint Optimization Framework for IRS-assisted Multicarrier MIMO SWIPT**

Xingxiang Peng, Peiran Wu, Hongzhou Tan and Minghua Xia (Sun Yat-sen University, China)

## **Room 3**

**Time: 16:55-18:25, 12 Aug. 2022**

**Session: SPC3**

**Session Chair: Li You (Southeast University)**

**16:55 Min-Max Hamming Distance Considerations for Activation Pattern Design in Index Modulation**

Yinglin Chen (China Telecom, China); Tongyang Xu and Izzat Darwazeh (University College London, UK)

**17:13 Over-The-Air Calibration of A Phase Shifter Network**

Wei Zhang and Yi Jiang (Fudan University, China)

**17:31 Optimal Deployment of Receiving Stations under Far-field Localization Conditions**

Zewen Wang, Dexiu Hu, Jie Huang and Chuang Zhao (Information Engineering University, China); Chengcheng Liu (Zhengzhou Institute of Information Science and Technology, China); Min Xie (Information Engineering University, China)

**17:49 Deep Learning Based Phase Difference Correlation Detection in Low SNR Scenarios**

Chanpin Chen, Yuan Jiang, Lei Zhao and Bin Wang (Sun Yat-sen University, China)

**18:07 Performance Evaluation of E-CID Based Positioning on OAI 5G-NR Testbed**

Dexin Li, Xinghe Chu, Luhan Wang, Zhaoming Lu, Shuya Zhou and Xiangming Wen (Beijing University of Posts and Telecommunications, China)

**Room 4**

**Time: 10:40-12:10, 12 Aug. 2022**

**Session: WCS1**

**Session Chair: Jie Huang (Southeast University)**

**10:40 Ant Colony Optimization Based Pilot Assignment for Cell-Free Massive MIMO Systems**

Run Luo, Qiao Xu, Yufei Qiao, Hao Fang, Zhencong Dai and Longxiang Yang (Nanjing University of Posts and Telecommunications, China)

**10:58 Double RIS-Based Hybrid Beamforming Design for MU-MISO mmWave Communication Systems**

Shuyue Guo, Yanzhao Hou, Jinghan Mao and Na Li (Beijing University of Posts and Telecommunications, China); Hao Chen (Peng Cheng Laboratory, China); Xiaofeng Tao (Beijing University of Posts and Telecommunications, China)

**11:16 Joint User Association and Resource Allocation in Multi-IRSs URLLC Systems**

Zhou Wu (Southeast University, China)

**11:34 Downlink Hybrid Precoding and User Selection for Multiuser MIMO-OFDM Systems**

Xiaofeng Su (Fudan University, China); Rong Ran (Ajou University, South Korea); Yi Jiang (Fudan University, China)

**11:52 Pilot Contamination Precoding Method for Cell-Free Massive MIMO Systems**

Qiao Xu (Nanjing University of Posts and Telecommunications, China); Yao Zhang (Zhejiang Normal University, China); Longxiang Yang and Hongbo Zhu (Nanjing University of Posts and Telecommunications, China)

**Room 4**

**Time: 15:05-16:35, 12 Aug. 2022**

**Session: WCS2**

**Session Chair: He Fang (Soochow University)**

**15:05 Space-Time Block Coded Reconfigurable Intelligent Surfaces-Based Generalized Spatial Modulation**

Xiaoxiao Bi (Donghua University, China); Pingping Shang (Hubei University of Technology, China); Yuyang Peng (Macau University of Science and Technology, Macau SAR, China); Han Hai (Donghua University, China); KaiZhi Peng (Wuhan Maritime Communication Research Institute, China)

**15:23 Transmission of CRC Bits With Rotated Polar Coded Signals**

Haowei Chen, Xinyuanmeng Yao, Baodian Wei and Xiao Ma (Sun Yat-sen University, China)

**15:41 Demonstrating Frequency Hopping Aided OFDM-DCSK and Low-rank Approximation of Matrices Based Transmissions via USRP**

Yonghao Mu, Zuwei Chen and Lin Zhang (Sun Yat-sen University, China); Yingtang Chen (Yingshi Computer Technology Company, China); Zhiqiang Wu (Wright State University, USA)

**15:59 A Double Full Diversity Unitary Space Time Precoded MIMO V2V Communication System**

Tao Deng and Lin Zhang (Sun Yat-sen University, China); Yanzhong Lin (Coremail Company, China); Yuan Jiang (Sun Yat-sen University, China)

**16:17 Reactive Jamming Detection Based on Hidden Markov Model**

Leyi Zhang (Beihang University, China); Tianqi Mao (Tsinghua University, China); Chen Zhang and Zhenyu Xiao (Beihang University, China); Xiang-Gen Xia (University of Delaware, USA)

**Room 4**



**Time: 16:55-18:25. 12 Aug. 2022**

**Session: WCS3**

**Session Chair: Dawei Wang (Northwestern Polytechnical University)**

**16:55 Design of Block IRS With Low Complexity for SWIPT Systems**

Shuyue Jiao, Han Hai, Guoying Zhang, Xueqin Jiang and Yun Wu (Donghua University, China)

**17:13 Pilot Aided Channel Estimation for AFDM in Doubly Dispersive Channels**

Haoran Yin and Yanqun Tang (Sun Yat-sen University, China)

**17:31 Link Prediction Based on 3D Convolutional Neural Network**

Jian Shu, JiaHao Li and Xuepei Zhang (Nanchang Hangkong University)

**17:49 Wireless Channel Simulation Platform for Industrial Environments Based on 3D Ray Tracing**

Shuiwei Zhou (Southeast University, China); Baoyin Bian (State Grid Electricity Power Research Institute, China); Zhipeng Chen and Yan Zhao (Southeast University, China); Huang Xin (State Grid Electricity Power Research Institute, China); Wenmeng Li (State Grid Electric Power Research Institute, China); Lang Li (State Grid Zhengjiang Electric Corporation, China); Jing Jiang (State Grid Corporation of China, State Power Economic Research Institute, China)

**18:07 Resource-Efficiency and Fairness Tradeoff in Downlink NOMA Systems**

Yunpei Chen, Yue Shan and Qi Zhu (Nanjing University of Posts and Telecommunications, China)

**Room 5**

**Time: 10:40-12:10. 12 Aug. 2022**

**Session: ASC1**

**Session Chair: Nan Cheng (Xidian University)**

**10:40 UAV-Enabled Wireless Powered Communication Networks for Over-the-Air Computation**

Miao Jiang, Yiqing Li, Guangchi Zhang and Miao Cui (Guangdong University of Technology, China)

**10:58 Low-Overhead Beam Alignment for High-Speed UAV Communications**

Linjie Zheng (Shenzhen University, China); Weizheng Zhang (University of New South Wales, China); Chiya Zhang (Harbin Institute of Technology, China); Jihong Zhang and Chunlong He (Shenzhen University, China)

**11:16 Traffic Aggregation-Based QoS-sensitive Scheduling for Beam Hopping Satellite Systems**

Shuai Wang, Kai Liu, Peilong Liu, Jian Yan and Linling Kuang (Tsinghua University, China)

**11:34 Robust Hybrid Beamforming for Jittering UAV With MmWave Antenna Array**

Ke Liu and Yanming Liu (Beihang University, China); Tianqi Mao (Tsinghua University, China); Zhenyu Xiao (Beihang University, China); Xiang-Gen Xia (University of Delaware, USA)

**11:52 Cell-Free Massive MIMO With UAV Access Points: UAV Location Optimization**

Lifu Wang and Qi Zhang (Nanjing University of Posts and Telecommunications, China)

**Room 5**

**Time: 15:05-16:35. 12 Aug. 2022**

**Session: WCS6**

**Session Chair: Yang Huang (Nanjing University of Aeronautics and Astronautics)**

**15:05 Reconfigurable Intelligent Surface for NLOS Integrated Sensing and Communications**

Yongwei Wang, Wensheng Zhang, Chen Liu and Jian Sun (Shandong University, China); Cheng-Xiang Wang (Southeast University, China & Purple Mountain Laboratories, China)

**15:23 Adaptive Secure Communication based on Decode-and-forward Protocol**

Yanjun Yao (No. 38 Research Institute of China Electronic Technology Corporation, China)

**15:41 Implementation of Tandem Spreading Multiple Access Testbed for Massive Machine-type Communications**

Zhen Xue, Guoyu Ma, Yiyan Ma, Jiming Dai and Bo Ai (Beijing Jiaotong University, China)

**15:59 Measurement-Based Channel Characteristic Analysis With Different Antenna Heights at 3.7 GHz**

Wenbo Xin, Yi Shi, Yan Liu, Xianling Wang and Zhiyuan Jiang (Shanghai University, China)

**16:17 Green Wireless Powered Sensor Network through Joint Power Beacon and Sensor Activation**

Yipin Jiang, Yueling Che, Sheng Luo and Kaishun Wu (Shenzhen University, China)

## Room 5

**Time: 16:55-18:25, 12 Aug. 2022**

**Session: WCS7**

**Session Chair: Qi Zhang (Nanjing University of Posts and Telecommunications)**

### **16:55 Joint Power Allocation and Phase Shift design for IRS-aided NOMA-URLLC Systems**

Jing Wang (Southeast University, China); Jiming Yao (Global Energy Interconnection Research Institute, China); Duanyun Chen (State Grid Fujian Electric Power Co., Ltd., China); Jun-Bo Wang and Linghui Ge, Hua Zhang (Southeast University, China)

### **17:13 Multicast Schedule for Multi-Message over Multi-Channel: A Permutation-Based Wolpertinger Deep Reinforcement Learning Method**

Ran Li and Chuan Huang (The Chinese University of Hong Kong, Shenzhen, China); Han Zhang (University of Surrey, UK); Shengpei Jiang (SF Technology, China)

### **17:31 Resource Allocation for Cell-free Massive MIMO enabled URLLC Downlink Systems**

Qihao Peng (Queen Mary University of London, UK); Hong Ren, Cunhua Pan and Nan Liu (Southeast University, China); Maged Elkashlan (Queen Mary, University of London, UK)

### **17:49 Energy Efficiency of Indoor THz Communication Systems With Finite-bit DACs/ADCs under Minimum Rate Constraints**

Yujiao Zhang and Deli Qiao (East China Normal University, China)

### **18:07 An Overview of Waveform Design for Integrated Sensing and Communication**

Jiaojiao Xiong, Haoran Yin, Jiajun Zhu and Yanqun Tang (Sun Yat-sen University, China)

## Room 6

**Time: 10:40-12:10, 12 Aug. 2022**

**Session: WNM1**

**Session Chair: Ting Ma (Nanjing University)**

### **10:40 Intent-Based Service Policy Conflict Management Algorithm**

Qinghua Zhang, Jia Chen and Deyun Gao (Beijing Jiaotong University, China); Xiajing Wang (CASIC Network & Information Development Corporation Limited, China)

### **10:58 Efficient Energy-aware Multi-hop Routing Mechanism for Proximity Based Service**

Biao Long, Changzheng Huang, Yuying Zhang and Qi Bi (China

Telecom, China)

### **11:16 Proximal Policy Optimization-Based Federated Client Selection for Internet of Vehicles**

Tianqi Yu (Soochow University, China); Xianbin Wang (Western University, Canada); Jianfeng Yang (Soochow University, China); Jianling Hu (Wuxi University & Soochow University, China)

### **11:34 Distributed Anonymous Authentication With Accountability in Blockchain Systems**

He Fang (Soochow University, China); Xianbin Wang (Western University, Canada); Yun Ma and Wenrun Zhu (Soochow University, China)

### **11:52 QAAR: An Application-Adaptive Routing Protocol Based on Q-Learning in Underwater Sensor Networks**

Cheng Han, Cangzhu Xu and Shanshan Song (Jilin University, China); Jun Liu (Beihang University & Smart Ocean Technology Co., Ltd, China); Tingting Yang (Dalian Maritime University, China); Junhong Cui (Jilin University, China)

## Room 6

**Time: 15:05-16:35, 12 Aug. 2022**

**Session: WNM2**

**Session Chair: Shanshan Song (Jilin University)**

### **15:05 An Adaptive Seam Line Panoramic Video Stitching Algorithm**

Yihan Wu, Lidong Liu, Tong Niu, Yuying Zou and Zhenling Yang (Chang'an University, China)

### **15:23 Transmit Power Optimization for Wireless IoT Networks With Adaptive Quantization**

Hongxin Wang and Feng Wang (Guangdong University of Technology, China)

### **15:41 An OTFS Channel Estimation Scheme Based on Efficient Sparse Bayesian Learning**

Kai Shu, Xiandeng He (Xidian University, China); Lifeng Shi (Space Star Technology CO. LTD., China); Nan Chen (Xidian University, China)

### **15:59 Passive Indoor Human Detection Based on Channel State Information**

Chong Han, Jian Guo, Wenjing Xun and Lijuan Sun (Nanjing University of Posts and Telecommunications, China)

### **16:17 Delay-aware User Association for Caching Enabled Small Cell Networks**

Yan Wu, Junyu Liu, Min Sheng, Yu Su and Jiandong Li (Xidian University, China)

## Room 6

**Time: 16:55-18:25, 12 Aug. 2022**

**Session: ASC3**

**Session Chair: Cheng Wang (Beijing University of Posts and Telecommunications)**

### **16:55 Max-Min Fair 3D Trajectory Planning for Solar-Powered UAV-Assisted Data Collection**

Chao Sun and Xinxuan Xiong (Fudan University, China); Wei Ni (CSIRO, Australia); Tomoaki Ohtsuki (Keio University, Japan); Xin Wang (Fudan University, China)

### **17:13 QoS-Centric Handover for Civil Aviation Aircraft Access in Ultra-Dense LEO Satellite Networks**

Yilei Wang, Xiaohan Qin, Zhixuan Tang, Ting Ma, Xin Zhang and Haibo Zhou (Nanjing University, China)

### **17:31 Interference-aware Resource Allocation in Satellite Integrated Terrestrial Networks**

Liwen Zhang, Junyu Liu and Min Sheng (Xidian University, China); Nan Zhao (Dalian University of Technology, China); Jiandong Li (Xidian University, China)

### **17:49 A Congestion-Aware Handover Scheme for LEO Satellite Networks**

Yuke Zhou, Jiang Liu, Ran Zhang, Fangqi Liu, Tao Huang and Tianjiao Chen (Beijing University of Posts and Telecommunications, China)

### **18:07 Joint Cache Placement and Content Scheduling in Integrated LEO Satellite-Terrestrial Networks**

Qiongfang Liang, Yuan Liu and Weijun Tang (South China University of Technology, China)

## Room 7

**Time: 10:40-12:10, 12 Aug. 2022**

**Session: SBD1**

**Session Chair: Xiaoming Yuan (Northeastern University)**

### **10:40 Time-Varying Graph Learning for Node-Wise Anomaly Detection (Video Presentation)**

Yueliang Liu (Beijing Institute of Nearspace Vehicle's Systems Engineering, China); Wenbin Guo, Lei Zhao, J. Yang and Wenbo Wang (Beijing University of Posts and

Telecommunications, China)

### **10:58 MARV: Multi-task Learning and Attention Based Rumor Verification Scheme for Social Media**

Yufeng Wang and Bo Zhang (Nanjing University of Posts and Telecommunications, China); Jianhua Ma (Hosei University, Japan); Qun Jin (Waseda University, Japan)

### **11:16 LOS Acoustic Signal Recognition Indoor Based on the Dynamic Online Training**

Bingnan Qu (Shanghai Institute of Microsystem and Information Technology, Chinese Academy of Sciences, China); Lei Zhang (Chang'an University, China); Wei He, Tiantian Zhang and Xiaowei Feng (Shanghai Institute of Microsystem and Information Technology, Chinese Academy of Sciences, China)

### **11:34 Exploring Structural Information for Semantic Segmentation of Ultrasound Images**

Jiaxiang Geng, Yanzhao Hou and Guoshun Nan (Beijing University of Posts and Telecommunications, China); Lishuang Ma (Capital Institute of Pediatrics, China); Jinghan Mao (University of Posts and Telecommunications, China); Zhong Feng and Qin Liu (Capital Institute of Pediatrics, China); Chao Liu (Children's Hospital Affiliated Capital Institute of Pediatrics, China)

### **11:52 Hard Disk Drive Failure Prediction Based on GRU Neural Network**

Qinda Hai, Shuangwang Zhang, Chang Liu and Guojun Han (Guangdong University of Technology, China)

## Room 7

**Time: 15:05-16:35, 12 Aug. 2022**

**Session: WNM4**

**Session Chair: Tianqi Yu (Soochow University)**

### **15:05 Task-Oriented Computation Offloading and Resource Management in D2D-Assisted Heterogeneous Networks**

Yun Sheng (North China Electric Power University, China); Chen Xu (Beijing University of Posts and Telecommunications, China); Runze Wu (North China Electric Power University, China)

### **15:23 Resource Scheduling in Vehicular Networks With Age of Information and Channel Awareness**

Jian Wang, Tengfei Cao and Xiaoying Wang (Qinghai University, China); Man Zhang and Jianfeng Guan (Beijing University of Posts and Telecommunications, China)

### **15:41 An Experimental Study of Recommendation for Wireless Edge Caching**

Dasen Wei and Shengqian Han (Beihang University, China)

**15:59 Accumulate Then Transmit: Covert Transmission Analysis and Optimization in Wireless Powered Communication Networks**

Wenhui He, Guoxin Li, Yutao Jiao and Yin Zhiyuan (Army Engineering University of PLA, China)

**16:17 Multi-agent Deep Reinforcement Learning Based Resource Management in IRS-NOMA Terahertz Network**

Han Chen (Shenzhen University, China); Guobin Zhang (Dongguan University of Technology, China); Xiaobin Li (Shenzhen University, China); Pengcheng Zhu (Southeast University, China)

## Room 7

**Time: 16:55-18:25, 12 Aug. 2022**

**Session: SBD2**

**Session Chair: Xiaojing Chen (Shanghai University)**

**16:55 External Knowledge Document Retrieval Strategy Based on Intention-guided and Meta-learning for Task-oriented Dialogues**

Hongtu Xie (Sun Yat-sen University, China)

**17:13 Intelligent Load Balancing Relying on Load Prediction With MGCN-GRU**

Jingwei Luo, Youjia Chen, Jinsong Hu, Pingping Chen and Haifeng Zheng (Fuzhou University, China)

**17:31 FDQM: Four-Dimensional Quantitative Measure for Statistical Heterogeneity in Federated Learning**

Yundi Guo and Qianyuan Tang (Shenzhen Technology University, China); Yichuan Wang (Xi'an University of Technology, China); Ju Ren (Tsinghua University, China)

**17:49 Time is Gold: A Time-Dependent Incentive Mechanism Design for Fast Federated Learning**

Xiaoling Ling, Rui Li, Tao Ouyang and Xu Chen (Sun Yat-sen University, China)

**18:07 Improved Particle Swarm Optimization-Based Computation Offloading and Caching Decision for Internet of Things**

Ke Yuan and Siguang Chen (Nanjing University of Posts and Telecommunications, China)

## Room 8

**Time: 10:40-12:10, 12 Aug. 2022**

**Session: OCS1**

**Session Chair: Gengchen Liu (Huawei Technologies)**

**10:40 High-speed Signal Transmission Using Low-resolution DAC With Jitter-aware Noise Shaping Technique**

Mingzhu Yin, Wei Wang, Dongdong Zou, Limin Rong, Fan Li, Xingwen Yi and Zhaohui Li (Sun Yat-sen University, China)

**10:58 Impact of Residual Phase of Stokes-space-Based Polarization Demultiplexing on Carrier Phase Recovery Methods**

Wanzhen Guo and Jian Zhao (South China University of Technology, China)

**11:16 Comparison of Enhanced DD-LMS and MCMA in PDM-PAM4 PON Utilizing Heterodyne Coherent Detection**

Daoning Lai, Yongqing Zhu, Xun Chen, Xia Gong and Ke Ruan (China Telecom, China)

**11:34 Multi-Task Learning Aided Neural Networks for Equalization in Coherent Optical System**

Fangfang Huang, Xiatao Huang, Jing Zhang and Bo Xu (University of Electronic Science and Technology of China, China); Xingwen Yi (Sun Yat-sen University, China); Qianwu Zhang (Shanghai University, China); Kun Qiu (University of Electronic Science and Technology of China, China)

**11:52 Latency-Efficient Parallelized Carrier Phase Recovery Algorithm Based on Extended Kalman Filter for Short-Reach Coherent Optical Transmission Systems ([Video Presentation](#))**

Han Cui, Yaojun Qiao, Shuangyue Liu and Yueming Lu (Beijing University of Posts and Telecommunications, China)

## Room 8

**Time: 15:05-16:35, 12 Aug. 2022**

**Session: OCS2**

**Session Chair: Qiongfang Liang (South China University of Technology)**

**15:05 Performance Comparison of OOK, PAM4 and DMT for 50Gb/s Passive Optical Networks**

Haide Wang and Wenxuan Mo (Jinan University, China); Gengchen Liu (Huawei Technologies, China); Weiping Liu (Jinan



University, China); Dong Guo (Beijing Institute of Technology, China); Changyuan Yu (The Hong Kong Polytechnic University, Hong Kong SAR, China); Ji Zhou (Jinan University, China)

**15:23 Double-ANN-Aided Resource Partitioning Scheme for Data Transfers in MEC System over EON**

Xiao Lin, Songlei Lin and Yaping Li (Fuzhou University, China); Junyi Shao (Shanghai Jiaotong University, China); Yajie Li (Beijing University of Posts and Telecommunications, China)

**15:41 Circularly Polarized Excitation for the Silver/Polypropylene Hollow Waveguide**

Yue Li (South China University of Technology, China)

**15:59 Gap-Coupled Loop MIMO Array Design for Smartphone Applications**

Chow-Yen-Desmond Sim, Yu-Hsuan Lin and Ting-Yu Zhang (Feng Chia University, Taiwan, China)

**16:17 A Four-pole Bandpass Filter With Wide Bandwidth and Sharp Skirt Using a Single dielectric-loaded Cavity Resonator**

Weisheng Tang, Yong Xuan Zheng and Shaoyong Zheng (Sun Yat-sen University, China)

## Room 8

**Time: 16:55-18:25. 12 Aug. 2022**

**Session: PSC1**

**Session Chair: Minghui Min (China University of Mining and Technology)**

**16:55 A Hybrid Intrusion Detection System for In-Vehicle CAN Bus**

Shuhan Wu, Zikai Wang, Yuhua Xu and Wei Sun (Sun Yat-sen University, China)

**17:13 SPDT: Secure and Privacy-Preserving Scheme for Digital Twin-Based Traffic Control**

Chengzhe Lai, Menghua Wang and Dong Zheng (Xi'an University of Posts and Telecommunications, China)

**17:31 Wireless Channel Key Generation for Multi-User Access Scenarios**

Xiaowei Yuan, Yu Jiang and Hu Aiqun (Southeast University, China)

**17:49 Deep Reinforcement Learning for UAV-Assisted Covert Data Dissemination**

Jinsong Hu and Mingqian Guo (Fuzhou University, China); Riqing Chen (Fujian Agriculture and Forestry University, China);

Youjia Chen (Fuzhou University, China); Feng Shu (Hainan University, China); Zhizhang Chen (Dalhousie University, Canada)

**18:07 Privacy-Preserving Decentralized Cryptocurrency Exchange Without Price Manipulation**

Ruoyue Li, Yankai Xie, Zhiqiang Ning, Chi Zhang and Lingbo Wei (University of Science and Technology of China, China)

## Room 1

**Time: 10:50-12:20, 13 Aug. 2022**

**Session: MAC4**

**Session Chair: Bing Luo (Duke Kunshan University)**

### **10:50 Attention-aided Federated Learning for Dependency-Aware Collaborative Task in Edge-Assisted Smart Grid Scenarios**

Chenyang Wang, Bosen Jia (Tianjin University, China); Hao Yu (Oulu University, Finland); Liandong Chen and Kai Cheng (State Grid Hebei Electric Power Company, China); Xiaofei Wang (Tianjin University, China)

### **11:08 Prediction of Maximum Usable Frequency for HF Communications Based on Federated Learning**

Yongjuan Yu, Fandi Lin, Yutao Jiao and Jin Chen (Army Engineering University of PLA, China)

### **11:26 Transfer Learning for Angle of Arrivals Estimation in Massive MIMO System**

Zhiheng Guo, Kuijie Lin and Xiang Chen (Sun Yat-sen University, China); Chong-Yung Chi (National Tsing Hua University, Taiwan, China)

### **11:44 A General Digital Twin Framework for Intelligent Network Management**

Wei Qu (China Mobile Research Institute, China)

### **12:02 Performance Analysis of Normality Test Loss for Intelligent RSCNN Denoiser Design With Application to Channel Decoding**

Junyu Xia, Zixuan Wang, Junyu Chen and Xiaoling Yang (Sun Yat-sen University, China); Xiucheng Wu (Coremail Company, China); Lin Zhang (Sun Yat-sen University, China); Zhiqiang Wu (Wright State University, USA)

## Room 1

**Time: 15:05-16:35, 13 Aug. 2022**

**Session: MAC5**

**Session Chair: Yang Li (Shenzhen Research Institute of Big Data)**

### **15:05 Offloading Strategy for UAV-assisted Mobile Edge Computing Based on Reinforcement Learning**

Xiayan Zhang and Junxuan Wang (Xi'an University of Posts and Telecommunications, China); Bing Wang and Fan Jiang (Xian University of Posts and Telecommunications, China)

### **15:23 Visible Light-Based Position and Pose Tracking: A Bidirectional Recurrent Convolutional Learning Method to Address Environment Dynamics**

Jieyou Zhu, Guangsen Chen, Bingpeng Zhou and Xinghua Sun (Sun Yat-sen University, China)

### **15:41 A Novel CNN-Based Autoencoder With Channel Feedback for Intelligent Maritime Communications**

Bin Lin, Xiaoling Han, Nan Wu, Jiaye Li, Haocheng Wang and Shuai Shao (Dalian Maritime University, China)

### **15:59 Maximum Throughput in the Unlicensed Band under 3GPP Fairness**

Jianbin Xiao, Haowei Xu, Xinghua Sun, Feifan Luo and Wen Zhan (Sun Yat-sen University, China)

### **16:17 Distributed Coordinated Beamforming Based on Multi-Agent Reinforcement Learning in Multicell MISO Systems**

Shaozhuang Bai, Zhenzhen Gao and Xuwen Liao (Xi'an Jiaotong University, China)

## Room 2

**Time: 10:50-12:20, 13 Aug. 2022**

**Session: MAC6**

**Session Chair: Wen Wu (Pengcheng Lab)**

### **10:50 Deep Reinforcement Learning Based UAV-Assisted Maritime Network Computation Offloading Strategy**

Senhu Zhou, ShiHao Fei, Yingzhu Feng (Xi'an University of Posts and Telecommunications, China)

### **11:08 Deep Learning Based RFF Recognition With Differential Constellation Trace Figure towards Closed and Open Set**

Tianwen Yang, Jianing Zhao and Xin Wang (Southeast University, China); Fei Xu (China Mobile Research Institute, China)

### **11:26 Batch Based Multi-Arm Bandits With Knapsacks for Tasks Allocation in MEC**

Hangfan Li (Guilin University of Electronic Technology, China); Xiaoxiong Zhong, Yun Ji (Tsinghua University, China); Xinghan Wang (Southeast University, China); Zhang Sheng (Tsinghua University, China)

### **11:44 Hierarchical Local Sensitivity Analysis**

## Method for Optimization of Deep Learning-Based Anomaly Detection in Communication Network

Gang Yue, Zhuo Sun and Jinpo Fan (Beijing University of Posts and Telecommunications, China)

## Room 2

**Time: 15:05-16:35, 13 Aug. 2022**

**Session: CIT4**

**Session Chair: Suihua Cai (Sun Yat-sen University)**

### 15:05 A Novel Signal Detection Method Based on Multivariate Test Statistics for Ambient Backscatter Communications

Jing Wang, Pinyi Ren, Dongyang Xu and Lei Lu (Xi'an Jiaotong University, China)

### 15:23 Resource Management for Cooperative Service Offering With a Generalized Service-Centric Model

Xuan Wu and Yang Huang (Nanjing University of Aeronautics and Astronautics, China); Zhen Gao (Beijing Institute of Technology, China)

### 15:41 A Game-Based Joint Task Offloading and Computation Resource Allocation Strategy for Hybrid Edgy-Cloud and Cloudy-Edge Enabled LEO Satellite Networks

Peixuan Li, Yichen Wang and Zhangnan Wang (Xi'an Jiaotong University, China)

### 15:59 Poisson Game With Population Uncertainty for Mobile Edge Computing Networks

Hui Liang, Weiwei Yang and Qihao Li (Dongguan University of Technology, China); Wei Zhang (The University of New South Wales, Australia)

### 16:17 Performance Analysis for Irregular Repetition Slotted ALOHA With Short Packet Transmissions

Yifan Feng, Zhengchuan Chen, Zhong Tian (Chongqing University, China); Min Wang (Chongqing University of Posts and Telecommunications, China); Yunjian Jia (Chongqing University, China)

## Room 2

**Time: 16:35-17:29, 13 Aug. 2022**

**Session: CIT5**

**Session Chair: Suihua Cai (Sun Yat-sen University)**

### 16:35 A Joint Design of Polar Coding and Generalised Spatial Modulation

Jiangjian Chen, Fuzhou Peng, Xiang Chen and Xijun Wang (Sun Yat-sen University, China)

### 16:53 Full-Duplex Relaying With Partial CSI in Cloud Radio Access Networks

Jie Fan (Northwest University, China)

### 17:11 Symbol-Level Precoding With Antenna Selection over Millimeter Wave MIMO System

Changxu Xie, Huiqin Du and Shancheng Zhao (Jinan University, China)

## Room 3

**Time: 10:50-12:20, 13 Aug. 2022**

**Session: MAC7**

**Session Chair: Qian Ma (Sun Yat-sen University)**

### 10:50 Deep Reinforcement Learning for Age and Energy Tradeoff in Internet of Things Networks

Mengen Li, Ying Wang and Qiuyang Zhang (Beijing University of Posts and Telecommunications, China)

### 11:08 Energy-efficient Caching and Task offloading for Timely Status Updates in UAV-assisted VANETs

Nan Hu, Xiaoqi Qin, Nan Ma and Yiming Liu (Beijing University of Post and Telecommunication, China); Yuanyuan Yao (Beijing Information Science and Technology University, China); Ping Zhang (Beijing University of Post and Telecommunication, China)

### 11:26 DRL-Based Energy-Efficient Trajectory Planning, Computation Offloading, and Charging Scheduling in UAV-MEC Network

Qian Wei, Zhi Zhou and Xu Chen (Sun Yat-sen University, China)

### 11:44 Uplink Throughput Maximization in UAV-Aided Mobile Networks: A DQN-Based Trajectory Planning Method

Yuping Lu, Ge Xiong, Xiang Zhang, Zhifei Zhang, Tingyu Jia and Ke Xiong (Beijing Jiaotong University, China)

### 12:02 A Simplified Link-granularity Framework of Interference Identification and Performance Prediction for UDN Uplink

Chunmeng Fan, Yichen Guo and Tao Peng (Beijing University of Posts and Telecommunications, China)

## Room 3

**Time: 15:05-16:35, 13 Aug, 2022**

**Session: SPC4**

**Session Chair: Beixiong Zheng (South China University of Technology)**

### **15:05 A New SAGE-Based Channel Estimation Scheme for Millimeter Wave MIMO-OFDM Systems With Hybrid Beamforming Techniques**

Congjie Liu, Jian Sun and Wensheng Zhang (Shandong University, China); Cheng-Xiang Wang (Southeast University, China & Purple Mountain Laboratories, China)

### **15:23 Two-Stage Hybrid-Field Beam Training for Ultra-Massive MIMO Systems**

Kangjian Chen and Chenhao Qi (Southeast University, China); Cheng-Xiang Wang (Southeast University, China & Purple Mountain Laboratories, China)

### **15:41 A Grasshopper Optimization Algorithm for Fault Diagnosis in Ultra-Dense LEO Satellite Networks**

Wenjing Tang, Jiwei Zhao, Jianzhe Xue, Ting Ma and Haibo Zhou (Nanjing University, China)

### **15:59 On Probabilistic Quantization and Mean-Value Fusion Design for Distributed Estimation in Sensor Networks**

Meng He and Chuan Huang (The Chinese University of Hong Kong, Shenzhen, China); Shengpei Jiang (SF Technology, China)

### **16:17 A Context-Based Long-Term Deployment Algorithm for Multiple Relaying Unmanned Aerial Vehicles**

Le Zhao (Beijing Institute of Technology, China); Lei Yan (Northeastern University at Qinhuangdao, China); Yuhang Yin, Jihua Lu and Lihui Feng (Beijing Institute of Technology, China)

## Room 4

**Time: 10:50-12:20, 13 Aug, 2022**

**Session: WCS4**

**Session Chair: Miaowen Wen (South China University of Technology)**

### **10:50 Multi-Carrier Differential Chaos Shift Keying Modulation With Permutation Index**

Qin Guo and Pingping Chen (Fuzhou University, China); Yi Fang (Guangdong University of Technology, China); Zhijian Lin and Feng Chen (Fuzhou University, China)

### **11:08 Throughput Fairness-Aware Optimization of Cognitive Backscatter Networks With Finite Alphabet Inputs**

Xiaona Gao, Yinghui Ye and Guangyue Lu (Xi'an University of Posts and Telecommunications, China); Haijian Sun (University of Georgia, USA)

### **11:26 Propagation Characteristics of RIS-assisted Wireless Channels in Corridors: Measurements and Analysis**

Boning Gao, Jiachen Li, Zhexuan Yu, Jian Sang, Mingyong Zhou, Jifeng Lan, Wankai Tang, Xiao Li and Shi Jin (Southeast University, China)

### **11:44 Low-Complexity Multi-User MIMO Uplink Transmission Assisted by Dual-Polarized Reconfigurable Intelligent Surface**

Mengyu Qian, Li You, Wenjin Wang and Xiqi Gao (Southeast University, China)

### **12:02 Performance Analysis of Uplink Joint Communication and Sensing System (Video Presentation)**

Yiheng Li, Zhiqing Wei, Zhiyong Feng, Xu Chen and Heng Yang (Beijing University of Posts and Telecommunications, China); Liang Ma and Chengkang Pan (China Mobile Research Institute, China)

## Room 4

**Time: 15:05-16:35, 13 Aug, 2022**

**Session: WCS5**

**Session Chair: Xiaoyang Li (Southern University of Science and Technology)**

### **15:05 A Transmission Scheme Based on QC-LDPC Codes With Matrix Q over AWGN Channel**

Jiayun Bao, Cuican Shen, Zhiping Shi and Li Deng (University of Electronic Science and Technology of China, China)

### **15:23 Outdoor Measurements and Analysis of Propagation Characteristics at 14 GHz With a Massive MIMO Channel Sounder**

Tianci Wang, Yi Shi, Yan Liu, Xianling Wang and Zhiyuan Jiang (Shanghai University, China)

### **15:41 Jamming Suppression for Uplink Massive MIMO Systems: A Semi-Blind Receiver Design**

Zhou Yang, Hong Shen and Wei Xu (Southeast University, China); Chunming Zhao (National Mobile Communications Research Laboratory, Southeast University, China)



**15:59 Channel Estimation for a RIS-Assisted MU-MIMO System Using One-Bit ADCs over Spatially Correlated Channels**

Wenhao Fang, Xiao Liang, Xiuwen Bao, Jiaheng Wang and Chunming Zhao (Southeast University, China)

**Room 5**

**Time: 10:50-12:20, 13 Aug, 2022**

**Session: ASC2**

**Session Chair: Shuai Yu (Sun Yat-sen University)**

**10:50 AN Based Secure Scheme for Uplink Transmission of Satellite Communication Systems**

Linling Cheng and Zhenzhen Gao (Xi'an Jiaotong University, China)

**11:08 Beam Handover Based on Multi-Attribute Decision in User-Centric LEO Satellite Networks**

Jing Li, Chaowei Wang, Cheng Wang and Weidong Wang (Beijing University of Posts and Telecommunications, China); Jun Zhen (SSC Systems Engineering Research Institute, China)

**11:26 Content Distribution With Resource Optimization for Multi-beam Satellite-Terrestrial Cache-enabled Networks**

Miaomiao Zuo, Shushi Gu, Qinyu Zhang (Harbin Institute of Technology, Shenzhen, China); Ning Zhang (University of Windsor, Canada); Wei Xiang (La Trobe University, Australia)

**11:44 Energy Minimization for Cellular-Connected UAV-MEC Patrol Inspection Systems**

Dingcheng Yang, Jun Wang and Fahui Wu (Nanchang University, China); Yu Xu (Beijing University of Post and Telecommunications, China); Lin Xiao (Nanchang University, China); Tiankui Zhang (Beijing University of Posts and Telecommunications, China)

**12:02 3D City Map Reconstruction from LEO Communication Satellite SNR Measurements**  
(Video Presentation)

Bohan Peng (Beijing University of Posts and Telecommunications, China)

**Room 5**

**Time: 15:05-16:35, 13 Aug, 2022**

**Session: WCS8**

**Session Chair: Lin Zhang (Sun Yat-sen University)**

**15:05 Beam Sweeping Assisted Compressive Channel Estimation for Wideband mmWave Massive MIMO Systems With Hybrid Beamforming**

Yongqing Tian (Beijing University of Post and Telecommunication, China); Xiaoyong Wu (Shanghai Radio Equipment Research Institute, China); Jinru Liu, Jin Yang and Danpu Liu (Beijing University of Posts and Telecommunications, China)

**15:23 An Improved Triangular Facets Based Angular Z-Buffer Algorithm for IM Ray Tracing Channel Modeling**

Jingyu Lv (Southeast University, China); Yinghua Wang (Purple Mountain Laboratories, China); Jialing Huang, Yuxiao Li and Jie Huang (Southeast University, China); Cheng-Xiang Wang (Southeast University, China & Purple Mountain Laboratories, China)

**15:41 Antenna Selection for Spatial Correlated Channel by Exploiting Statistical CSI**

Jiacheng Lu, Jun Zhang, Shu Cai and Feng Tian (Nanjing University of Post and Telecommunication, China)

**15:59 UAV Millimeter-Wave Beam Training Based on Adaptive Sensing**

Wenmin Lu (Shenzhen University, China)

**Room 6**

**Time: 10:50-12:20, 13 Aug, 2022**

**Session: WNM3**

**Session Chair: Miao Jiang (Guangdong University of Technology)**

**10:50 IRS-Aided Secure Mobile Edge Computing for NOMA Networks**

Dawei Wang and Xuanrui Li (Northwestern Polytechnical University, China); Linna Pang (Beijing Research Institute of Telemetry, China); Yixin He (Northwestern Polytechnical University, China); Fuhui Zhou (Nanjing University of Aeronautics and Astronautics, China); Ling Wang and Ruonan Zhang (Northwestern Polytechnical University, China)

**11:08 Offloading Strategy for End-to-Edge Collaboration under Limited MEC Computing Resources**

Rui Yuan, Wei Jiang, Jingce Yang, Jing Hu and Tiecheng Song (Southeast University, China)

**11:26 Cooperative Location and Orientation Estimation of Asynchronous Networks Using a**

## Single Anchor

Yuanpeng Liu (Nanjing Marine Radar Institute, China); Xiaoxiang Li, Wenxuan Li and Yuan Shen (Tsinghua University, China)

### 11:44 Radio Map-Based Spectrum Sharing for Joint Communication and Sensing Networks

Xinran Fang and Wei Feng (Tsinghua University, China); Yunfei Chen (University of Warwick, UK); Dingyou Ma, Ning Ge and Yimin Liu (Tsinghua University, China); Zhiyong Feng (Beijing University of Posts and Telecommunications, China)

### 12:02 Sum Computational Bits Maximization for Full-Duplex Enabled Wireless-Powered Mobile Edge Computing Systems

Pengcheng Chen, Bin Lyu, Haiyan Guo and Zhen Yang (Nanjing University of Posts and Telecommunications, China)

## Room 6

**Time: 15:05-16:35, 13 Aug. 2022**

**Session: ASC4**

**Session Chair: Guobin Zhang (Dongguan University of Technology)**

### 15:05 Resource Allocation Scheme in High Throughput Satellite Systems Based on Dynamic Beam-coverage Algorithm

Chunge Xu and Qinghe Du (Xi'an Jiaotong University, China)

### 15:23 Resource Allocation for End-to-End Delay Minimization in UAV-Enabled Mesh Networks

Yanming Liu and Haobin Mao (Beihang University, China); Lipeng Zhu (National University of Singapore, China); Zhenyu Xiao (Beihang University, China); Xiang-Gen Xia (University of Delaware, USA)

### 15:41 Joint Computing, Caching and Communication Resource Allocation in the Satellite-Terrestrial Integrated Network With UE Cooperation

Yaohui Song, Xi Li, Hong Ji and Heli Zhang (Beijing University of Posts and Telecommunications, China)

### 15:59 An On-orbit Computation Offloading Framework for Satellite Edge Computing

Zhiwei Zhai and Shuai Yu (Sun Yat-sen University, China); Fei Zhang (Academy of Military Sciences, China); Xu Chen (Sun Yat-sen University, China)

### 16:17 Joint Mode Selection and Dynamic Pricing in Ultra Dense LEO Integrated Satellite-Terrestrial

## Networks

Xin Zhang, Xiaohan Qin, Bo Qian, Ting Ma and Haibo Zhou (Nanjing University, China)

## Room 7

**Time: 10:50-12:20, 13 Aug. 2022**

**Session: WNM5**

**Session Chair: Feng Wang (Guangdong University of Technology)**

### 10:50 Dynamic Clustering and Power Control for Two-Tier Over-the-Air Federated Learning

Wei Guo and Chuan Huang (The Chinese University of Hong Kong, Shenzhen, China); Xiaoqi Qin (Beijing University of Posts and Telecommunications, China); Lian Yang (University of Electronic Science and Technology of China, China); Wei Zhang (The University of New South Wales, Australia)

### 11:08 Optimal Dynamic Backoff for Grant-Free NOMA IoT Networks: a Mean Field Game Approach

Pai Jiang and Haibo Wang (Beijing Jiaotong University, China); Matthieu De Mari (Singapore University of Technology and Design, Singapore)

### 11:26 Dynamic Radio Resource Slicing for Service-Oriented 5G/B5G C-V2X Networks

Tianqi Zhang, Jianzhe Xue, Yunting Xu, Kai Yu and Haibo Zhou (Nanjing University, China)

### 11:44 Energy Consumption Optimization under Multi-link Target Wake Time scheme in WLANs

Xiaodong Jin, Yan Long, Xuming Fang, Rong He and Honghao Ju (Southwest Jiaotong University, China)

### 12:02 Coverage Analysis of Intelligent Reflecting Surface Assisted Cellular Networks (Video Presentation)

Lin Chen and Xiaojun Yuan (University of Electronic Science and Technology of China, China); Yingjun Zhang (The Chinese University of Hong Kong, Hong Kong SAR, China)

## Room 7

**Time: 15:05-16:35, 13 Aug. 2022**

**Session: PSC2**

**Session Chair: Bin Chen (Harbin Institute of Technology, Shenzhen)**

### 15:05 Safe Reinforcement Learning-Based Indoor 3D Location Privacy Protection

Minghui Min, Shuang Yang and Shiyin Li (China University of

Mining and Technology, China); Hongliang Zhang (Princeton University, USA); Liang Xiao (Xiamen University, China); Miao Pan and Zhu Han (University of Houston, USA)

**15:23 Smart Grid Worm Detection Based on Deep Reinforcement Learning**

Pengmin Li, Shi Yu and Liang Xiao (Xiamen University, China)

**15:41 A Privacy-Preserving Watchtower Scheme With Constant Storage Overhead**

Yan Huang, Ruian Li, Junxin Liu, Yankai Xie, Chi Zhang and Lingbo Wei (University of Science and Technology of China, China)

**15:59 Trade-off between Secrecy Rate and Energy Consumption in a Secure UAV-MEC System**

WenWen Li, Zhiquan Hu, Xiangming Wen, Zhaoming Lu and Yujing Zhang (Beijing University of Posts and Telecommunications, China)

**16:17 Intrusion Detection Framework for In-vehicle Network Combining Time Features and Data Features**

Guoxiang Qin, Ying Zhou, Jiajun Yan, Jieqi Chen, Bin Rao and Pengju Li (Sun Yat-sen University, China)

**Room 8**

**Time: 10:50-12:20, 13 Aug. 2022**

**Session: RFA1**

**Session Chair: Shaoyong Zheng (Sun Yat-sen University)**

**10:50 A Wideband Reconfigurable Dielectric Resonator Antenna With Polarization and Pattern Diversities**

Xujun Yang (Shenzhen University, China); Yuan Ji (Jiangsu Food & Pharmaceutical Science College, China); Lei Ge (Shenzhen University, China); Chow-Yen-Desmond Sim (Feng Chia University, Taiwan, China)

**11:08 A Compact Spoof Surface Plasmon Polaritons Filtering Array Antenna With High Scanning Rate**

Chuangkai Wang, Guolin Ouyang and Shaoyong Zheng (Sun Yat-sen University, China)

**11:26 A Compact Multiple Flat-topped Beams Antenna Based on Butler Matrix**

Chuangkai Wang and Shaoyong Zheng (Sun Yat-sen University, China)

**11:44 A Spatial Filtering Antenna Based on Dielectric Resonator Loaded Spoof Surface Plasmon Polaritons Waveguide**

Shu Yu, Guolin Ouyang and Shaoyong Zheng (Sun Yat-sen University, China)

**12:02 A Dual-Band High Gain Antenna for K and Ka Band (Video Presentation)**

Bingjie Xiang and Kwai-Man Luk (City University of Hong Kong, Hong Kong SAR, China)

**Room 8**

**Time: 15:05-16:35, 13 Aug. 2022**

**Session: RFA2**

**Session Chair: Senfeng Lai (Guangdong Polytechnic Normal University)**

**15:05 A Dual-Band Coupled-Line Coupler With Independently Reconfigurable Power Division Ratios**

Min Li, Qizhen Quan, Weisheng Tang and Shaoyong Zheng (Sun Yat-sen University, China)

**15:23 Single Eigenmode Excited Low Profile Ultra-wideband Vertically Polarized Omnidirectional Antenna**

Qianan Yu, Zijian Xing, Jian-ying Li (Northwestern Polytechnical University, China)

**15:41 An Efficient Dual-band Rectifier for Ambient RF Energy Harvesting**

Baihua Zeng, Kaibiao Zhang and Shaoyong Zheng (Sun Yat-sen University, China)

Acronym	Technical Session Theme	#Sessions
CIT	Communication and Information Theory	5
MAC	ML and AI for Communications	7
SPC	Signal Processing for Communications	4
WCS	Wireless Communications Systems	8
ASC	Air and Space Communications	4
WNM	Wireless Networking and Multimedia	5
OCS	Optical Communications Systems	2
RFA	Radio Frequency and Antennas	2
PSC	Privacy and Security in Communications	2
SBD	Social Networks and Big Data	2

Rooms	Locations	
Room 1	Hujing Hall ( 3F )	湖景轩 ( 3F )
Room 2	Pattaya ( 4F )	芭提雅 ( 4F )
Room 3	Qilin (4F)	麒麟 ( 4F )
Room 4	Multi-Function Room 2 (2F)	多功能 2(2F)
Room 5	Multi-Function Room 3 (2F)	多功能 3(2F)
Room 6	Multi-Function Room 5 (2F)	多功能 5(2F)
Room 7	Multi-Function Room 5 (2F)	多功能 5(2F)
Room 8	Multi-Function Room 1 (2F)	多功能 1(2F)