



WCNC 2026

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[2026 IEEE Wireless Communications and Networking Conference \(WCNC\) Program](#)

Tuesday, April 14

Tuesday, April 14 9:00 - 10:30

ETNA 1: Satellite Communications

Room: 406

Low-Complexity Precoding Design for Massive MIMO LEO Satellite Communications

Feng Zhu and Yunfei Wang (Purple Mountain Laboratories, China); Ziyu Xiang and Xiqi Gao (Southeast University, China)

RAS: Reconfiguration-Aware Adaptive Video Streaming over Satellite Networks

Yijie Liu, Zeqi Lai, Qian Wu, Hewu Li, Yuanjie Li and Jun Liu (Tsinghua University, China)

Ultra-Low-Complexity Multigroup Multicast Beamforming in Frame-Based GEO Satellite Communication

Xin Chen, Hao Lin, Yifan Wu and Zhiyong Luo (Sun Yat-sen University, China)

Adaptive Beam Hopping for over-the-Air Online Federated Learning in LEO Satellite Networks

Shaojie Wang, Zhendong Li, Zhou Su, Zihao Zhang and Haixia Peng (Xi'an Jiaotong University, China); Nan Cheng (Xidian University, China); Wen Chen (Shanghai Jiao Tong University, China)

An Interference Analysis Algorithm Based on Inverse Transform Sampling for D2C and GSO Satellite Systems Operating in Reverse Band Mode

Zimeng Lei (Beijing University of Posts and Telecommunications, China); Liang Yin (Beijing University of Posts and Telecommunications & Beijing Advanced Innovation Center for Future Internet Technology, China); Yitong Liu and Hongwen Yang (Beijing University of Posts and Telecommunications, China)

Tuesday, April 14 9:00 - 10:30

ETNA 2: Satellite Communications 2

Room: 407

Cooperative MARL and Heterogeneous Onboard Computing for LEO Satellite Routing

Jiajia Qin (University of Chinese Academy of Sciences, China); Feng Tian (Shanghai Engineering Center of Micro-Satellite, China); Qi Zhang (Innovation Academy for Microsatellites of CAS, China); Youlong Wu (ShanghaiTech University, China); Wenxin Yao (University of Chinese Academy of Sciences, China); Lele Lai (Innovation Academy for Microsatellites of CAS, China); Yue Gao (Fudan University, China); Haiying HU (Shanghai Engineering Center for Microsatellites, China)

Efficient Resource Allocation and Service Migration in MEO Rosette Constellation Satellite Networks

Haotong Wang (Tsinghua University, China); Jun Du and Chunxiao Jiang (Tsinghua University, Beijing, China); Jintao Wang (Tsinghua University, China); Mérouane Debbah (Khalifa University of Science and Technology, France)

Trajectory Designs for UAV Relaying with LEO Satellites: Incorporating Practical Constraints

Shang-Ho (Lawrence) Tsai (National Chiao-Tung University, Taiwan); Min-Chen Xie (National Yang Ming Chiao Tung University, Taiwan); Jen-Ming Wu (Hon Hai Research Institute, Taiwan)

Fast and Generalizable Task Scheduling in Double-Layered Satellite Network: A Graph-Based Deep Reinforcement Learning Approach

Zhonghe Liu (Xidian University, China); Runzi Liu (Xi'an University of Architecture and Technology, China); Yan Zhang and Mengjie Yi (Xidian University, China)

Joint Beamforming and Time-Slot Allocation for Spectrum Sharing in Integrated Satellite-Terrestrial Networks

Guanchang Xue (Harbin Institute of Technology, China); Bilei Zhou (Shanghai Space Technology Co., Ltd., China); Ming-Chuan Yang (Harbin Institute of Technology, China); Jingchao Wang (Academy of Military Sciences, China); Rui Ding (China Satellite Network Group Co., Ltd); Qing Guo (Harbin Institute of Technology, China)

Tuesday, April 14 9:00 - 10:30

ETNA_IS1: Emerging Technologies, Network Architectures, and Applications

Room: Exhibition Hall IS 1

Post-Fall Immobility Detection Using Millimeter-Wave Radar and Point Set Representation Learning

Yoshiyuki Tsuyama, Robin Orthey and Masaki Ishihara (Fujitsu Limited, Japan)

Early TCP Flow Length Regression with Machine Learning

Anthony Orme, Anthony O Adeyemi-Ejeye and Andrew Gilbert (University of Surrey, United Kingdom (Great Britain))

Federated Learning-Based Network Traffic Prediction for Digital Twin in Next-Generation Networks

Jian Song, Laisen Nie, Yixuan Wu, Muyang Zhu and Yongjie Li (Northwestern Polytechnical University, China)

Passive Synthetic Aperture Equivalent Model and Localization for Spaceborne Squint Scenario

Songlin Li, Hao Huan and Junhua Yang (Beijing Institute of Technology, China)

Low-Complexity Sniffer-Based Port Selection for Fluid Antenna OTFS Systems Under Time-Varying Channels

Cheng Cheng (University of Edinburgh, United Kingdom (Great Britain)); John Thompson (University of Edinburgh & Univ of Edinburgh, United Kingdom (Great Britain)); Yuepei Li (Imperial College London, United Kingdom (Great Britain))

Britain)); Constantinos Psomas (European University Cyprus, Cyprus); Symon K. Podilchak (University of Edinburgh, United Kingdom (Great Britain))

A Two-Stage Joint Decision Framework for Low-Latency XR Service Delivery Under Cloud-Edge-End Collaboration

Xinyu Wang (Beijing University of Posts and Telecommunications, China); ShaoYong Guo (Beijing University of Posts and Telecommunications & State Key Laboratory of Networking & Switching Technology, China); Yinlin Ren (Beijing University of Posts and Telecommunications, China); Yong Yan (State Grid Zhejiang Electric Power Research Institute, China); Feng Qi (Beijing University of Posts and Telecommunications, China)

Movable Arrays of Rydberg Sensors: Modelling and Optimization

Tao Xu (University of Edinburgh, United Kingdom (Great Britain)); John Thompson (University of Edinburgh & Univ of Edinburgh, United Kingdom (Great Britain)); Wasiu O. Popoola (University of Edinburgh, United Kingdom (Great Britain)); Constantinos Psomas (European University Cyprus, Cyprus); Kapila W S Palitharathna (University of Cyprus, Cyprus)

Edge IoBNT Networks for Bioprocess Digital Twins: A Physics-Informed ML Approach

Mohammad Behdad Jamshidi (University of Technology Sydney, Australia); Hoang Thai Dinh (University of Technology Sydney (UTS), Australia); Diep N. Nguyen (University of Technology Sydney, Australia)

Channel Charting in Smart Radio Environments

Mahdi Maleki (Politecnico di Milano, Italy); Reza Aghazadeh Ayoubi (Politecnico di Milano, Italy); Marouan Mizmizi and Umberto Spagnolini (Politecnico di Milano, Italy)

Tuesday, April 14 9:00 - 10:30

MAC1: RSMA/NOMA

Room: 402

Latency Minimization for Secure RSMA-Assisted Mobile Edge Computing Networks

Jianping Yao and Chao Tang (Guangdong University of Technology, China); Jie Xu (The Chinese University of Hong Kong (Shenzhen), China); Yi Fang and Guojun Han (Guangdong University of Technology, China); Tony Q. S. Quek (Singapore University of Technology and Design, Singapore)

Detect Error Performance for Satellite Aerial Terrestrial Integrated Cognitive Networks with NOMA and Non-Ideal Limitations

Peilin Qi, Kefeng Guo and Qihui Wu (Nanjing University of Aeronautics and Astronautics, China); Ali Nauman (Yeungnam University, Korea (South)); Muhammad Ali Jamshed (University of Glasgow, United Kingdom (Great Britain))

Deep Reinforcement Learning for Joint Rate-Energy Optimization in NOMA BackCom Networks

Yousuf Rehan (National University of Sciences and Technology, Pakistan); Muhammad Ayaan Qasmi (National University of Sciences & Technology (NUST), Pakistan); Muhammad Danish Khattak (National University of Sciences and Technology (NUST), Pakistan); Muazzam A. Khan Khattak (Quaid i Azam University, Islamabad, Pakistan); Muhammad Sohaib J. Solaija (Gebze Technical University, Turkey); Syed Ali Hassan (National University of Sciences and Technology, Pakistan)

Resource Allocation for D2D-Enabled NOMA Cellular Networks with Composite Signal

Haiqian Yin (Beijing University of Posts and Telecommunications, China); Gang Xie (Beijing University of Posts and Telecommunications, China)

Energy Efficient for Holographic RIS-Aided NOMA near-Field Short-Packet Communication System

Sandeep Singh (National Sun Yat-Sen University, Taiwan); Keshav Singh (National Sun Yat-sen University, Taiwan); Fan-Shuo Tseng (National Sun Yat-Sen University, Taiwan); Arnab Mukhopadhyay (National Sun Yat-sen University, Taiwan)

Tuesday, April 14 9:00 - 10:30

MAC2: Semantic Communication/LLM

Room: 403

Chair: Syed Ali Hassan (National University of Sciences and Technology, Pakistan)

Semantic Knowledge Base-Enhanced Joint Source-Channel Coding Framework for Robust Semantic Communications

Haixiao Gao, Mengying Sun, Yanhan Wang, Xiaodong Xu, Zechuan Fang and Nan Ma (Beijing University of Posts and Telecommunications, China); Ping Zhang (WTI-BUPT, China)

A Large Language Model-Based Decision Transformer Approach for UAV Data Collection

Zhixiong Chen (Queen Mary University of London, United Kingdom (Great Britain)); Hyundong Shin (Kyung Hee University, Korea (South)); A Nallanathan (QMUL, United Kingdom (Great Britain))

Fusing Situations of Massive Mobile Nodes Improves the LLM-Based Attack Prediction for AI-Native Edges

Rushan Li, Jin Tan, Zhuoran Duan, Guoshun Nan, Qimei Cui and Xiaofeng Tao (Beijing University of Posts and Telecommunications, China)

Large Reasoning Models for Optimal Resource Management in Next Generation Wireless Networks

Tayyib Ul Hassan (National University of Sciences and Technology, Pakistan); Attiya Waqar (National University of Sciences & Technology, Pakistan); Aamina B. Khurram (National University of Sciences and Technology, Pakistan); Arsalan Ahmad (Iowa State University, USA & National University of Sciences and Technology (NUST), Pakistan); Haejoon Jung (Kyung Hee University, Korea (South)); Syed Ali Hassan (National University of Sciences and Technology, Pakistan)

Energy Efficiency Maximization in Hybrid Bit-Semantic Communication Networks

Guangyuan Zheng (Hebei Normal University, China); Miaowen Wen (South China University of Technology, China); Yuankun Tang and Qianqian Wang (Northwest Normal University, China); Xinyue Pei (Northeastern University, China); Zhiguo Ding (University of Manchester, United Kingdom (Great Britain))

Tuesday, April 14 9:00 - 10:30

MLO 1: AI-based Optimization and Explainable AI I

Room: 404

Chair: Ying Jun (Angela) Zhang (The Chinese University of Hong Kong, Hong Kong)

Explainability Boosted Anomaly Detection Framework for O-RAN Based NextG Networks

Nurullah Aksu, Ali Fuat Sahin and Semiha Tedik Basaran (Istanbul Technical University, Turkey)

Secrecy Rate Maximization for IRS-Aided MIMO Systems via Unfolded Product Riemannian Gradient Descent Network

Weijie Xiong (University of Electronic Science and Technology of China, China); Jian Yang (Beijing Institute of Technology, China); Jingran Lin and Qiang Li (University of Electronic Science and Technology of China, China)

DEEL: Diffusion-Enhanced Energy and Latency Trade-off for Low-Altitude Emergency Networks

Shuo Wu and Peng Yu (Beijing University of Posts and Telecommunications, China); Can Tan (Beijing University of Posts and Telecommunication, China); Xinxu Liu, Honglin Fang and Li Wenjing (Beijing University of Posts and Telecommunications, China); Shu Fu (Chongqing University, China); ShaoYong Guo (Beijing University of Posts and Telecommunications & State Key Laboratory of Networking & Switching Technology, China)

Multi-Inference Offloading Strategy for Distributed Large Language Models in Industrial IoT

Yang Li, Tao Jing, Xuehan Li, Boyang Zhang, Bo Gao and Minghao Zhu (Beijing Jiaotong University, China)

High-Accuracy Electromagnetic Parameter Calibration for Ray Tracing Based Channel Modeling by Chaos-Enhanced Gray Wolf Optimization

Changyou Tai (, China); Pan Tang, Peijie Liu, Zirui Xu, Chengze Gu and Jianhua Zhang (Beijing University of Posts and Telecommunications, China)

Tuesday, April 14 9:00 - 10:30

MLO 2: AI-based Optimization and Explainable AI II

Room: 405

Chair: Yaru Fu (Hong Kong Metropolitan University, Hong Kong)

Task Offloading in 3D Edge Computing Networks

Renata K. G. dos Reis (Universidade Federal de Pernambuco (UFPE), Brazil); Caio B. B. Souza (Universidade Federal de Pernambuco, Brazil); Marcos Falcão and Andson M Balieiro (Federal University of Pernambuco, Brazil); Tarik Taleb (Ruhr University Bochum, Germany)

Dynamic Carbon-Aware Hybrid Task Offloading for Collaborative Edge-Cloud Computing

Pin-Chun Chen, Li-Hsing Yen, Yan-Wei Chen, Ze-Yu Jin and Chien-Chao Tseng (National Yang Ming Chiao Tung University, Taiwan)

Uncertainty-Aware Bi-Level Robust Beamforming Optimization for 6G Cell-Free RAN

Xiaoja Wang, Jianhua Tang and Miaowen Wen (South China University of Technology, China)

PR-EML: Physics-Respecting and Explainable Machine Learning for Proactive Multi-Band Adaptation in UAV-V2X Networks

Omar Ahmad (University of Western Ontario, Canada); Mostafa Fouda (Idaho State University, USA); Mohamed I. Ibrahim (Augusta University, USA); Zubair Md Fadlullah (University of Western Ontario, Canada)

Dynamic Optimization of per-UE RAN Parameters Based on Latency Tolerance via Deep Learning

Eiji Takahashi, Takeo Onishi, Yoshiaki Nishikawa and Katsunori Date (NEC Corporation, Japan)

Tuesday, April 14 9:00 - 10:30

MLO_IS1: Federated Learning

Room: Exhibition Hall IS 1

Chair: Shengjie Liu (Beihang University, China)

Massive Digital AirComp with Vector Quantization and Bidirectional Links for FEEL

Wenting He, Xiangdong Jia and Wenyan Liang (Northwest Normal University, China)

Costs and Incentives for Data Owners to Participate in Federated Learning Seen Through Game Theory

Abbas Zal, Alessandro Buratto and Thomas Marchioro (University of Padova, Italy); Leonardo Badia (Università degli Studi di Padova, Italy)

Online Client Association and Adaptive Modulation in Hierarchical Federated Learning

Gael S. Mubibya, Lionel Kilimtetou and Elmahdi Driouch (Université du Québec à Montréal, Canada)

Adaptive Federated Control: An Event-Driven MARL Framework for Fair and Efficient Traffic Management

Christina Alhachem (CEA, France & UTC, France); Mounir Kellil (CEA LIST, France); Thomas Marchioro (Université Paris-Saclay, CEA, List, France); Abdelmadjid Bouabdallah (Université de Technologie - Compiègne, France)

GRAPE: Gossip-Based Representation Alignment Using Prototypical Embeddings for Heterogeneous IoT Devices

Saira Bano (University of Foggia, Italy); Gianluca Rizzo (HES SO Valais, Switzerland & Università di Torino, Italy)

Tuesday, April 14 9:00 - 10:30

PHY 1: MIMO Communications I

Room: 408

Chair: Abdeldjalil Aïssa-El-Bey (IMT Atlantique, France)

Optoelectronic Precoding for Wideband Multiuser Massive MIMO Systems

Xiaofeng Su (Tsinghua University, China); Jian Song (Tsinghua University & Beijing National Research Center for Information Science and Technology & Key Lab of DTV System of Guangdong & Shenzhen, Research Institute of Tsinghua University in Shenzhen, China); Jintao Wang (Tsinghua University, China); Harald Haas (University of Cambridge, United Kingdom (Great Britain))

Multiplicative Updates Beamforming Design for Hybrid Fully-Connected Millimeter-Wave MIMO Systems

Baghdad Hadji (University of Saida, Algeria & LISIC Laboratory, University of Science and Technology Houari Boumediene, Algeria); Abdeldjalil Aïssa-El-Bey (IMT Atlantique, France); Fergani Lamy (University of Science and Technology Houari Boumediene USTHB, Algeria); Mustapha Djeddou (National Polytechnic School, Algiers, Algeria)

Ring Bayes near-Field Channel Learning for mmWave Hybrid MIMO Systems Employing Uniform Circular Array

Abhisha Garg (Indian Institute of Technology, Kanpur, India); Priya Gupta (Indian Institute of Technology, Jodhpur, India); Suraj Srivastava (Indian Institute of Technology Jodhpur, India); Aditya K Jagannatham (Indian Institute of Technology Kanpur, India)

Single-RF Based XL-MIMO Empowered by Stacked Intelligent Metasurface

Zongze Fu (University of Electronic Science and Technology of China, China); Hu Zhou (The Hong Kong Polytechnic University, Hong Kong); Ying-Chang Liang (University of Electronic Science and Technology of China, China)

Divergence Meets Dispersion: Efficient Wideband Beam Training for XL-MIMO

Ran Li (The Chinese University of Hong Kong, Hong Kong); Ziyi Xu (Chinese University of Hong Kong, Hong Kong); Wei Guo (The Hong Kong University of Science and Technology, Hong Kong); Ying Jun (Angela) Zhang (The Chinese University of Hong Kong, Hong Kong)

Tuesday, April 14 9:00 - 10:30

PHY 2: Integrated Sensing and Communications I

Room: 409

Chair: Manlin Wang (Shanghai Jiao Tong University, China)

Implementation of a Broadband ISAC System Based on Real-Time Channelization and DoA-Aided Beamforming Optimization

Qian Zhang, Feng He, Chi Jin and Yongzhou Yang (Beihang University, China)

ISAC-Enabled Covert Communications Under Sensing-Specific CSI

Manlin Wang (Shanghai Jiao Tong University, China); Feng Yang (Shanghai Jiaotong University, China); Bin Xia (Shanghai Jiao Tong University, China)

Duality-Based Fixed Point Iteration Algorithm for Beamforming Design in ISAC Systems

Xilai Fan (Chinese Academy of Sciences, China); Ya-Feng Liu (Beijing University of Posts and Telecommunications, China)

CRLB and Parameter Estimation for OFDM-ISAC with Non-Uniform Sparse Resource Allocation

Wenjie Zhang, Qianglong Dai and Xiaoli Xu (Southeast University, China); Ruoguang Li (Hohai University, China); Yong Zeng (Southeast University, China)

Robust UE-Assisted Sensing with Anchor Position Uncertainty for 6G ISAC

Xianzhen Guo, Shuowen Zhang and Liang Liu (The Hong Kong Polytechnic University, Hong Kong)

Tuesday, April 14 9:00 - 10:30

PHY_IS1: Physical Layer and Communication Theory

Room: Exhibition Hall IS 1

Leveraging Dual Channel Correlation for Grant-Free Massive Random Access: A Hybrid Message Passing Approach

Xiaofeng Liu (Yancheng Teachers University, China); Xiao Fu (Southeast University, China); Xinrui Gong (Purple Mountain Laboratories, China); Chen Sun and Xiqi Gao (Southeast University, China)

MML-Based 3D Channel Fingerprints Construction for Low-Altitude Communications

Chenjie Xie and Li You (Southeast University, China); Ruirong Chen (Huawei Technologies Co., Ltd., China); Gaoning He (Huawei Technologies, China); Xiqi Gao (Southeast University, China)

Efficient Beamforming for Discrete SIM-Aided Multiuser Systems Under Statistical CSI

Yuhui Jiao, Qian Zhang, XueJun Cheng and Yunxiao Li (Shandong University, China); Yufei Zhao (Nanyang Technological University, Singapore); Ju Liu (Shandong University, China); Yong Liang Guan (Nanyang Technological University, Singapore)

Block-Sparsity-Aware Message Passing Algorithm for Wavenumber-Domain Holographic MIMO Channel Estimation

Fei Wang, Jianping Zheng, Yuming Gao and Shuai Lu (Xidian University, China)

From CSI to BFI: Calibration for Wi-Fi Sensing

Zhiyuan He, Shanyi Ke and Desheng Wang (Huazhong University of Science and Technology, China)

Tuesday, April 14 2:00 - 3:30

ETNA 3: Satellite Communications 3

Room: 406

Interference Modeling and Performance Analysis of LEO Satellite Networks Based on Beam Hopping

Shihao Zhang (Southeast University, China); Songjiang Yang (Purple Mountain Laboratories, China); Jie Huang (Southeast University, China); Cheng-Xiang Wang (Southeast University, China & Purple Mountain Laboratories, China); Ke Wang (Beijing University of Posts and Telecommunications, China)

Turning Reliability into Shortest Path: Parameterized Probabilistic Routing for LEO Satellite Networks

Yu Guo (University of California, Los Angeles, USA); Lidong Zhu (University of Electronic Science and Technology of China, China)

Low-Complexity Precoder Design for Massive MIMO LEO Satellite Multicast Communications

Yuhao Zhang (Southeast University, China); Ding Shi (Purple Mountain Laboratories, China); Xuzhong Zhang, Ziyu Xiang, Chen Sun and Xiqi Gao (Southeast University, China); Xiang-Gen Xia (University of Delaware, USA)

Joint Predictive Handover and Resource Allocation in Satellite-Terrestrial Integrated Networks

Yiru Wang, Heng Liu, Shiqi Gong, Tao Yu and Chengwen Xing (Beijing Institute of Technology, China)

Service Function Chain Routing in LEO Networks Using Shortest-Path Delay Statistical Stability

Li Zeng (The Hong Kong University of Science and Technology, Hong Kong); Zixin Wang (Hong Kong University of Science and Technology, China); Yuanming Shi (ShanghaiTech University, China); Khaled B. Letaief (The Hong Kong University of Science and Technology, Hong Kong)

Tuesday, April 14 2:00 - 3:30

ETNA 4: Satellite Communications 4

Room: 407

Massive Beam Scheduling in LEO Systems: Low Complexity via Effective Interference Approximation

Xiaohui Zhao (Xi'an Jiaotong University, China); Zhanwei Yu (Uppsala University, Sweden); Lei You (Technical University of Denmark, Denmark); Lei Lei (Xi'an Jiaotong University, China); Di Yuan (Uppsala University, Sweden)

Study on Service Link Handover Optimization Algorithms for 5G NTN

Jihane Lghoury (Ericsson France, France & Toulouse-INP, France); Ioannis Xirouchakis (Ericsson France, France); Xiaotian Fu (Ericsson, France); Anestis Tsakmalis (Ericsson France, France)

Joint Cell-Satellite Association, Channel Assignment and Power Allocation in LEO Networks

Hung-Ping Hsu, Jang-Ping Sheu and Nguyen Van Cuong (National Tsing Hua University, Taiwan)

Comparative Analysis of Differential and Collision Entropy for Finite-Regime QKD in Hybrid Quantum Noisy Channels

Mouli Chakraborty (Trinity College Dublin & The University of Dublin, Ireland); Subhash Chandra (Trinity College Dublin, Ireland); Avishek Nag (University College Dublin, Ireland); Trung Q. Duong (Memorial University of Newfoundland, Canada); Mérouane Debbah (Khalifa University of Science and Technology, France); Anshu Mukherjee (University College Dublin, Ireland)

DRL-Enabled Latency-Aware UAV Relays for Integrated Satellite-Terrestrial Networks

Xintong Li (University of Electronic Science and Technology of China, China); Feng Wang (Singapore University of Technology and Design, Singapore); Chenxi Liu (Beijing University of Posts and Telecommunications, China); Lixia Xiao (Huazhong University of Science and Technology, China); Lidong Zhu (University of Electronic Science and Technology of China, China); Tony Q. S. Quek (Singapore University of Technology and Design, Singapore)

Tuesday, April 14 2:00 - 3:30

ETNA_IS2: Emerging Technologies, Network Architectures, and Applications

Room: Exhibition Hall IS 2

GRLP-Based Resource Allocation for Multimodal Semantics and Bit Coexistence Communication in Heterogeneous Vehicle Networks

Chen Jicai, Yu Zhang, Weidang Lu, Yunqi Feng and Huimei Han (Zhejiang University of Technology, China)

Single-UAV Synthetic-Aperture Passive Localization via Spatial Vector Backprojection

Ziming Xu, Hao Huan and Ran Tao (Beijing Institute of Technology, China)

Energy-Efficient Zero-Touch Operation via Cell Utilization xApp on RIC-TaaP

Abdelrhman Soliman (5G Software Engineer, Egypt); Mina Yonan, Principal (Principal R&D, Egypt & Orange, France); Mostafa Ashraf (Cpp Software Developer, Egypt); Aya Kamal (5G Software Engineer, Egypt); Kamil Kociszewski (Orange & Orange Innovation Poland, Poland); Ahmed ElSanhoury, Sr (Orange Innovation Centre, Egypt); Ayman Mostafa Hassan (Benha University, Egypt); Fabrice M. Guillemin (Orange Labs, France)

Bayesian Learning for Sparse Channel Estimation in Underwater Visible Light DCO-OFDM Systems

Shubham Saxena and Karra Sreeman Reddy (Indian Institute of Technology Kanpur, India); Suraj Srivastava (Indian Institute of Technology Jodhpur, India); Subrahmanya Swamy Peruru (Indian Institute of Technology, Kanpur, India); Aditya K Jagannatham (Indian Institute of Technology Kanpur, India)

PowerCloak: Differential Privacy-Based Power Perturbation for Location Privacy in UAV-Enabled Wireless Powered Communication Networks

Zijian Xiang, Peng Zhang, Minghui Min and Shiyin Li (China University of Mining and Technology, China); Ruichen Zhang and Dusit Niyato (Nanyang Technological University, Singapore); Zhu Han (University of Houston, USA)

An Eigen-Based High-Precision AoA Estimation for Frequency-Mixing RIS-Assisted Positioning

Yulin Su, XiangLin Shi, Jide Yuan and Yuli Yang (Soochow University, China)

PBFT-AdaGossip: A Robust Consensus Strategy for Post-Disaster Wireless Collaborative Networks

Zixu Zhou, Xuefei Zhang, Qimei Cui and Xiaofeng Tao (Beijing University of Posts and Telecommunications, China)

A Novel Algorithm for Automated Service Graph Generation in Cloud/Edge-Native Systems

Weiyang Qian and Rodolfo W. L. Coutinho (Concordia University, Canada); Azzedine Boukerche (University of Ottawa, Canada)

Tuesday, April 14 2:00 - 3:30

MAC_IS2: Advanced Protocols and Architectures for Next-Generation Networks

Room: Exhibition Hall IS 2

An Elastic Clustering Framework for Large-Scale WSNs Maximizing Network Lifetime

Quan A Le (Hanoi University of Science and Technology, Vietnam); An D Vu and Khanh-Van Nguyen (Hanoi University of Science and Technology, Vietnam)

Synchronization-Aware Cooperative MIMO for Kappa-Mu Faded Underwater Channels Using Hybrid Acoustic and Magnetic Induction

Xuyang Wu (South-Central Minzu University, China); Guanghua Liu (Huazhong University of Science and Technology, China); Zhangyu Li (South-Central Minzu University, China)

Multiuser Semi-Full-Duplexing with User Paring and Power Allocation

Jinho Choi (The University of Adelaide, Australia); Seunghyun Oh (Kyung Hee University - Global Campus, Korea (South)); Mubasher Ahmed Khan (Kyunghee University, Korea (South)); Yun Hee Kim (Kyung Hee University, Korea (South))

Redundancy-Aware, Delay-Constrained Candidate Coordination for Opportunistic Routing in Low-Altitude Networks

Yufeng Ye, Xiangyin Zhang, Wanzhi Ma, Zipei Yu, Kaiyu Qin and Ying Liu (University of Electronic Science and Technology of China, China); Hui Tan and Yuxin Liu (China Ship Development and Design Center, China)

Tuesday, April 14 2:00 - 3:30

MAC3: Aol/Synchronization

Room: 402

Chair: Satoshi Yamazaki (Tokai University, Japan)

Age of Information Analysis of Mobile Edge Computing for Integrated HAP and UAV Networks

Xu Zhang (Xidian University, China); Muyu Mei (Jiangsu University, China); Yanxi Zhang, Dongqi Yan and Mingwu Yao (Xidian University, China)

A High-Precision Assisted Timing Support Mechanism for Edge Access Points

Chellappan Pillai Sreedevi Ullas Kumar (National University of Singapore, Singapore); Ahmad Byagowi (University of Manitoba, Canada); Biplob Sikdar (National University of Singapore, Singapore)

Average Age of Synchronization in Status Update System with Periodic Updating

Lunyuan Chen and Jie Gong (Sun Yat-sen University, China)

5G-TSN Time Synchronization: An Empirical Study

Minh-Thuyen Thi and Mohamed El Amine Chabane (Université Paris-Saclay, CEA, List, France); Siwar Ben Hadj Said (CEA LIST, France)

A Distributed Offloading Strategy Considering Information Freshness in Drone Swarms

Guanchen Lin and Yitong Liu (Beijing University of Posts and Telecommunications, China); Juan Deng, Yingping Cui and Zhimin He (China Mobile Research Institute, China); Hongwen Yang (Beijing University of Posts and Telecommunications, China)

Tuesday, April 14 2:00 - 3:30

MLO 3: Data-driven modeling and wireless-system datasets I

Room: 403

Chair: Liang Liu (The Hong Kong Polytechnic University, Hong Kong)

Multipath Constrained Deep Channel Prediction Model for Indoor Radio Environment Mapping and Radiation Source Localization

Kui Wang (Institute of Information Engineering, China); Yanyun Xu and Meng Zhang (Chinese Academy of Sciences, China)

Neural Beam Field for Spatial Beam RSRP Prediction

Keqiang Guo, Yuheng Zhong, X. Tong and Jiangbin Lyu (Xiamen University, China); Rui Zhang (National University of Singapore, Singapore)

Sequence-Based Deep Learning for Handover Optimization in Dense Urban Cellular Networks

Muhammad Kabeer (Sunway University, Malaysia & Federal University Dutsinma, Nigeria); Rosdiadee Nordin, Mehran Behjati and Sian Lun Lau (Sunway University, Malaysia)

CKM Beyond Channel Gain: Spatial Correlation Map Construction with Deep Learning

Zhitong Chen, Shen Fu, Yong Zeng and Xiaoli Xu (Southeast University, China); Zhiqiang Wei (Xi'an Jiaotong University, China)

MR-Former: Location-Agnostic RSRP Prediction via Masked Reconstruction in Beam Space

Mian Li (The Chinese University of Hong Kong, Shenzhen, China); Shuai Gao (Tongji University, China); Lei Wei (Huawei Technologies, China); Tsung-Hui Chang (The Chinese University of Hong Kong, Shenzhen, China); Qingjiang Shi (Tongji University, China)

Tuesday, April 14 2:00 - 3:30

MLO 4: Data-driven modeling and wireless-system datasets II

Room: 404

Chair: Zhizheng Lu (Southeast University, China)

One-Step Generative Channel Estimation via Average Velocity Field

Zehua Jiang, Fenghao Zhu, Siming Jiang, Chongwen Huang, Zhaohui Yang, Richeng Jin and Zhaoyang Zhang (Zhejiang University, China); Mérouane Debbah (Khalifa University of Science and Technology, France)

Signal Augmentation and Pseudo-Labeling for Semi-Supervised Automatic Modulation Classification

Xianglin Wei (National University of Defense Technology, China); Chao Wang (National University of Defense Technology & The 63rd Research Institute, China); Fan Jianhua (The 63rd Research Institute, National University of Defense Technology, China)

On the Limitations of Ray-Tracing for Learning-Based RF Tasks in Urban Environments

Armen Manukyan, Hrant Khachatrian and Edvard Ghukasyan (Yerevan State University, Armenia); Theofanis P Raptis (IIT-CNR, Italy)

Deviation-Aware Trajectory Embedding for Fine-Tuning Triggering in DRL-Based Wireless Network Resource Management

Wei-Jhih Huang, Jin-Min Yang, Ning Ma, Sheng-Liang Wu and Chih-Wei Huang (National Central University, Taiwan)

Synthetic Cellular Network Modeling via Public Data and AI-Enhanced KPI Modeling

Rumeysa Isildak, Mohamed Chraïti and Ozgur Ercetin (Sabanci University, Turkey)

Tuesday, April 14 2:00 - 3:30

MLO 5: Deep Learning

Room: 405

Chair: Yue Liu (Macao Polytechnic University, Macao)

Deep Learning-Based Zak-OTFS Receiver with Embedded and Interleaved Pilots

Naveed Nazir (Indian Institute of Science, Bangalore, India); A. Chockalingam (Indian Institute of Science, India)

Computation-Efficient Multi-Scale Multi-Granularity Framework for Mobile Traffic Forecasting via Hierarchical Coherence

Xiaoyu Wang (National Institute of Informatics, Japan); Yusheng Ji (National Institute of Informatics, Japan & Graduate University for Advanced Studies, Japan); Kensuke Fukuda (National Institute of Informatics, Japan)

Deep Learning Augmented Wireless Channel Estimation: Over the Air Training and Validation

Asrar ul haq Syed and Aadya (IIIT Delhi, India); Sumit Jagdish Darak (IIIT-Delhi, India)

Channel Estimation for Pinching Antennas Systems Using Deep Learning

Abdulmajid Lawal (King Fahd University of Petroleum and Minerals, Saudi Arabia); Azzedine Zerguine (KFUPM, Saudi Arabia); Xiangjun Ma (Anhui University of Finance & Economics, China); Mohammed Salih Mohammed Gismalla (King Fahd University of Petroleum and Minerals, Saudi Arabia)

Multi-Agent Data Collection and Delivery Under Intermittent Sensing with Deep Reinforcement Learning

Robert T Lattus and John M Shea (University of Florida, USA)

Tuesday, April 14 2:00 - 3:30

MLO_IS3: Deep Learning

Room: Exhibition Hall IS 3

Reference Signal Received Power Prediction for Measurement Gap Reduction

Ozan Aygün (New York University, USA); Oner Orhan (Apple, USA); Onur Sahin (InterDigital, Inc., USA); Norman Goris (Apple Inc, Germany); Ayman Naguib (Apple Inc., USA)

Adversarial Training: Enhancing Out-of-Distribution Generalization for Learning Wireless Resource Allocation

Shengjie Liu and Chenyang Yang (Beihang University, China)

Split Channel Based CSI Auto-Encoder for Resource Limited Devices

Ankit Dhabriya (Samsung Semiconductor India Research, India); Vamshidhar Kamuganti (Samsung Electronics, India); Sarvesha Anegundi Ganapathi (Samsung India, India)

Learning Codes and Decoders Simultaneously: A Cross-Attention Transformer Approach

Elaheh Bassak and Elvino Silveira Sousa (University of Toronto, Canada)

HMNet: A Hybrid Multi-Resolution Network with Local Uniform Quantization for Low-Complexity CSI Feedback

Bolin Yan, Zhijun Wang, Mingwei Yan, Wu Guan and Liping Liang (Beijing University of Posts and Telecommunications, China)

Joint Client-Edge Association and Resource Allocation for Hierarchical Federated Learning in Wireless Sensor Networks

Hossein Savadkoohian (Ecole de Technologie Superieure ETS Montreal, Canada); Kim Khoa Nguyen (École de Technologie Supérieure, Canada)

Multipoint Wi-Fi Fingerprinting Indoor Localization via Transformer-Based Graph Attention

Amirreza Zameni, AmirHossein Jadidi and Babak Hossein Khalaj (Sharif University of Technology, Iran)

Sensing-Task-Oriented Generative Channel Model for 6G Integrated Sensing and Communications

Yatao Hu and Yi Chen (Dalian University of Technology, China)

Deep Unfolded Hybrid Beamforming for NOMA-Enabled Joint Sensing and Communication

Ankur Raj and Himanshu Upadhyay (IIIT Sri City, India); Mayur Vitthalrao Katwe (National Institute of Technology Raipur, India); Lokendra Chouhan (IIIT Sri City, India & ANRF, India); Aryan Kaushik (OUF Innovative, RakFort & IIITD, United Kingdom (Great Britain))

Tuesday, April 14 2:00 - 3:30

PHY 3: MIMO Communications II

Room: 408

Chairs: Raed Mesleh (German Jordanian University, Jordan), Yumeng Zhang (The Hong Kong University of Science and Technology, Hong Kong)

A Novel Pilot Scheme for Uplink Channel Estimation in XL-MIMO Systems

Yumeng Zhang (The Hong Kong University of Science and Technology, Hong Kong); Huayan Guo (The Hong Kong University of Science and Technology, China); Vincent Lau (Hong Kong University of Science and Technology, Hong Kong)

Hexa-Steiner Space Modulation: A Combinatorial Design Approach for Enhanced MIMO Spectral Efficiency

Khadiga Eltira (University of Benghazi, Libya); Raed Mesleh (German Jordanian University, Jordan); Abdelhamid Younis (University of Benghazi, Libya)

Low-PAPR Channel Estimation for MIMO-OTFS Systems via Embedded Pilot Codes

Tanay Agrawal and Ravi Kadlimatti (Birla Institute of Technology and Sciences, Pilani, India)

Low-Complexity Overlapped Subarrays Based Hybrid Precoding for Beam Squint Mitigation in Massive MIMO Systems

Yiming Qiao and Xu Zhu (Harbin Institute of Technology, Shenzhen, China); Bowen Zhong (Nanyang Technological University, Singapore); Zhongxiang Wei (Tongji University & School of Electronics and Information Engineering, China); Zhixiang Xu (Harbin Institute of Technology, Shenzhen, China); Zhang Yun (Harbin Institute of Technology, China)

Soft Information Aided Diagonal Kalman Filter for Joint Channel Estimation and Detection in Massive MIMO Systems

Xuanxiang Hu, Zheng Wang and Yongming Huang (Southeast University, China); Zhen Gao (Beijing Institute of Technology, China)

Tuesday, April 14 2:00 - 3:30

PHY 4: Integrated Sensing and Communications II

Room: 409

Two-Timescale Uplink Channel Estimation for Networked ISAC Systems Using Downlink Assistance and Cooperative Sensing

Xiaoyu Yang (Beijing University of Post and Telecommunications, China); Zhiqing Wei, Huici Wu and Zhiyong Feng (Beijing University of Posts and Telecommunications, China)

Large-Language-Model Based Beamforming Prediction for Sensing-Aided Communication

Jifa Zhang (Dalian University of Technology, China); Ruichen Zhang (Nanyang Technological University, Singapore); Na Deng (Dalian University of Technology, China); Chengwen Xing (Beijing Institute of Technology, China); Nan Zhao (Dalian University of Technology, China); Naofal Al-Dhahir (University of Texas at Dallas, USA); George K. Karagiannidis (Aristotle University of Thessaloniki, Greece)

Optimal Transmit Beamforming for MIMO ISAC with Unknown Target and User Locations

Yizhuo Wang and Shuowen Zhang (The Hong Kong Polytechnic University, Hong Kong)

Secure Cell-Free Massive MIMO ISAC Systems: Joint AP Selection and Power Allocation Against Eavesdropping

Ruiguang Wang, Takumi Takahashi and Hideki Ochiai (The University of Osaka, Japan)

A Secure ISAC Waveform Design Framework via Random Frequency and PRI Agility

Ali Khandan Boroujeni (Barkhausen Institute gGmbH Dresden, Germany); Hyeon Seok Rou (Constructor University, Germany); Ghazal Bagheri (Dresden, University of Technology, Germany); Giuseppe Thadeu Freitas de Abreu (Constructor University, Germany); Stefan Köpsell (TU Dresden, Germany); Kuranage Roche Rayan N Ranasinghe (Constructor University, Germany); Rafael F. Schaefer (Technische Universität Dresden, Germany)

Tuesday, April 14 2:00 - 3:30

PHY_IS2: Physical Layer and Communication Theory

Room: Exhibition Hall IS 2

A Multi-Layer BATS Code for Multi-Hop Networks with Partial Channel Status Information

Xiaoran Wang (Sun Yat-sen University, China); Kai Huang (Sun Yat-Sen University, China); Chunpeng Chen and Jinbei Zhang (Sun Yat-sen University, China); Jingjing Luo (Harbin Institute of Technology, Shenzhen, China)

Exact Minimum-Weight Codewords of Shortened Polar Codes and New Code Constructions

Nuwan Janaranga Galabada Kankanamge (The University of Akron, USA); Nghi H Tran (University of Akron, USA); Khanh D. Pham (Air Force Research Laboratory, USA & University of New Mexico, USA)

Design of near-ML Performance PAC Codes with Moderate SCL Decoding Complexity

Afaf Alaoui Mrani (University of Bordeaux & IMS Laboratory, France); Romain Tajan (Bordeaux INP & IMS Laboratory, France); Camille Leroux (IMS Lab - Bordeaux INP, France); Christophe Jego (IMS CNRS Laboratory & Bordeaux INP / ENSEIRB-MATMECA, France)

Resource Efficient Digital Predistortion Using the Orthogonal Matching Pursuit Algorithm

Smriti Keshri (Indian Institute of Technology Roorkee, India); Aditya Kumar (Indian Institute of Technology, Roorkee, India); Meenakshi Rawat (Indian Institute of Technology Roorkee, India)

Timing Recovery and Sequence Detection for Integrate-and-Fire Time Encoding Receivers

Neil Irwin Bernardo (University of the Philippines Diliman, Philippines)

Tuesday, April 14 4:00 - 5:30

ETNA 5: Quantum Communications

Room: 403

DCoRE-QML: Communication-Efficient and Robust Distributed Quantum Machine Learning

Himanshu Sahu and Hari Prabhat Gupta (Indian Institute of Technology (BHU) Varanasi, India)

RIS-Empowered CV-QKD THz MIMO Communications: SKR Analysis and Optimization

Sushil Kumar and Soumya P Dash (Indian Institute of Technology Bhubaneswar, India); George C. Alexandropoulos (University of Athens & University of Illinois Chicago, Greece)

Q-Sentinel: Towards Adversarial Robustness for Quantum-Classical xApps in Intelligent O-RAN

Yared Abera Ergu and Po-Ching Lin (National Chung Cheng University, Taiwan); Ren-Hung Hwang (National Yang Ming Chiao Tung University, Taiwan); Van-Linh Nguyen (National Chung Cheng University & College of Engineering, Taiwan)

Qudit Selection for Amplitude Damping Quantum Channel

Kollipara Gopala Krishna Parthiv, Neha Tiwari and Dharmaraja Selvamuthu (IIT Delhi, India)

Modelling Quantum Networking with Teleportation

Shiva Raj Pokhrel (Deakin University, Australia & Nepal Telecom, Nepal)

Tuesday, April 14 4:00 - 5:30

ETNA 6: Unmanned Aerial Vehicles Networks 1

Room: 406

UAV-Enabled Covert and Secure Communication Against Cooperative Detection and Eavesdropping

Peng Wu (Wuhan University, China); Xiaopeng Yuan (RWTH Aachen University, Germany); Yulin Hu (Wuhan University, China & RWTH Aachen University, Germany); Anke Schmeink (RWTH Aachen University, Germany)

APFly: A UAV Trajectory Optimization Algorithm via Artificial Potential Field for IoT Data Collection

Bingzhen Xie, Xin Cui, Ang Li, Jiayi Zhao and Kuangyu Zheng (Beihang University, China); David López-Pérez (Universitat Politècnica de València, Spain)

Falcon: Random Network Distillation Enhanced Energy-Efficient Scheduling in Heterogeneous UAV-Enabled Edge Computing

Xin Cui, Bingzhen Xie, Jiayi Zhao, Aolin Zhang and Kuangyu Zheng (Beihang University, China)

Optimized Deployment of HAPS Systems for GNSS Localization Enhancement in Urban Environments

Hongzhao Zheng (Carleton University, Canada); Mohamed Atia (Carleton University & Queen's University, Canada); Halim Yanikomeroglu (Carleton University, Canada)

Attention and Curiosity Based Reinforcement Learning Approach for Drone Collision Avoidance

Tejeddine Lakhal, Asma Hamissi and Amine Dhraief (University of Manouba, Tunisia); Layth Sliman (EFREI- Paris, France)

Tuesday, April 14 4:00 - 5:30

ETNA 7: Unmanned Aerial Vehicles Networks 2

Room: 407

Enabling Reliable and Scalable Urban Air Mobility Communications Through 6G Network Slicing

Alex Piccioni (University of L'Aquila, Italy); Andrea Marotta (University of L'Aquila, Italy & WEST Aquila SRL, Italy); Claudia Rinaldi (CNIT National Inter-University Consortium for Telecommunications, Italy); Dajana Cassioli (University of L'Aquila, Italy); Fabio Graziosi (University of L'Aquila, Italy)

DRS-TD3 for Joint Freshness and Energy Optimization in UAV-Assisted Energy-Harvesting Sensor Networks

Yi Chai and Jie Gong (Sun Yat-sen University, China)

A Multi-UAV Platform with 5G and NTN Backhaul for PPDR Scenarios

Diogo Correia, João Su and Rúben Gomes (University of Aveiro, Portugal); Pedro Valente (Universidade de Aveiro, Portugal & Instituto de Telecomunicações, Portugal); Pedro Rito (University of Aveiro, Portugal & Instituto de Telecomunicações, Portugal); Duarte Raposo (Instituto de Telecomunicações, Portugal); Susana Sargento (Universidade de Aveiro, Portugal)

Dynamic Server Allocation Under Stochastic Switchover on Time-Varying Links

Hossein Mohammadalazadeh (Hasso Plattner Institute, University of Potsdam, Germany); Holger Karl (Hasso Plattner Institute & University of Potsdam, Germany)

A Stochastic Two-Hop Message Delivery Scheme for UAV-Assisted Disaster Recovery IoT Networks

Christina T. El Sebaaly (American University of Beirut, Lebanon); Maurice J. Khabbaz (American University of Beirut, Lebanon & Concordia University, Canada)

Tuesday, April 14 4:00 - 5:30

MAC_IS3: Advanced Protocols and Architectures for Next-Generation Networks

Room: Exhibition Hall IS 3

Chair: Abdellah Chehri (Royal Military College of Canada, Canada)

Jamming Attacks on the Random Access Channel in 5G and B5G Networks

Wilfrid Azariah, Yi-Quan Chen, Zhong-Xin You and Ray-Guang Cheng (National Taiwan University of Science and Technology, Taiwan); Shiann-Tsong Sheu (National Central University, Taiwan); Binbin Chen (Singapore University of Technology and Design, Singapore)

Reinforcement Learning Based Multiple UE Link Selection in 5G mm-Wave Channels

Tomoya Kageyama, Hisashi Nagata, Shoki Ohta and Takayuki Yamada (NTT, Inc., Japan)

Reverse-Path-Aware Multicast Optimization in BATMAN-Adv for HaLow Mesh Networks

Kumar Murugesan (Technology Innovation Institute (TII), United Arab Emirates); Uma Maheswara (TII, United Arab Emirates); Kavin Kumar Thangadorai (Technology Innovation Institute (TII), United Arab Emirates & Indian Institute of Technology Madras (IIT Madras), India); Karthikeyan Arunachalam (Technology Innovation Institute, United Arab Emirates & Secure System Research Center, United Arab Emirates)

DGTS: Dependency-Aware GNN-Guided Proactive Task Scheduler for Cloud-Edge Systems

Jiaxu Jiang (National University of Singapore, Singapore); Alakesh Kalita (Indian Institute of Technology Dhanbad, India); Mohan Gurusamy (National University of Singapore, Singapore)

Tuesday, April 14 4:00 - 5:30

MAC4: Congestion Control

Room: 402

Chair: Zixiang Ren (NTU, Singapore)

GENIAL: A Genetic and Intelligent Adaptive Link Orchestrator for Mobile TSCH Networks

Martina Balbi (Analog Devices, France & Inria, France); Lance Doherty (Analog Devices, Ireland); Thomas Watteyne (Inria, France)

Routing Scheme in Networks: Reliability & Energy Efficiency

Xinbo Zhang and Houyu Zhou (City University of Hong Kong, Hong Kong); Xiaoxiao Zhang (Huawei Technologies, China); Yanwei Xu (Huawei Technology Investment Corporation, Ltd., Hong Kong)

INTo6: In-Band Network Telemetry over IPv6

Xiaochou Chen, Xinxin Xiong, Yi Xie, Yeyu Zhu, Jiahao Feng, Wenju Huang, Xijie Zeng, Xiang Qin and Shaojie Zheng (Xiamen University, China)

LQC: Cross-Layer Congestion Control Algorithm Based on Online Learning and Driver-Queue

Wu Feihong and Lingzhi Li (Soochow University, China)

RL-Driven Congestion Control in SDN-NDN

Bishal Kumar Nath and Nityananda Sarma (Tezpur University, India); Dilip Kumar Saikia (Tezpur University, India); Nabajyoti Medhi (Tezpur University, India)

Tuesday, April 14 4:00 - 5:30

MLO 6: Federated Learning I

Room: 404

Chair: Wensheng Lin (Northwestern Polytechnical University, China)

Incremental Vision Transformers for Zero-Day Attack Detection in NextG Wireless Networks

Andrea Di Matteo, Emilio Paolini and Luca Valcarengi (Scuola Superiore Sant'Anna, Italy); Nicola Andriolli (University of Pisa, Italy)

AdaptHFL: A Dual-Level Adaptive Optimization Framework for Hierarchical Federated Learning

Pi-Yu Yi, Te-Chuan Chiu and Jang-Ping Sheu (National Tsing Hua University, Taiwan)

Hierarchical Asynchronous Federated Learning over Space-Air-Ground Integrated Networks

Kai Wang and Chee Wei Tan (Nanyang Technological University, Singapore)

HFL-FlowLLM: Large Language Models for Network Traffic Flow Classification in Heterogeneous Federated Learning

JiaZhuo Tian and Yachao Yuan (Soochow University, China)

WCFL: Robust and Resource-Efficient Federated Learning Using Model Weight Caching

Ashutosh Kumar Sinha and Priyambada S (IIT Patna, India); Rahul Mishra (IIT Patna India, India); Hari Prabhat Gupta (Indian Institute of Technology (BHU) Varanasi, India)

Tuesday, April 14 4:00 - 5:30

MLO 7: Federated Learning II

Room: 405

Chair: Ruopeng Xu (Zhejiang University, China)

Multi-Tier Split Federated Learning for Multi-Level Personalization

Yeonwoo Choi (Kyung Hee University, Korea (South)); Dong-Jun Han (Yonsei University, Korea (South)); Christopher G. Brinton (Purdue University, USA); Minseok Choi (Kyung Hee University, Korea (South))

Clover GAI-IoV: Enabling Secure, Efficient, and High-Quality Generative AI in Vehicular Networks

Liang Ji (Jiangnan University, China); Yaru Fu (Hong Kong Metropolitan University, Hong Kong); Guanghui Li (Jiangnan University, China); Ricky Yu Kwong Kwok (Hong Kong Metropolitan University, Hong Kong)

FedLoad: Adaptive Partial Training for Model Heterogeneous Federated Learning

Bruno S. Martins (University of Campinas, Brazil & University of Bern, Switzerland); Eric Samikwa and Torsten Ingo Braun (University of Bern, Switzerland); Denis Lima Rosário (Federal University of Para, Brazil); Eduardo Cerqueira (Federal University of Para & UCLA & UFPA & UCLA, Brazil); Leandro Villas (University of Campinas, Brazil)

A Deep and Transfer Learning Approach for Handover Management in O-RAN

Ioannis Panitsas, Akrit Mudvari, Ali Maatouk and Leandros Tassioulas (Yale University, USA)

FLexHO: A Federated Learning Based Inter-Cell Handover Optimisation for Open 6G RAN

Batuhan Akdogan (Istanbul Technical University, Turkey); Ibrahim Hokelek (Tubitak Bilgem, Turkey); Hakan Cirpan (Istanbul Technical University, Turkey)

Tuesday, April 14 4:00 - 5:30

PHY 5: MIMO Communications III

Room: 408

Chair: Abhay Kumar Sah (IIT Roorkee, India)

Robust Non-Linear Transceiver Design for Multicarrier MIMO SWIPT

Yutong Lu, Peiran Wu, Xingxiang Peng and Tianheng Wang (Sun Yat-sen University, China)

Efficient CSI Feedback with Scalable Codebook Design for 6G XL-MIMO

Fan Wang (DOCOMO Beijing Labs, China); Xiaolin Hou (DOCOMO Beijing Communications Laboratories Co., Ltd, China); Xiang Li (DOCOMO Beijing Communications Laboratories, China); Lan Chen (DOCOMO Beijing Communications Laboratories Co., Ltd., China)

Uplink Performance Analysis of CF-mMIMO Networks with Unknown Interference

Yanfei Dou, Xiaomin Chen and Qiang Sun (Nantong University, China); Jiayi Zhang (Beijing Jiaotong University, China); Li Dong (Macau University of Science and Technology, Macao)

Improvement of Sounding Reference Signal in Advanced TDD Massive MIMO System

Lei Lu (Huawei Technologies Co., Ltd., China); Miguel Angel Gutierrez-Estevéz (Huawei Technologies, Germany); Chan Zhou (Huawei European Research Center, Germany); José Perdomo (Huawei Munich Research Center, Germany & Universitat Politècnica de València, Germany); Rong Tan (Huawei Munich Research Center, Germany)

Scalable Implementation of Adaptive Linear Channel Estimators for OFDM Systems on RF System-on-Chip

Shweta Rai, Lokesh Kolhe, Jayant Bahuguna and Abhay Kumar Sah (IIT Roorkee, India)

Tuesday, April 14 4:00 - 5:30

PHY 6: Integrated Sensing and Communications III

Room: 409

Chair: Rui Tian (Beijing University of Posts and Telecommunications, China)

Hybrid Beamforming Design for Finite-Blocklength Covert mmWave ISAC Systems

Xingyu Zhao, Yanze Han, Min Li, Ming-Min Zhao and Minjian Zhao (Zhejiang University, China)

Fundamental Trade-off and Resource Allocation for Cell-Free ISAC Under Fronthaul Constraints: A Deterministic Equivalent Analysis

Rui Tian, Xuanji Lu, Yiran Yang, Hao Wei and Xiqing Liu (Beijing University of Posts and Telecommunications, China); Nian Xia (Nanjing Normal University, China); Jinyan Li (China Telecom Technology Innovation Center, China); Mugen Peng (Beijing University of posts & Telecommunications, China)

Robust Graph-Spectral Jamming Detection in Cluttered Environments for ISAC Systems

Amirhossein Taherpour (Columbia U, USA); Abbas Taherpour (Imam Khomeini International University, Iran); Tamer Khattab (Qatar University, Qatar)

A THz with VLC Assisted ISAC System Under the Impact of Human Blockages

Hanshita Prabhakar (IIITD, India); Neetu R R (IIIT Delhi, India); Vivek A Bohara (Indraprastha Institute of Information Technology, Delhi, India)

Active RIS-Aided Secure ISAC with Artificial Noise for Sensing Performance Optimization

Jingjing Wu, Xiangdong Jia, Wenyan Liang and Hongli Bao (Northwest Normal University, China)

Tuesday, April 14 4:00 - 5:30

PHY_IS3: Physical Layer and Communication Theory

Room: Exhibition Hall IS 3

Toward Generalizable Device Identification with Radio Frequency Fingerprint

Thayheng Nhem and Maarten Weyn (University of Antwerp - imec, Belgium); Michael Peeters (IMEC & UA, Belgium); Rafael Berkvens (University of Antwerp - imec, Belgium)

Terahertz Underlay D2D Using RIS Partitioning: Ergodic Rate Analysis and Optimization

Justin Jose (Nanyang Technological University - NTU Singapore, Singapore); Narendra Vishwakarma (Pandit Deendayal Energy University Gandhinagar, India); A S Madhukumar (Nanyang Technological University, Singapore)

Mobility-Aware Predictive Beam Steering for Multi-Functional Metasurface-Assisted 6G Networks

Amirhossein Taherpour (Columbia U, USA); Abbas Taherpour (Imam Khomeini International University, Iran); Tamer Khattab (Qatar University, Qatar)

Quantifying Geometry Effects on Low-Cost Intelligent Reflecting Surfaces

Yizhi He, Sayed Amir Hoseini and Mahbub Hassan (University of New South Wales, Australia)

Joint Transceiver and Reconfigurable Intelligent Surface Design in mmWave MU-MISO Systems with Hardware Impairment and Imperfect CSI

Wei-Cheng Wang, Hsin-Yuan Chang and Wei-Ho Chung (National Tsing Hua University, Taiwan)

Wednesday, April 15

Wednesday, April 15 9:00 - 10:30

ETNA 8: Unmanned Aerial Vehicles Networks 3

Room: 406

Intelligent Trajectory Design for Free-Space Optical Assisted UAVs Relay Communications in Low-Altitude Airspace

Simeng Feng, Chenyan Gao and Wanting Wang (Nanjing University of Aeronautics and Astronautics, China); Baolong Li (Nanjing University of Information Science and Technology, China); Chao Dong and Qihui Wu (Nanjing University of Aeronautics and Astronautics, China)

UAV Path Planning for Joint Localization and Communications

Nguyen Van Cuong, Yao-Win Peter Hong and Jang-Ping Sheu (National Tsing Hua University, Taiwan)

Disrupting Multi-Robot Coordination: Strategic Sybil Attack on Exploration Algorithms

Rubal Sagwal (Birla Institute of Technology and Science, Pilani, Rajasthan, India); Vishal Gupta (BITS Pilani, India); Avinash Gautam (Birla Institute of Technology and Science, Pilani, India)

Multi-Target Imaging with OFDM Transmission for Low-Altitude Wireless Networks

Yihong Liu, Yuxiang Wu and Tengyu Zhang (Tsinghua University, China); Huihui Wu (Beijing Jiaotong University, China); Yucong Wang (Tsinghua University, China); Dongqi Luo (PengCheng Laboratory, China); Feifei Gao (Tsinghua University, China)

UAV Cooperative Transmission in Low-Altitude Heterogeneous Networks Based on Multi-Agent Reinforcement Learning

Chuanzi Wang, Chao Dong, Xiaojun Zhu and Jiahao You (Nanjing University of Aeronautics and Astronautics, China); Min Zhang (Nanjing University of Posts and Telecommunications, China)

Wednesday, April 15 9:00 - 10:30

ETNA 9: Unmanned Aerial Vehicles Networks 4

Room: 407

QTCAJOSA: Low-Complexity Joint Offloading and Subchannel Allocation for NTN-Enabled IoT

Xavier Alejandro Flores Cabezas, Konstantinos Ntontin, Ashok Bandi and Symeon Chatzinotas (University of Luxembourg, Luxembourg)

Deep Learning-Powered Behavioral Authentication and Anomaly Detection for UAV Systems

Bahia Zebbane (University of Science and Technology Houari Boumedienne (USTHB), Algeria); Sana Medjadba (University of Sciences and Technology Houari Boumediene, Algeria); Chafika Benzaid (University of Oulu, Finland & University of Sciences and Technology Houari Boumediene (USTHB), Algeria)

Contextual Thompson Sampling for Airborne RIS in mmWave-Enabled Metaverse Networks

Sherief Hashima (Research Scientist & RIKEN-Advanced Intelligence Project Japan, Japan); Ehab Mahmoud Mohamed (Aswan University, Egypt); Kohei Hatano (Kyushu University & RIKEN AIP, Japan); Eiji Takimoto (Kyushu University, Japan); Zubair Md Fadlullah (University of Western Ontario, Canada); Mostafa Fouda (Idaho State University, USA)

On-Demand Delivery Scheduling for UAVs with Heterogeneous Orders: A Hierarchical Reinforcement Learning Approach

Kaixin Chen, Bing Li and Rongqing Zhang (Tongji University, China)

SAR-OLSR: A Stable and Adaptive Routing Protocol for Flying Ad Hoc Networks

Wei Liu, Bihai Yang, Guowen Hu, Jing Mao and Yu Xia (Chongqing University of Technology, China)

Wednesday, April 15 9:00 - 10:30

ETNA_IS4: Emerging Technologies, Network Architectures, and Applications

Room: Exhibition Hall IS 4

Chair: Seung-Woo Ko (Inha University, Korea (South))

Threat Detection in Ethereum Smart Contracts Using a Hierarchical Depthwise Graph Convolutional Neural Network

Trung Hieu Le (University of Technology Sydney, Australia); Thuy T. Pham (University of Technology Sydney & Garvan Medical Institute, Australia); Diep N. Nguyen (University of Technology Sydney, Australia); Hoang Thai Dinh (University of Technology Sydney (UTS), Australia); Eryk Dutkiewicz (University of Technology Sydney, Australia)

Robust Beamforming for Digital Twin-Enabled RIS Systems: A Hierarchical Meta-Learning Approach

Xiaohui Gu (Nantong University, China); Guo-An Zhang (Electronic and Information School, Nantong University, Jiang-Su province, China)

Risk-Aware Learning for Digital Twin Placement in Non-Stationary Hierarchical Edge Computing

Maximilian Wirth (TU Darmstadt, Germany); Andrea Ortiz (Vienna University of Technology, Austria); Anja Klein (TU Darmstadt, Germany)

Deep Learning Based Time-Domain Precoding Extrapolation for Massive MIMO Systems

Hongyao Li (Xi'an High Tech Institute, China); Bo Lin (Tsinghua University, China); Huihui Wu (Beijing Jiaotong University, China); Feifei Gao (Tsinghua University, China)

Enabling Green Hybrid Networks with Plasmodesmata-Inspired Molecular Links

Imen Bekkari and Maurizio Magarini (Politecnico di Milano, Italy); Hamdan Awan (Munster Technological University, Ireland)

Room-Level Localization in Multistory Buildings via Multimodal Adaptive M-Estimation with LoRa

Shubham Pandey (IIT (BHU) Varanasi, India); Hari Prabhat Gupta (Indian Institute of Technology (BHU) Varanasi, India); S. V. Rao (Indian Institute of Technology, Guwahati, India)

Harnessing Poiseuille Flow for ISI-Resilient Molecular Communication: A Spatio-Temporal Focusing Approach

Yitong Zhang (Beijing Institute of Technology, China); Xiao Liu (Beijing University of Posts and Telecommunications, China); Chenxuan Wu, Hongzhen Pan, Zhaolan He, Hongfei Xu and Yongyi Dou (Beijing Institute of Technology, China)

Neural Network Approach for Real-Time Antenna Pattern Generation and EIRP Prediction

Aliye Ozge Kaya (Nokia Bell Labs, USA); Afef Feki (Nokia, France); Kamil Bechta (Nokia, Poland); Azra Zejnilagic (Nokia, Germany); Christophe Grangeat (Nokia, France)

Wednesday, April 15 9:00 - 10:30

MAC5: ISAC/Sensing

Room: 402

Chair: Abhisha Garg (Indian Institute of Technology, Kanpur, India)

Time-Frequency Feature-Based MultiSensor Collaborative Topology Inference for Non-Cooperative Environments

Jieyu Gao, Jie Li, Qihui Wu, Youbiao Wu and Haikuo Xu (Nanjing University of Aeronautics and Astronautics, China)

Medium Access for Multi-Cell ISAC Through Scheduling of Radar and Communication Tasks

João Henrique Henrique Inacio de Souza (Aalborg University, Denmark); Fabio Saggese (University of Pisa, Italy); Kun Chen-Hu (Universidad de Alcalá, Spain & Universidad Carlos III de Madrid, Spain); Petar Popovski (Aalborg University, Denmark)

SenSem: Integrated Sensing and Semantic Communications for Multi-Device Video Analytics

Yinghui He, Xin Li and Jun Luo (Nanyang Technological University, Singapore)

OTFS-Enabled ISAC Scheduling for LEO Satellite with Reconfigurable Holographic Surfaces Using a Transformer Approach

Sheikh Salman Hassan (The University of Edinburgh, United Kingdom (Great Britain)); Apurba Adhikary and Niloy Das (Noakhali Science and Technology University, Bangladesh); Sanjeev Sharma (IIT BHU, India); Tharmalingam Ratnarajah (San Diego State University, USA)

Identifying Reliable Optimality Criteria for 3D Anchor Configuration Through FIM-Based Analysis

Byongho Lee (Korea University, Korea (South)); Sangmin Lee (University of Korea, Korea (South)); Hyeontae Joo (Koera University, Korea (South)); Hwangnam Kim (Korea University, Korea (South))

Wednesday, April 15 9:00 - 10:30

MAC6: Security

Room: 403

Chair: Usama Mir (Wilfrid Laurier University, Canada)

A Novel User Authentication Scheme via LED Spectral Fingerprinting

Zhuoyang Wang, Chen Gong and Shangbin Li (USTC, China)

VGG19 Combined with TCN Network for Robust Detection of IoT Cybersecurity Threats

Khaled H Almotairi (Umm Al-Qura University, Saudi Arabia)

Covert Routing with DSSS Signaling Against Cycle Detectors

Swapnil Saha (Electrical and Computer Engineering, Rutgers University-New Brunswick, USA); Rahul Aggarwal (Rutgers, the State University of New Jersey, USA); Fikadu Dagefu (Army Research Laboratory, USA); Justin Kong (US Army Research Laboratory, USA); Jihun Choi (Army Research Lab & Booz Allen Hamilton, USA); Brian Kim (DEVCOM Army Research Laboratory, USA); Predrag Spasojević (Rutgers University, USA)

Session Aware Encrypted Traffic Classification with Contextual Position Selection

Yuanhao Geng, Zhannuo Li, Yao Yao, Yao Yao, Hongyi Chen, Tenzing Namgyal Bhutia and Usama Mir (Wilfrid Laurier University, Canada)

VERGE-IDS: Variational Encoder-BiGRU Based Framework for Threat Detection in IoT Networks

Siddhant Gond (Indian Institute of Information Technology, Guwahati, India); Bishal Chhetry, Rajdeep Kumar Dutta, Rakesh Matam and Ferdous Barbhuiya (Indian Institute of Information Technology Guwahati, India); Ashok Singh Sairam (Indian Institute of Technology Guwahati, India)

Wednesday, April 15 9:00 - 10:30

MLO 8: Large Language Models I

Room: 404

Chair: Yong Zeng (Southeast University, China)

Root Cause Analysis for Wireless Networks Using Causal Knowledge Graphs and a Large Language Model

Tatsuya Kikuzuki (Fujitsu Laboratories Ltd., Japan); Akihiro Wada (Fujitsu LTD., Japan); Yoshihiro Okawa (Fujitsu Limited, Japan); Masatoshi Ogawa (Fujitsu Laboratories Ltd., Japan)

Vision-Augmented LLM for Communication Beam Steering Compensation

Xiaoyu Xing, Dingyi Lu and Peng Yang (Beihang University, China); Zehui Xiong (Queen's University Belfast, United Kingdom (Great Britain)); Xianbin Cao (Beihang University, China); Tony Q. S. Quek (Singapore University of Technology and Design, Singapore)

Model Splitting and Computing Resource Allocation for Collaborative Edge-Device LLM Inference: A Transformer-Enhanced DRL Approach

Chen Xinzhu (Beijing University of Posts and Telecommunications, China); Fengxian Guo and Chenxi Liu (Beijing University of Posts and Telecommunications, China); Mugen Peng (Beijing University of posts & Telecommunications, China); Tony Q. S. Quek (Singapore University of Technology and Design, Singapore)

RAG-LLM Driven Generative Semantic Communication for UAV-Assisted Emergency Response Systems in Adverse Channel Conditions

Ziji Guo (Beijing University of Posts and Telecommunications, China); Xiaoyong Wu (Shanghai Radio Equipment Research Institute, China); Danpu Liu and Zhilong Zhang (Beijing University of Posts and Telecommunications, China)

Adaptive LLM Inference in 6G Vehicular Networks via Layer Pruning and Offloading

Yan Zhang and Huiru Li (Nanjing University of Aeronautics and Astronautics, China); Junhua Wang (Northeastern University in China, China); Xuewen Luo (Northeastern University, China); Kun Zhu (Nanjing University of Aeronautics and Astronautics, China); Zhu Han (University of Houston, USA)

Wednesday, April 15 9:00 - 10:30

MLO 9: Large Language Models II

Room: 405

Chair: Yumeng Zhang (The Hong Kong University of Science and Technology, Hong Kong)

Intent-Driven Network Optimization Copilot with a Dual-Check Cognitive Agent

Xuewen Chen, Yulei Wu, Ning Wang and Dimitra Simeonidou (University of Bristol, United Kingdom (Great Britain))

A Diffusion-Driven Learning Framework for Enhanced Predictive Channel Modeling in 6G Wireless Communications

Tong Wu and Chen Xiao Yu (Southeast University, China); Cheng-Xiang Wang (Southeast University, China & Purple Mountain Laboratories, China); Junling Li (Southeast University, China); Chen Huang (Purple Mountain Laboratories & Southeast University, China)

Dynamic Task Offloading with Active Inference and LLM Integration for Low-Altitude Networks

Yiwei Lu and Hongzhi Guo (Northwestern Polytechnical University, China); Dejun Mu (College of Automation, Northwestern Polytechnical University, China); Bomin Mao (School of Cybersecurity, Northwestern Polytechnical University, China); Yijie Xun (Northwestern Polytechnical University, China)

Large Language Models as Bidding Agents in Repeated HetNet Auction

Ismail Lotfi (Hamd Bin Khalifa University, Qatar); Ali Ghayeb (Hamad Bin Khalifa University, Qatar); Samson E Lasaulce (CRAN (CNRS - University of Lorraine), France); Mérouane Debbah (Khalifa University of Science and Technology, France)

ReaLM: Real-Time Channel Prediction with Distilled LLM

Bo Wang, Lin Li, Decan Zhao and Wensheng Lin (Northwestern Polytechnical University, China); Qinghe Du (Xi'an Jiaotong University, China); Lixin Li (Northwestern Polytechnical University, China)

Wednesday, April 15 9:00 - 10:30

MLO_IS4: Wireless Security

Room: Exhibition Hall IS 4

SafeCOMM: A Study on Safety Degradation in Fine-Tuned Telecom Large Language Models

Aladin Djuhera (Technische Universität München, Germany); Swanand Kadhe (IBM Research, USA); Farhan Ahmed (IBM, USA); Syed Zawad (University of Nevada, Reno, USA); Fernando Koch (Florida Atlantic University, USA); Walid Saad (Virginia Tech, USA); Holger Boche (Technical University Munich, Germany)

Toward an Intrusion Detection System for a Virtualization Framework in Edge Computing

Everton de Matos, Hazaa Alameri and Willian Tessaro Lunardi (Technology Innovation Institute, United Arab Emirates); Martin Andreoni (Technology Innovation Institute (TII), United Arab Emirates & Khalifa University, United Arab Emirates); Eduardo Viegas (Pontifical Catholic University of Parana (PUCPR), Brazil)

Minimizing the Total Energy Consumption in the HAPS-Aided MEC with UAV Eavesdropper

Yang Gao, Zhengwu Yang, Yunfei Fan and Qingqun Liang (Hainan University, China); Zengbo Xu (Shanghai University of Engineering Science, China)

An Entropy-Driven Gradient Variance Attack on Automatic Modulation Classification

Cheng Pan, Weijun Zeng, Ye Liu and Chuang Wang (Army Engineering University of PLA, China); Lei Zhu (Army Engineering University, China)

ViChan: A Dataset Generation Framework for Vision-Aided Channel Estimation with Deep Learning

Zhaojun Liu and Sixing Yin (Beijing University of Posts and Telecommunications, China)

Collaborative Multi-Agent Deep Reinforcement Learning for anti-Jamming Communication in UAV-Assisted Data Collection Systems

Xian Cheng, Haitao Zhao and Zhe Wang (National University of Defense Technology, China); Jiao Zhang (National University of Defense Technology, Changsha, China); Haijun Wang and Jun Xiong (National University of Defense Technology, China)

Wednesday, April 15 9:00 - 10:30

PHY 7: Iterative Techniques

Room: 408

Chair: Mahmoud Ahmed Albreem (University of Sharjah, United Arab Emirates)

Improved Data Detection Scheme for Massive MIMO Systems

Mahmoud Ahmed Albreem, Kirill Vyskubov, Doaa Abueida and Saeed Abdallah (University of Sharjah, United Arab Emirates); Shahriar Shahabuddin (Oklahoma State University, USA)

HF Skywave Massive MIMO Communications with Interference Sparsity-Aware Turbo Receiver

Linfeng Song and Rui Sun (Southeast University, China); Ding Shi (Purple Mountain Laboratories, China); Yanbo Yu, An-An Lu and Xiqi Gao (Southeast University, China); Geoffrey Ye Li (Imperial College London, United Kingdom (Great Britain)); Xiang-Gen Xia (University of Delaware, USA)

Cross Splitting Based Information Geometry Approach for XL-MIMO Uplink Detection

Wenjun Zhang, An-An Lu and Xiqi Gao (Southeast University, China)

Unified Trellis Design for Realizing Pilot-Symbol-Less Wireless Communications

Yejian Chen (Bell Laboratories, Nokia, Germany); Ari Hottinen (Nokia Technologies Oy, Finland)

Bit-Flip Fano Sequential Decoding of Polarization-Adjusted Convolutional (PAC) Codes

Yaofeng Jiang, Wei Zhang, Zhuolun Wu and Jianhan Zhao (Tianjin University, China); Yanyan Liu (Nankai University, China)

Wednesday, April 15 9:00 - 10:30

PHY 8: Semantic Communications

Room: 409

Semantic Communication: From Philosophical Conceptions Towards a Mathematical Framework

Javad Gholipour, Rafael F. Schaefer and Gerhard P. Fettweis (Technische Universität Dresden, Germany)

Learning Redundancy-Aware Representations for Robust Multi-Modal Task-Oriented Communications

Jingwen Fu (KTH Royal Institute of Technology, Sweden & Jingwen Fu, Sweden); Ming Xiao (Royal Institute of Technology, Sweden); Chao Ren and Zhonghao Lyu (KTH Royal Institute of Technology, Sweden)

AdaJSCCV: Adaptive Prompt-Tuning for Semantic Video Transmission

Danlan Huang, Zhixin Qi, Xinyi Zhou, Xiyang Wang and Chen Chen (Beijing University of Posts and Telecommunications, China)

Wireless Semantic Multicasting: A Framework for Efficient Multi-Modal Multi-Task Communications

Anqi Long (Beijing University of Posts and Telecommunications, China); Xiaoyong Wu (Shanghai Radio Equipment Research Institute, China); Zhilong Zhang and Danpu Liu (Beijing University of Posts and Telecommunications, China)

Age of Information in Short Packet Multi-Connectivity Links

Mojan Wegener, Marcel A. Mross and Eduard A Jorswieck (Technische Universität Braunschweig, Germany)

Wednesday, April 15 9:00 - 10:30

PHY_IS4: Physical Layer and Communication Theory

Room: Exhibition Hall IS 4

Chair: Efe Eren Ceyani (Bilkent University, Turkey)

RIS-Assisted Localization: Cascaded Vs Physics-Compliant Model from a CRB Perspective

Kenaz Boa and Luc Le Magoarou (INSA Rennes, IETR, France); Matthieu Crussière (Univ Rennes, INSA Rennes, CNRS, IETR, France); Philipp del Hougne (CNRS, Univ Rennes, France)

Gradient-Based Fractional Doppler Estimation for OTFS Systems via Convex Correlation and Residual Functions

Jixuan Liang (Pengcheng Laboratory, China & Harbin Institute of Technology (Shenzhen), China); Ke Zhang, Pengyu Gao and Ye Wang (Pengcheng Laboratory, China); Qinyu Zhang (Pengcheng Laboratory, China & Harbin Institute of Technology (Shenzhen), China)

Channel Estimation and MA Trajectory Design with Time Constraint

Xi Zheng (The Chinese University of Hong Kong, Shenzhen, China); Cheng Zeng (Nanjing University of Science and Technology, China); Jie Xu (The Chinese University of Hong Kong (Shenzhen), China); Rui Zhang (National University of Singapore, Singapore)

Joint Time Delay and Frequency Offset Estimation in vMIMO-Beamforming Relays with Population-Based Techniques and Importance Sampling

Maha Abdelkhalek (INRS-EMT, Canada); Sofiene Affes (INRS, Canada)

Energy-Efficient κ - μ Parameter Estimation with Optimized Pilot Design in Cavity Environment

Xinglin Tang (Southwest University of Science and Technology, China); Ying Luo (SouthWest University of Science and Technology, China); Jie Tian (China Academy of Engineering Physics, China); Min Zeng (Southwest University of Science and Technology, China); Hong Jiang (SouthWest University of Science and Technology, China)

Wednesday, April 15 2:00 - 3:30

ETNA 10: Unmanned Aerial Vehicle Networks 5

Room: 406

Chair: Wen-Jing Wang (Xi'an University of Posts and Telecommunications, China)

Adaptive Hybrid RF/FSO Uplink Design for HAP-Assisted UAV Networks

Minh Binh Vu (Soongsil University, Korea (South)); Ngoc Dang (Posts and Telecommunications Institute of Technology, Vietnam); Oh-Soon Shin (Soongsil University, Korea (South)); Van-Dinh Nguyen (Trinity College Dublin, Ireland)

DRL-Based Coupling-Aware Secure S-UAV System Leveraging Collaborative Beamforming

Poorvi Joshi and Mohan Gurusamy (National University of Singapore, Singapore)

A Chance-Constrained Optimization Framework for Reliable Aerial Networking

Muhammad Omair Butt (Lakehead University, Canada); Muhammad Naeem (COMSATS University Islamabad, Wah Campus, Pakistan & Ryerson University, Canada); Waleed Ejaz (Lakehead University, Canada)

Radio Frequency Fingerprint Recognition for UAV in Low-Altitude Intelligent Networks

Yu Zou (Beijing University of Posts and Telecommunications, China); Tiankui Zhang (Beijing University of Posts and Telecommunications, China & Tiankui Zhang, China); Dingcheng Yang (Nanchang University, China); Yapeng Wang

(Macao Polytechnic University, Macao)

Communication-Efficient UAV-Mounted RIS for IoT: A Deep Reinforcement Learning Approach

Yao-Chen Huang and Tzung-Shi Chen (National University of Tainan, Taiwan)

Wednesday, April 15 2:00 - 3:30

ETNA 11: Vehicular Ad Hoc Networks 1

Room: 407

A Dynamic Occupancy Matrix Approach for VANET Routing Using Optimized TD-ISAC

Vahid Fooladi, Paeiz Azmi and Nader Mokari (Tarbiat Modares University, Iran); Hamid Saeedi (University of Doha for Science and Technology, Qatar)

SCHC Header Compression for GeoNetworking Protocol: Adaptation and Performance Evaluation

Manoj Gudi and Amina Mokdad (IMT Atlantique, France); Jean-Marie Bonnin (Institut Mines Telecom / IMT Atlantique & IRISA - Inria, France); Frédéric Weis (IRISA / University Rennes, France)

Fair and Efficient Dynamic Vehicle Routing via Maximum Nash Welfare

Omar Sebri (University of Ottawa, Canada); Noura Aljeri (Kuwait University, Kuwait & University of Ottawa, Canada); Azzedine Boukerche (University of Ottawa, Canada)

Layered High-Definition Map Delivery: Accuracy-Aware Transmission via Cooperative V2X

Liang Xu and Deshi Li (Wuhan University, China); Kaitao Meng (University of Manchester, United Kingdom (Great Britain)); Lele Cong and Rui Wang (Wuhan University, China)

V2X-Fusion: Multi-Modal BEV Perception with V2X Message Integration

Bocheng Ma, Yan Huo and Xiangqing Su (Beijing Jiaotong University, China); Jian Mao (Beihang University, China); Xiaoxuan Wang (Beijing Jiaotong University, China)

Wednesday, April 15 2:00 - 3:30

ETNA_IS5: Emerging Technologies, Network Architectures, and Applications

Room: Exhibition Hall IS 5

Enforcing IoT Security Properties in Smart Buildings: A Solution Based on a Publication Policy and the Blockchain Technology

Soumaya Bel Hadj Youssef (LIFO, INSA Centre Val de Loire, Université d'Orléans, Bourges, France); Mohammed Islem Nadji (LIFO, INSA Centre Val de Loire, Université d'Orléans, Bourges, France); Jeremy Briffaut (LIFO, INSA Centre Val de Loire, Université d'Orléans, Bourges, France)

Performance Evaluation for Deep Learning-Based Signal Detection in Underwater Visible Light Communication

Nurul Aini Amran (Universiti Teknologi Malaysia, Malaysia); Azlan Awang (Universiti Teknologi PETRONAS, Malaysia); Akbar Abu Seman and Karthik Ilangoan (PETRONAS Research Sdn Bhd, Malaysia)

A Spatial-Temporal Topological Decoupling Method in Battery-Free Sensor Networks

Yang Yu and Deyu Lin (Nanchang University, China)

A Spatio-Temporal Bayesian Graph Neural Network for Proactive Anomaly Prediction in Dynamic Wireless Networks

Chao Ma (Institute of Information Engineering Chinese Academy of Sciences China, China); Xiaoyu Kang (Chinese Academy of Sciences, China); Weiqing Huang (Institute of Information Engineering, Chinese Academy of Sciences, China); Zhixin Shi (Chinese Academy of Sciences, China)

Age-Aware Scheduling for Joint Control-Communication Design in Cislunar Relay System

Zhouyong Hu and Afang Yuan (Harbin Institute of Technology, Shenzhen, China); Qinyu Zhang (Shenzhen Graduate School, Harbin Institute of Technology, China); Zhihua Yang (Harbin Institute of Technology, China)

Joint Satellite Association and SFC Placement with Stability Optimization in LEO Satellite Networks

Mohammed Mahyoub (Carleton University, Canada); Wael Jaafar (École de Technologie Supérieure, Canada); Sami Muhaidat and Halim Yanikomeroglu (Carleton University, Canada)

Performance Analysis of NOMA-Assisted Optical OFDM ISAC Systems with Clipping Distortion

Nam Ngoc Luong and Chuyen T. Nguyen (Hanoi University of Science and Technology, Vietnam); Thanh Pham (Shizuoka University, Japan)

Satellite Communications-Enabled Three-Tier Computing Task Offloading Optimization for IoT via Multi-Agent Reinforcement Learning

Meihui Li, Meng Li, Qi Li, Ruizhe Yang and Pengbo Si (Beijing University of Technology, China); F. Richard Yu (Carleton University, Canada)

Physical-Sensing-Enhanced Generative Adversarial Imitation Learning for Multi-UAV Relaying in Low-Altitude Environments

Jingzheng Chong, Mingzhe Li and Zhihua Yang (Harbin Institute of Technology, China)

Wednesday, April 15 2:00 - 3:30

MAC_IS5: Advanced Protocols and Architectures for Next-Generation Networks

Room: Exhibition Hall IS 5

5GC-Bench: A Framework for Stress-Testing and Benchmarking 5G Core VNFs

Ioannis Panitsas (Yale University, USA); Tolga O Atalay and Dragoslav Stojadinovic (A2 Labs LLC, USA); Angelos Stavrou (Virginia Tech & Kryptowire, USA); Leandros Tassioulas (Yale University, USA)

Matrix-Inversion-Free Expectation Propagation for Massive Connectivity

Rui Ma, Zheng Wang and Yongming Huang (Southeast University, China); Zhen Gao (Beijing Institute of Technology, China)

Competitive Pricing in Differentiated Networks

Nupur Singh (IIT TIRUPATI, India); Naveen Kolar Purushothama (Indian Institute of Technology Tirupati, India)

Demand-Driven Adaptive Max-Min Resource Allocation for Wi-Fi OFDMA Networks

Qiaohan Zhang (TU Dresden, Germany); Philipp Schulz and Gerhard P. Fettweis (Technische Universität Dresden, Germany)

Wednesday, April 15 2:00 - 3:30

MAC7: NTN

Room: 402

Chair: Siyang Sun (Nanjing University of Aeronautics and Astronautics, China)

A Lightweight and Secure Extended Authentication and Key Agreement Protocol for Direct-to-Cell LEO Satellite Constellations

Jianhua Liu, Feifei Liu, Yu Sun and Gang Wang (Beihang University, China); Jianwei Liu (BeiHang University, China)

Multi LEO Satellite Transmission with Terrestrial Coexistence: A Coverage Enhanced and Interference Mitigated Framework

Wang-Chuen Mao, Yu-Ting Li, Po-Chen Wu and Kai-Ten Feng (National Yang Ming Chiao Tung University, Taiwan); Feng Ouyang (Johns Hopkins University / Applied Physics Lab, USA); Li-Hsiang Shen (National Central University, Taiwan); Zhi Ding (University of California at Davis, USA); Jen-Ming Wu (Hon Hai Research Institute, Taiwan)

Emergency UAV Networks for 5G and Beyond: DRQN-Based Task Allocation and NTN-Aware Uplink Optimization

Abdellah Chehri (Royal Military College of Canada, Canada); Muhammad Ali Jamshed (University of Glasgow, United Kingdom (Great Britain))

A Dynamic Minimum-Hop-Region Ant Colony Optimization Routing Algorithm for LEO Satellite Networks

Wenbin Jiang (Sun Yat-Sen University, China); Yuan Jiang and Lei Zhao (Sun Yat-sen University, China)

A Multi-Objective Topology Optimization Scheme for MEO/LEO Satellite Networks

Bingbing Xu (Innovation Academy for Microsatellites of Chinese Academy of Sciences, China & University of Chinese Academy of Sciences, China); Kai Han (Zhejiang Police College, China & Innovation Academy for Microsatellites of Chinese Academy of Sciences, China); Qing Lan (University of Chinese Academy of Sciences, China); Baojun Lin (Innovation Academy for Microsatellites, Chinese Academy of Sciences, China); Wenbin Gong (Shanghai MicroSatellite Engineering Center, China); Qianyi Ren (University of Chinese Academy of Sciences & Innovation Academy for Microsatellites, Chinese Academy of Sciences, China); Xinying Lu (Innovation Academy for Microsatellites, China)

Wednesday, April 15 2:00 - 3:30

MLO 10: MIMO

Room: 403

Chair: Yumeng Zhang (The Hong Kong University of Science and Technology, Hong Kong)

Dynamic Edge-User Scheduling and Hybrid Precoding for Cell-Free mmWave MIMO Networks

Jiang Chang (University of Science and Technology of China, China)

Multi-Domain Feature-Aware Transformer for CSI Prediction in MIMO-OFDM

Siyang Liu and Congduan Li (Sun Yat-sen University, China)

Deep Learning Aided near-Field Beam Prediction for U6G XL-MIMO Multipath Systems

Zhou Shan, Zhizheng Lu, Yu Han and Shi Jin (Southeast University, China)

Grover's Search-Inspired Quantum Reinforcement Learning for Massive MIMO User Scheduling

Ruining Fan (University College Dublin, Ireland); Xingyu Huang (Imperial College London, United Kingdom (Great Britain)); Mouli Chakraborty (Trinity College Dublin & The University of Dublin, Ireland); Avishek Nag and Anshu Mukherjee (University College Dublin, Ireland)

Pilot Assignment for Distributed Massive MIMO Based on Channel Estimation Error Minimization

Mohd Saif Ali Khan (Indian Institute of Technology, Mandi, India); Karthik R. M. (Ericsson Research, India); Samar Agnihotri (Indian Institute of Technology Mandi, India)

Wednesday, April 15 2:00 - 3:30

MLO 11: Positioning

Room: 404

Chair: Seung-Woo Ko (Inha University, Korea (South))

Cooperative Target Detection with AUVs: A Dual-Timescale Hierarchical MADRL Approach

Xueyao Zhang (NWPU, China); Bo Yang and Zhiwen Yu (Northwestern Polytechnical University, China); Xuelin Cao (Xidian University, China); George C. Alexandropoulos (University of Athens & University of Illinois Chicago, Greece); Mérouane Debbah (Khalifa University of Science and Technology, France); Chau Yuen (Nanyang Technological University, Singapore)

Multimodal Radio and Vision Fusion for Robust Localization in Urban V2I Communications

Can Zheng (Korea University, Korea (South)); Jiguang He (Great Bay University, China); Chung G. Kang (Korea University, Korea (South)); Guofa Cai (Guangdong University of Technology, China); Henk Wymeersch (Chalmers University of Technology, Sweden)

Low-Overhead CSI Feature for Fingerprint Localization

HanJun Park (Pohang University of Science and Technology, Korea (South)); Pere Garau Burguera, Hanan Al-Tous and Olav Tirkkonen (Aalto University, Finland)

A KAN-Enhanced Position Correction Network for Reference Signal Received Power Prediction

Yushan Feng, Xin Zhang, Yuan Gao and Xiaoyu Dong (Beijing University of Posts and Telecommunications, China)

On-the-Fly NLoS Detection for Wireless Positioning: Combinatorial Data Augmentation Approach

Sang-Hyeok Kim (Inha University, Korea (South)); Seung Min Yu (Korea Railroad Research Institute, Korea (South)); Jihong Park (Singapore University of Technology and Design, Singapore); Seung-Woo Ko (Inha University, Korea (South))

Wednesday, April 15 2:00 - 3:30

MLO 12: Reinforcement Learning I

Room: 405

Towards Energy-Efficient and Freshness-Sensitive WBANs Through Joint Scheduling and Power Control via Multi-Objective Reinforcement Learning

Shuang Li (University of Victoria, Canada); Haofang Yu (Nanjing University of Science and Technology, China); Hong-Chuan Yang (University of Victoria, Canada)

SABR: A Stable Adaptive Bitrate Framework Using Behavior Cloning Pretraining and Reinforcement Learning Fine-Tuning

Pengcheng Luo, Yunyang Zhao, Bowen Zhang and Genke Yang (Shanghai Jiao Tong University, China); Boon Hee Soong and Chau Yuen (Nanyang Technological University, Singapore)

3D Coverage Maximization via Aerial BS Navigation, Beamforming, and Spectrum Allocation: An Integrated DRL/Optimization Solution

Hyemin Yu and Hong-Chuan Yang (University of Victoria, Canada)

Joint Sleep Mode Activation and Load Balancing with Dynamic Cell Load: A Combinatorial Bandit Approach

Wajahat Bashir Gilkar and Gourab Ghatak (Indian Institute of Technology Delhi, India)

Challenger-Based Combinatorial Bandits for Subcarrier Selection in OFDM Systems

Mohsen Amiri, Venkatesh V and Sindri Magnússon (Stockholm University, Sweden)

Wednesday, April 15 2:00 - 3:30

PHY 10: Channel Modeling and Estimation I

Room: 409

Chair: Dong Liu (Beihang University, China)

Model-Based Deep Learning Framework for Beam Split-Mitigated near-Field Channel Estimation

Mohammed Shadhil A V and Salihath P (Indian Institute of Space Science and Technology, India); Vani Devi M (IIST, India)

Simulation and Hardware Implementation of Multi-Link Channels for Maritime UAV-USVs Communications

Jia Liu (Shandong University, China); Fan Yang (ShanDong University, China); Y. Liu (Shandong University, China); Yi Zhang and Chuanteng Wang (ShanDong University, China); Jie Huang (Southeast University, China); Hengtai Chang (Shandong University, China & Purple Mountain Laboratories, China)

Propagation Channel Modeling for LEO Satellite Missions Using Ray-Tracing Simulations

Wahab Khawaja and Ismail Güvenç (North Carolina State University, USA); Rune H Jacobsen (Aarhus University, Denmark)

Anti-Jamming Performance Analysis of LEO Mega-Constellations with Flexible User Association

Jianfeng Ma, Dong Liu, Jingyi Situ and Lin Bai (Beihang University, China)

Nonparametric Variational Bayesian Learning for Channel Estimation with OTFS Modulation

Chong Cao (Shandong University, China); Zhuyu Liu (Aerospace System Engineering Shanghai, China); Zheng Dong (Shandong University, China); Yong Zhou (ShanghaiTech University, China); He Henry Chen (The Chinese University of Hong Kong, Hong Kong)

Wednesday, April 15 2:00 - 3:30

PHY 9: Channel Coding I

Room: 408

Polar Subcodes for MIMO Systems

Liudmila Karakchieva and Peter Trifonov (ITMO University, Russia)

Heterogeneous Multi-Computing-Units Based LT Coded Computation in Wireless Networks

Borui Fang and Xiaorui Qiao (Naval University of Engineering, China)

GE-Free BP-OSD for Short 5G LDPC Codes

Qianfan Wang (City University of Hong Kong, Hong Kong); Yiwen Wang and Jiayi Yang (Sun Yat-sen University, China); Linqi Song (City University of Hong Kong, Hong Kong); Xiao Ma (Sun Yat-sen University, China)

Construction of Protograph LDPC Codes for Shaped Signaling over STBC-MIMO Channels

Ruimin Yuan, Ling Liu and Baoming Bai (Xidian University, China)

Structure-Aware Grouping with Adaptive Greedy Scheduling for Belief Propagation in Loopy Graphs

Jinguang Xiao, Yuan Jiang and Lei Zhao (Sun Yat-sen University, China)

Wednesday, April 15 2:00 - 3:30

PHY_IS5: Physical Layer and Communication Theory

Room: Exhibition Hall IS 5

Covert Ultraviolet Communication Design When Warden Observes Sparse Signals in Time Domain

Yueke Yang, Yuan Ren and Lingfeng Li (University of Science and Technology of China, China); Chen Gong (USTC, China); Zhengyuan Xu (University of Science and Technology of China, China)

Gaussian Elimination-Free OSD via Pre-Stored Matrices

Yiwen Wang (Sun Yat-sen University, China); Qianfan Wang (City University of Hong Kong, Hong Kong); Xiangping Zheng (Sun Yat-sen University, China); Linqi Song (City University of Hong Kong, Hong Kong); Xiao Ma (Sun Yat-sen University, China)

Transmission of Binary Sequences over Gaussian Channels Under Privacy Constraints

Efe Eren Ceyani (Bilkent University, Turkey); Ertan Kazıklı (TOBB University of Economics and Technology, Turkey); Sinan Gezici (Bilkent University, Turkey)

Learning Doppler-Resilient Keys via CNN-Based Channel Mapping for UAV Communications

Min-Wei Chen, Hai-Yan Huang, Yu-Jia Chen and Chia-Hsiang Tseng (National Central University, Taiwan)

Visual-Aided Identification of RIS-Based Jammer via Angle-Aware Neural Modeling

Yining He (Beijing University of Posts and Telecommunications, China & Other, unknown); Ruohan Cao (Beijing University of Posts and Telecommunications, China)

Wednesday, April 15 4:00 - 5:30

ETNA 12: Vehicular Ad Hoc Networks 2

Room: 403

Adaptive Multi-Receiver-Oriented Semantic Communication in Vehicular Networks

Mondher Bouazizi, Yue Yin and Tomoaki Ohtsuki (Keio University, Japan)

Inverse Learning Assisted V2I Communication for Intent Based 6G ISAC Vehicular Networks

Anoop C V and Anup Aprem (National Institute of Technology Calicut, India)

TD-PBFT: A TDMA-Assisted Fast and Reliable PBFT Consensus Algorithm for VANETs

Jingbang Wu, Bingzhao Li, Yihan Guo and Xianze Zhou (Beijing Technology and Business University, China); Hongyuan Wang (Beijing University of Technology, China); Huanpu Yin and Jin Li (Beijing Technology and Business University, China)

GAN-Augmented and LLM-Enhanced Intrusion Detection for Intelligent Vehicles

Elizaveta Andrushkevich (University of Surrey, United Kingdom (Great Britain)); Zahra Pooranian (Italian National Research Council (CNR), Italy); Chuan Heng Foh (University of Surrey, United Kingdom (Great Britain)); Rocío Pérez de Prado (University of Jaen, Spain); Fabio Martinelli (CNR-IIT, Italy); Mohammad Shojafar (University of Surrey, United Kingdom (Great Britain))

Wednesday, April 15 4:00 - 5:30

ETNA 13: Vehicular Ad Hoc Networks 3

Room: 406

Chair: Riadh Dhaou (IRIT/ENSEEIH, University of Toulouse, France)

Smartphone-Based Cooperative Perception

Chan Daraly Chin (Toulouse INP, France & Institute of Technology of Cambodia, Cambodia); Riadh Dhaou (IRIT/ENSEEIH, University of Toulouse, France); Gentian Jakllari (IRIT - Université de Toulouse, France); Sokchenda Sreng (Institute of Technology of Cambodia (ITC), Cambodia)

Enhancing Capacity in Mixed Traffic: Delay-Aware Control Gain Adjustment Strategy

Sitong Miao, Wenwei Yue, Liping Huang, Hang Li and Di Zhou (Xidian University, China)

A Stochastic Geometry Analysis of Vision-Based Collaborative Environment Perception with Distance-Dependent Sensing

Zhixiang Zhang, Xiaoshi Song, Zhengbin Jiao and Liying Tian (Northeastern University, China); Haijun Zhang (University of Science and Technology Beijing, China)

Lyapunov-Based Time-Division ISAC for Vehicular Cooperative Perception

Yijing Tang and Hangguan Shan (Zhejiang University, China); Chen Chen (Xidian University, China); Fen Hou (Macao); Yuan Wu (University of Macau, Macao)

Vehicle Target Detection Based on ISAC-Vision System

Zhonghua Chu and Hongliang Luo (Tsinghua University, China); Shaoqiang Yan (The High-Tech Institute of Xi'an, China); Bo Lin (Tsinghua University, China); Boxuan Sun (Xidian University, China); Yuan Feng and Feifei Gao (Tsinghua University, China)

Wednesday, April 15 4:00 - 5:30

ETNA 14: Wireless Local Area Networks

Room: 407

Deep Learning-Based Angle-Difference Feedback with Vector Quantization for MIMO WLAN Systems

Junyong Shin (POSTECH, Korea (South)); Eunsung Jeon and Inhyoung Kim (Samsung Electronics, Korea (South)); Yo-Seb Jeon (POSTECH, Korea (South))

HQ-CNN: Hybrid Quantum-CNN for Precise Radio-Based Indoor Tracking in mmWave Networks

Van-Linh Nguyen (National Chung Cheng University & College of Engineering, Taiwan); Lan-Huong Nguyen and Ren-Hung Hwang (National Yang Ming Chiao Tung University, Taiwan)

A Light-Weight Low-Latency Transmission Mechanism for Reliable Wi-Fi Multicast

Wencong Wang, Xiaofeng Zhong and Shidong Zhou (Tsinghua University, China)

BWiFi: An Intelligent Framework for Optimizing User QoE in Next-Generation Wi-Fi Mesh Networks

Kavin Kumar Thangadorai (Technology Innovation Institute (TII), United Arab Emirates & Indian Institute of Technology Madras (IIT Madras), India); Krishna M Sivalingam (Indian Institute of Technology Madras, India); Madhan Raj Kanagarathinam (Samsung R&D Institute India Bangalore, India); Hari Prabhat Gupta (Indian Institute of Technology (BHU) Varanasi, India); Anshul Pandey (Technology Innovation Institute, United Arab Emirates)

AgentWiFi: An Agentic-AI-Enabled Framework for Wi-Fi Cross Layer Optimization

Yayu Gao, Wenhao Li and Muhan Sheng (Huazhong University of Science and Technology, China)

Wednesday, April 15 4:00 - 5:30

MAC_IS6: Advanced Protocols and Architectures for Next-Generation Networks

Room: Exhibition Hall IS 6

Cross-Layer Performance Analysis of P-EDCA

C. Davis Robertson V, Jordan Le and Behnam Dezfouli (Santa Clara University, USA)

LISKI: A Lightweight Secret Key Generation Scheme for Resource-Constrained IoT Devices

Shubhashish Jena (Indian Institute of Technology Patna, India); Prince Kumar (Indian Institute of Technology (IIT) Patna, India); Saket Suman (Indian Institute of Technology Patna, India); Arijit Roy (Indian Institute Technology Patna & SensorDrops Networks Pvt. Ltd., India); Farid Nait-Abdesselam (Université Paris Cité, France)

Generalizing the Outage Minimization Problem in Wireless Random Caching: An Alpha Utility Perspective for Managing Content Popularity-QoS Disparity

Kuan Wu (City University of HongKong, China); Qianfan Wang and Linqi Song (City University of Hong Kong, Hong Kong)

Intelligent Multi-Agent Framework for RIS Optimization in 6G: A RAG-Based Approach

Muhammad Ashar Javid, Muhammad Sameer Amjad and Muhammad Jamshaid Ghaffar (National University of Sciences and Technology, Pakistan); Haejoon Jung (Kyung Hee University, Korea (South)); Aamir Mahmood and Mikael Gidlund (Mid Sweden University, Sweden); Syed Ali Hassan (National University of Sciences and Technology, Pakistan)

Wednesday, April 15 4:00 - 5:30

MAC8: AI Clusters/Federated Learning

Room: 402

Chair: Abdellah Chehri (Royal Military College of Canada, Canada)

OMTS: Ordered Multipath Traffic Scheduling for Elephant Flows in Distributed AI Training Clusters

Siyang Sun (Nanjing University of Aeronautics and Astronautics, China); Qiang Wu (Zhejiang University, China); Ran Wang and Jie Hao (Nanjing University of Aeronautics and Astronautics, China)

Distributed Asynchronous Server Selection in Cloud Gaming with Delayed Load Information

Yassine Boujelben and Sawsan Ali Hamid (University of Sfax, Tunisia); Faouzi Zerai (National School of Electronics and Telecommunications ENETCOM, Tunisia)

FedDRMoE: Dynamic Mixture-of-Experts with Attention Scheduling for Personalized Federated Learning

Liwei Guan (Beijing University of Posts and Telecommunications, China); Yixuan Li (Taiyuan University of Technology, China); Nan Ma and Xiaoqi Qin (Beijing University of Posts and Telecommunications, China); Miao Pan (University of Houston, USA)

Drift-plus-Penalty Based Queue Management for Edge LLM Inference with Repeated Sampling

Hongtao Li, Fengxian Guo and Ruihong Jiang (Beijing University of Posts and Telecommunications, China); Mugen Peng (Beijing University of posts & Telecommunications, China)

Euler: An Out-of-Order-Aware Load Balancing with Adaptive Granularity for AI Clusters

Jiafeng Jiang, Jiao Zhang, Huimin Luo, Shuo Wang and Tao Huang (Beijing University of Posts and Telecommunications, China)

Wednesday, April 15 4:00 - 5:30

MLO 13: Reinforcement Learning II

Room: 404

Surplus-Driven Reinforcement Learning for Service Placement in Mobile Edge Computing

Prachi Tripathi (Indian Institute of Technology, Patna, India); Satendra Kumar (Indian Institute of Technology Patna, India)

Chameleon: Adaptive MPQUIC Packet Scheduler in Heterogeneous Wireless Networks via Online Reinforcement Learning

Kangrui Li, Mu Wang, Jinrui Yang, Shujie Yang and Changqiao Xu (Beijing University of Posts and Telecommunications, China)

Deep Reinforcement Learning for UAV-Aided near-Field ISAC-System

Mayur Vitthalrao Katwe and Suraj Udan (National Institute of Technology Raipur, India); Anal Paul (Yuan-Ze University, Taiwan); Kamal Agrawal (Shiv Nadar University, India); Keshav Singh (National Sun Yat-sen University, Taiwan); Aryan Kaushik (OUF Innovative, RakFort & IITD, United Kingdom (Great Britain))

A Novel on-Policy Deep Actor-Critic Framework for NOMA-Enabled RIS-Aided Cell-Free mMIMO

Malay Chakraborty (Indian Institute of Technology Roorkee, India); Pratham Jain (Google, India & Indian Institute of Technology, Roorkee, India); Rucha Chetan Wete (Google, India & IIT Roorkee, India); Ekant Sharma (Indian Institute of Technology Roorkee, India); Prem Singh (IIIT Bangalore, India); Hien Ngo (Queen's University Belfast, United Kingdom (Great Britain))

Q-Codec: Reinforcement Learning Based Adaptive Encoding for Real-Time Streaming of Immersive Aerial Videos

Mohit Kumar Sharma and Ibrahim Farhat (Technology Innovation Institute, United Arab Emirates); Wassim Hamidouche (IETR-INSA Rennes, France)

Wednesday, April 15 4:00 - 5:30

MLO 14: Satellite communications

Room: 405

A MAML-TCN-Based Approach to LEO Satellite Network Traffic Forecasting

Qing Chen and Siyuan Liu (Beijing University of Posts and Telecommunications, China); Liang Peng (Pengcheng Laboratory, China); Xiaoxiang Wang (Beijing University of Posts and Telecommunications, China)

Denosing-Enabled Semantic Communication for Robust Earth Observation in 6G Satellite Networks: A Swin Transformer Approach

Sheikh Salman Hassan (The University of Edinburgh, United Kingdom (Great Britain)); Loc X. Nguyen and Umer Majeed (Kyung Hee University, Korea (South)); Zhu Han (University of Houston, USA); Choong Seon Hong (Kyung Hee University, Korea (South)); Tharmalingam Ratnarajah (San Diego State University, USA)

Cache Update in Recommendation-Aware LEO Satellite Networks via Deep Reinforcement Learning

Ramiz Sharafat Rajput and Xinming Zhang (University of Science and Technology of China, China)

STGREAD: A Graph Diffusion-Based Approach for Satellite Network Traffic Prediction

Peiqi Huang and Fanmeng Hong (Shanghai Jiao Tong University, China); Xiupu Lang (Shanghai JiaoTong University, China); Lin Sun and Haopeng Chen (Shanghai Jiao Tong University, China)

Deep Reinforcement Learning-Based Joint Access Control and Resource Allocation Scheme for LEO Satellite Network

Chong Xu (Beihang University, China); Feng Liu (Beijing University of Aeronautics and Astronautics, China); Junyi Yang, Haobin Mao and Zhenyu Xiao (Beihang University, China)

Wednesday, April 15 4:00 - 5:30

MLO_IS6: Semantic Communications

Room: Exhibition Hall IS 6

Chair: Everton de Matos (Technology Innovation Institute, United Arab Emirates)

Aim5B: AI Integrated Semantic Framework for 5G and Beyond Network Management

Thanveer Sulthana (Missouri University of Science and Technology, USA); Ava Sharif Jourabchi (University of Missouri-Kansas City, USA); Venkat Rao Manavarthi (NIST, USA); Jayadithya Nalajala (University of Missouri-Kansas City, USA); Ankitha Srirama Reddy (University of Missouri-Kansas City, USA); Baek-Young Choi and Sejun Song (Missouri University of Science and Technology, USA)

Zero-Shot Knowledge Base Resizing for Rate-Adaptive Digital Semantic Communication

Shumin Yao and Hui Du (Pengcheng Laboratory, China); Lifeng Xie (Peng Cheng Laboratory, China); Yaping Sun (Pengcheng Laboratory, China); Hao Chen (Peng Cheng Laboratory, China); Nan Ma and Xiaodong Xu (Beijing University of Posts and Telecommunications, China)

Multimodal Information Bottleneck Guided Task-Agnostic Semantic Communications

Hao Wei (Beijing University of Posts and Telecommunications, China); Wen Wang (Purple Mountain Laboratories, China); Wanli Ni (Beijing University of Posts and Telecommunications, China)

Semantic Communication-Enabled Cooperative BEV Semantic Segmentation Frame in Internet of Vehicles

Ning Xu, Puning Zhang, Lekang Ye and Guangqian Wang (Chongqing University of Posts and Telecommunications, China)

Robust Task-Oriented Semantic Communication with Visual-Brain Multimodal Learning

Zhixiang Hu, Zhilong Zhang, Changhao Sun, Danpu Liu, Tao Luo and Sihua Wang (Beijing University of Posts and Telecommunications, China)

Integrated Sensing and Semantic Communication with Adaptive Source-Channel Coding

Hao tian Wang (Beijing University of Posts and Telecommunications, China); Dan Wang (Peng Cheng Laboratory, China); Xiaodong Xu (Beijing University of Posts and Telecommunications, China); Chuan Huang (University of Electronic Science and Technology of China, China); Hao Chen (Peng Cheng Laboratory, China); Nan Ma (Beijing University of Posts and Telecommunications, China)

Age-Driven Joint Optimization for UAV Swarms via Multi-Agent Reinforcement Learning

Haoxu Wu (Harbin Institute of Technology (Shenzhen), China); Shaohua Wu (Harbin Institute of Technology, China); Siqi Meng and Yuze Tong (Harbin Institute of Technology (Shenzhen), China); Qinyu Zhang (Shenzhen Graduate School, Harbin Institute of Technology, China)

Practical Beam Selection Algorithm Based on Reinforcement Learning

Paweł Hatka and Hanna Bogucka (Poznan University of Technology, Poland); Ana Garcia Armada (Universidad Carlos III de Madrid, Spain)

Communication-Control Co-Design in Industrial IoT: A Hybrid Soft Actor Dual-Critic Algorithm

Fangfang Chen and Jianhua Tang (South China University of Technology, China); Jemin Lee (Yonsei University, Korea (South))

Wednesday, April 15 4:00 - 5:30

PHY 11: Channel Coding II

Room: 408

Chair: Maxime Guillaud (Inria, France)

Peak Structure Analysis Based Phase-Optimized Precoding for PAPR Reduction in OTFS Systems

Xinhui Gao, Nan Jing and Chengxin Zhang (Yanshan University, China)

Doppler Frequency Estimation in Tensor-Based Modulation via Post-CPD Maximum Likelihood

Kassem Saied (INSA-Lyon CITI Lab, France); Maxime Guillaud (Inria, France)

Design of Unsourcesed Random Access System Through Flexible Modulation and Detection

Xinbo Yao, Yilun Zhang and Zhongwei Si (Beijing University of Posts and Telecommunications, China)

SWIPT with Probabilistic Amplitude Shaping of 5G LDPC Coded Modulation

Jiayi Yang (Sun Yat-sen University, China); Qianfan Wang (City University of Hong Kong, Hong Kong); Congduan Li and Xiao Ma (Sun Yat-sen University, China)

Detecting Convolutional Codes via a Markovian Statistic

Shubhankar Abhay Kamthankar, Guneesh Vats and Arti Yardi (IIIT Hyderabad, India)

Wednesday, April 15 4:00 - 5:30

PHY 12: Channel Modeling and Estimation II

Room: 409

A Novel Ray-Tracing Channel Model with Full-Wave Simulations for THz Communication Systems

Yihan Zhao (Southeast University, China); Songjiang Yang and Yinghua Wang (Purple Mountain Laboratories, China); Junling Li and Hongyu Yan (Southeast University, China); Cheng-Xiang Wang (Southeast University, China & Purple Mountain Laboratories, China)

EWM-TOPSIS Based Weighted Graph Pilot Assignment for Cell-Free Massive MIMO Networks

Ruqiao Qin and Xu Zhu (Harbin Institute of Technology, Shenzhen, China); Yujie Liu (Nanyang Technological University, Singapore); Ziming Guo (Harbin Institute of Technology, Shenzhen, China); Yanfeng Zhang (Dongguan University of Technology, China); Yufei Jiang (Harbin Institute of Technology, Shenzhen, China)

Feature-Domain Waveform Design for Multi-User Channel Acquisition in Massive MIMO with Decentralized Baseband Processing

Shuai Gao (Tongji University, China); Mian Li (The Chinese University of Hong Kong, Shenzhen, China); Fan Xu, Lei Qiu and Qingjiang Shi (Tongji University, China)

Atmospheric Ducts in Wireless Propagation: Analytical and Data-Driven Range Extension Models

Mohammed Banafaa (King Fahd University of Petroleum and Minerals, Saudi Arabia & Center for Communication Systems and Sensing, Saudi Arabia); Saleh Ahmed Alawsh (King Fahd University of Petroleum and Minerals, Saudi Arabia & Center for Communication and Systems Sensing, Saudi Arabia); Ali H Muqaibel (King Fahd University of Petroleum and Minerals, Saudi Arabia)

MIMO-Zak-OTFS with Superimposed Spread Pilots

Abhishek Bairwa (Indian Institute of Science, Bangalore, India); A. Chockalingam (Indian Institute of Science, India)

Wednesday, April 15 4:00 - 5:30

PHY_IS6: Physical Layer and Communication Theory

Room: Exhibition Hall IS 6

RSM Suppression via Joint 2-D LFM Modulation and Mismatched Filter Design

Zixuan Zhang, Xuezhe Wu and Jiacheng Peng (Wuhan University of Technology, China); Kehao Wang (WHUT, China); Xiaobai Li (Air Force Early Warning Academy, China)

Misalignment-Induced Fading Mitigation for Buoy-to-UAV FSO Link Using Angular Diversity Receiver

Tolu Oluwagbemi (University of Edinburgh, United Kingdom (Great Britain)); Mohammed Elamassie (Ozyegin University, Turkey); John Thompson (University of Edinburgh & Univ of Edinburgh, United Kingdom (Great Britain)); Wasio O. Popoola (University of Edinburgh, United Kingdom (Great Britain))

ISAC-Enabled Bridge Micro-Deformation Monitoring

Boxuan Sun, Hongliang Luo and Feifei Gao (Tsinghua University, China); Shaodan Ma (University of Macau, China)

Multi-Base Station Feature Fusion in ISAC System

Shaoqiang Yan (The High-Tech Institute of Xi'an, China); Yuhua Jiang (Tsinghua University, China); Huihui Wu (Beijing Jiaotong University, China); Hongliang Luo, Yihong Liu, Chuanbin Zhao and Feifei Gao (Tsinghua University, China)

Performance Analysis of RIS-Assisted ISAC-NOMA Uplink System Under Imperfect SIC

Lohini Priyanka (International Institute of Information Technology, Bangalore, India); Priyanka Das and Amrita Mishra (International Institute of Information Technology Bangalore, India)

Thursday, April 16

Thursday, April 16 9:00 - 10:30

ETNA 15: RADAR

Room: 406

Message Passing Based Parameter Estimation in Cooperative MIMO-OFDM ISAC Systems

Xiaohan Lv (Dalian University of Technology, China); Rang Liu (Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU), Germany); Yi Chen, Qian Liu and Ming Li (Dalian University of Technology, China)

Analysis of a Frequency- and Phase-Keying Waveform for Joint Radar and Communication

Loren Angelou Cruz (University of Melbourne, Australia & University of the Philippines Diliman, Philippines); Tian Han (The University of Melbourne, Australia & University of Melbourne, Australia); Jamie S Evans (University of Melbourne, Australia); Peter J Smith (Victoria University of Wellington, New Zealand); Rajitha Senanayake (University of Melbourne, Australia)

An OFDM Waveform Design and Validation for mmWave Full-Duplex JRC Systems

Zijing Li, Yang Li, Dangzhao Gao, Ying Shen, Hongzhi Zhao, Tong Li and Shihai Shao (University of Electronic Science and Technology of China, China)

Channel Knowledge Map-Enabled NLoS ISAC Localization

Chentao Hong, Di Wu and Liang Wu (Southeast University, China); Zaichen Zhang (National Mobile Communications Research Laboratory, Southeast University, China); Yong Zeng (Southeast University, China)

High-Accuracy Ranging Scheme for ISAC-OFDM Systems with Adaptive Chirp-Z Transform

Dongjian Li (Beijing Institute of Technology, China); Meng Wei (The 54-th Research Institute of China Electronics Technology Group Corporation); Jianguo Li, Xiyu Feng and Xuhui Ding (Beijing Institute of Technology, China); Anqi Meng (Beijing Information Science and Technology University, China)

Thursday, April 16 9:00 - 10:30

ETNA 16: RADAR 2

Room: 407

Dynamic Dictionary-Based OMP for Super-Resolution Sensing in OFDM-ISAC Systems

Hengkun Liu and Peishi Li (Dalian University of Technology, China); Rang Liu (Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU), Germany); Qian Liu and Ming Li (Dalian University of Technology, China)

Near-Field XL-MIMO for ISAC: Joint Multi-User Channel Sensing and Predictive Beamforming

Zhibin Zheng, Jianping Zheng, Shuai Lu, Fei Wang and Yuming Gao (Xidian University, China)

Waveform Design for ISAC System: A Consensus ADMM Approach

Ngoc-Son Duong (Posts and Telecommunications Institute of Technology, Vietnam); Huyen-Trang Thi Ta, Quang-Tang Ngo, Thi-Hue Duong and Van-Lap Nguyen (VNU University of Engineering and Technology, Vietnam); Cong-Minh Nguyen (National Foundation for Science and Technology Development, Vietnam); Nguyen Minh Tran (VNU - University of Engineering and Technology, Vietnam); Thai-Mai Dinh (VNU University of Engineering and Technology, Vietnam)

Sparse OFDM Design for Interference and Ambiguity Mitigation in Multi-Static ISAC

Navid Amani, Priyanka Maity, Musa Furkan Keskin and Henk Wymeersch (Chalmers University of Technology, Sweden)

GrCLR: Gradient Contrastive Learning for Human Motion Recognition Using Gradient Radar Combination Map

Yuh-Shyan Chen, Chao-Yu Chiang and Ting-Jia Hu (National Taipei University, Taiwan)

Thursday, April 16 9:00 - 10:30

ETNA_IS7: Emerging Technologies, Network Architectures, and Applications

Room: Exhibition Hall IS 7

Chair: Yo-Seb Jeon (POSTECH, Korea (South))

New Insights into Positioning Performance Metrics for Integrated Sensing and Communication

Wenbin Yang and Qianqian Cheng (China Mobile (Chengdu) R&D Institute, China); Lu Peng (China Mobile Institute of Research and Development, China)

A Vision-Based Framework for Intelligent gNodeB Mobility Control

Pedro Duarte (INESC TEC, Portugal & Universidade do Porto, Portugal); André Coelho (INESC TEC, Portugal); Francisco M Ribeiro (INESC TEC, Portugal & University of Porto, Portugal); Filipe Borges Teixeira (INESC TEC and Universidade Do Porto, Portugal); Luis M. Pessoa (INESC TEC & Faculty of Engineering, University of Porto, Portugal); Manuel Ricardo (Universidade do Porto & INESC TEC, Portugal)

Adaptive Priority-Aware GTS Scheduling for OCC-Enabled Vehicular Networks

Rajiv Ranjan Gupta (BITS Pilani, Hyderabad Campus, India); Nikumani Choudhury (BITS Pilani Hyderabad Campus, India); Ke Wang (RMIT University, Australia); Jay Dave (BITS Pilani Hyderabad Campus, India); Saman Atapattu (RMIT University, Australia)

Towards Native Intelligence: 6G-LLM Trained with Reinforcement Learning from NDT Feedback

Zhuoran Xiao and Tao Tao (Nokia Bell Labs, China); Chenhui Ye (China); Yunbo Hu and Yijia Feng (Nokia Bell Labs China, China); Tianyu Jiao (Shanghai Jiao Tong University, China & Nokia Bell Labs China, China); Liyu Cai (Nokia Bell Labs China, China)

Enhancing 360° Video Streaming with Stream Scheduling Policies over HTTP/3

Felipe Ribeiro Rosa (Federal University of São Paulo, Brazil); Simone Ferlin (Red Hat and Karlstad University, Sweden); Anna Brunstrom (Karlstad University, Sweden & University of Malaga, Spain); Joahannes B. D. da Costa (Federal University of São Paulo, Brazil); Bruno Kimura (Federal University of Sao Paulo (Unifesp), Brazil)

Optimization of Resource Usage in Blockchain Networks to Meet High Throughput: A Hybrid Pull-and-Push-Based Approach

Kongrath Suankaewmanee and Passakorn Pannok (Bitkub Blockchain Technology Co., Ltd., Thailand); Dusit Niyato (Nanyang Technological University, Singapore)

Low-Complexity Rate Optimization for Fluid Antenna-Assisted Symbiotic Radio Systems

Feiyang Li, Qiang Sun, Miaomiao Xu, Xiaomin Chen and Xingjian Jiang (Nantong University, China); Qingqing Wu (Shanghai Jiao Tong University, China); Jiayi Zhang (Beijing Jiaotong University, China); Chan-Byoung Chae (Yonsei University, Korea (South)); Kai Kit Wong (University College London, United Kingdom (Great Britain))

Thursday, April 16 9:00 - 10:30

MAC10: TSN/Industrial Network

Room: 403

Chair: Siyang Sun (Nanjing University of Aeronautics and Astronautics, China)

Flow-Aware Autonomous Learning for Availability Optimization in Time-Sensitive Networks

Jiajing Wang (Nanjing University of Aeronautics and Astronautics, China); Qiang Wu (Zhejiang University, China); Ran Wang (Nanjing University of Aeronautics and Astronautics, China); Mengjie Guo (Nanjing University of Aeronautics and as & Nanjing University of Aeronautics and Asa, China)

Energy-Efficient Distributed Access in Wireless Control Networks via Hypergraph Potential Games

Shuze Du, Lei Feng and Xudong Wang (Beijing University of Posts and Telecommunications, China); Baofeng Ji (Henan University of Science and Technology, China); Fanqin Zhou and Wenjing Li (Beijing University of Posts and Telecommunications, China)

Online Incremental Guard-Band Adaptive Scheduling for Time-Sensitive Networking

Xin Tian and Xiaolong Wang (Qilu University of Technology, China); Wei Zhang (Qilu University of Technology(Shandong Academy of Sciences), China); Huiling Shi (Shandong Computer Science Center, China)

On the Stabilizability and Scheduling of Wireless Control Network Design with RSMA

Haijia Jin (Southern University of Science and Technology, China); Weijie Yuan (SUSTECH, Hong Kong); Jun Wu (SUSTech, China); Yuanhao Cui (Big Data Academy, Zhongke, China); Fan Liu (Southeast University, China); Jie Xu (The Chinese University of Hong Kong (Shenzhen), China); Pingzhi Fan (Southwest Jiaotong University, China)

Hybrid Lyapunov-Based Scheduling for Heterogeneous Traffic in 5G Industrial Environments

Kouros Zambouri, Mohamed Seliem, Noor-A-Rahim Md. and Dirk Pesch (University College Cork, Ireland)

Thursday, April 16 9:00 - 10:30

MAC9: UAV

Room: 402

Chair: Jingon Joung (Chung-Ang University, Korea (South))

Cooperative Task Offloading in Multi-UAV Covert Communication Networks

Xiaoyi Zhou and Hongzhi Guo (Northwestern Polytechnical University, China); Bomim Mao (School of Cybersecurity, Northwestern Polytechnical University, China); Yijie Xun (Northwestern Polytechnical University, China)

Multi-Scale Decision Algorithms for UAV anti-Jamming Communication Without Common Channel

Zhe Wang, Haijun Wang, Xian Cheng, Haitao Zhao, Li Zhou and Jibo Wei (National University of Defense Technology, China)

ReClub: Real-Time Cluster-Formation for UAV-Assisted Scalable Data-Collection

Jagnyashini Debadarshini (Indian Institute of Technology Roorkee, India); Suman Sourav (Aalborg University, Denmark); Mohan Gurusamy (National University of Singapore, Singapore)

DRL-Based Multi-AUVs Cooperative Path Planning Under Acoustic Field Constraint

Quanxing Du (Harbin Engineering University, China); Wei Men (Tsinghua University, China); Li Wei, Hongwei Liu and Jingwei Yin (Harbin Engineering University, China)

Energy-Efficient Federated Learning for UAV Communications

Chien-Wei Fu and Meng-Lin Ku (National Central University, Taiwan); Keshav Singh (National Sun Yat-sen University, Taiwan)

Thursday, April 16 9:00 - 10:30

MLO 15: Semantic communications I

Room: 404

WVSC: Wireless Video Semantic Communication with Multi-Frame Compensation

Bingyan Xie (Shanghaijiaotong University, China); Yongpeng Wu (Shanghai Jiao Tong University, China); Shi Yuxuan (Pengcheng National Laboratory, China); Biqian Feng (The Education University of Hong Kong, Hong Kong); Wenjun Zhang (Shanghai Jiao Tong University, China); Jihong Park and Tony Q. S. Quek (Singapore University of Technology and Design, Singapore)

Deep Semantic Inference over the Air: An Efficient Task-Oriented Communication System

Chenyang Wang, Roger Olsson, Stefan Forsström and Qing He (Mid Sweden University, Sweden)

Semantic-Aware Video Communication: Enhancing Traditional and Deep Video Encoders

Xiangben Zhu, Caili Guo and Yang Yang (Beijing University of Posts and Telecommunications, China); Chuanhong Liu (China Mobile (Suzhou) Software Technology Company Limited, China); Kuiyuan Ding (Beijing University of Posts and Telecommunications, China)

Robust Uplink Multi-User Digital Semantic Communication Under Imperfect Synchronization

Na Zhang, Zhi Zhang and Di Wu (Beijing University of Posts and Telecommunications, China)

Task-Oriented Semantic Communication for Satellite Remote Sensing Images with Channel Feedback

Qi Qiu (Harbin Institute of Technology (Shenzhen), China & Peng Cheng Laboratory, China); Zhongqiang Zhang (Peng Cheng Laboratory, China); Chen Mao (Harbin Institute of Technology (Shenzhen), China & Peng Cheng Laboratory, China); Shuhang Zhang (Peking University, China); Guangming Shi (Xidian University, China); Ye Wang (Peng Cheng Laboratory, China)

Thursday, April 16 9:00 - 10:30

MLO 16: Semantic communications II

Room: 405

Chair: Jiapei Tian (Linköping University, Sweden)

Version Age of Information Oriented Risk-Sensitive Scheduling with Distributional Reinforcement Learning

Chen Chen and Haoyuan Pan (Shenzhen University, China); Tse-Tin Chan (The Education University of Hong Kong, Hong Kong)

HSASCom: A Point Cloud Semantic Communication System with SNR-Adaptive Hierarchical Feature Transmission

Xuanyue Zhang (Nanjing University of Aeronautics and Astronautics, China); Luosong Guo (East China Normal University, China); Kun Zhu (Nanjing University of Aeronautics and Astronautics, China)

Resource-Aware Semantic Communication with Adaptive Vision Transformers for Digital Twins

Esmail Badr Nasser Yahya Almosharea, es. (Hamad Bin Khalifa University, Qatar & Qatar Foundation, Qatar); Emna Baccour (Hamad Bin Khalifa University, Qatar); Aiman Erbad (Qatar University, Qatar); Mohamed M Abdallah (Hamad Bin Khalifa University (HBKU), Qatar); Amr Mohamed (Qatar University, Qatar); Mounir Hamdi (Hamad Bin Khalifa University, Qatar)

Hybrid Reinforcement Learning for Resource Allocation in VQA-Oriented UAV Semantic Offloading

QianKun Zhang (Macao Polytechnic University, China); Zelin Ji (University of Electronic Science and Technology of China, China); Yue Liu (Macao Polytechnic University, Macao); Ze Song (Macao Polytechnic University, China); Zhijin Qin (Tsinghua University, China)

A POMDP Framework for Remote Tracking in Pull-Based Systems with Imperfect Sensing

Jiawei Tian (Linköping University, Sweden); Abolfazl Zakeri (University of Oulu, Finland); Marian Codreanu (Linköping University, Sweden); David Gundlegård (Linköping University, Sweden)

Thursday, April 16 9:00 - 10:30

MLO_IS7: Machine Learning and Optimization for Wireless Systems

Room: Exhibition Hall IS 7

Queue-Aware RL Scheduling with Stability Bounds in Large-Scale Cellular Networks

Qiong Liu (Sorbonne University, France); Chung Shue Chen (Nokia Bell Labs, France)

A Prediction Model of Ionospheric foF2 and hmF2 for Multiple Stations for HF Skywave Communication

Chengze Gu, Pan Tang, Yujia Li, Peijie Liu, Changyou Tai and Jianhua Zhang (Beijing University of Posts and Telecommunications, China)

A Pilot-Free End-to-End Communication System Using Complex Convolutional Encoder and Mixture-of-Experts Based Decoder

Yulai Han, Jingbo Tan, Rui Zeng and Jintao Wang (Tsinghua University, China)

Machine Learning-Based Transceivers: Two-Stage Training for Digital Modulation

Peter Bartmann (Technische Hochschule Lübeck, Germany); Sven Ole Schmidt (Technische Hochschule Luebeck - University of Applied Sciences, Germany); Horst Hellbrück (University of Applied Sciences Lübeck & CoSA Center of Excellence, Germany)

Learning-Based Antenna Activation and Power Control with Historical CSI for SWIPT-Enabled NOMA-Assisted Pinching Antenna Systems

Masoud Rahimi and Mahdi Nouri (Sharif University of Technology, Iran); Sima Sobhi-Givi (University of Mohaghegh Ardabili, Iran); Hamid Behroozi (Sharif University of Technology, Iran); Murat Uysal (NYU Abu Dhabi, United Arab Emirates); Zhiguo Ding (University of Manchester, United Kingdom (Great Britain))

Neural-Network Based Change-Point Detection for Binary Linear Block Codes

Guneesh Vats (IIT Hyderabad, India); Arthi (International Institute of Information Technology Hyderabad, India); Davin Sequeira and Arti Yardi (IIT Hyderabad, India)

Thursday, April 16 9:00 - 10:30

PHY 13: Physical Layer Security I

Room: 408

Chairs: Malay Chakraborty (Indian Institute of Technology Roorkee, India), Mahmut Kemal Ercan (Bilkent University, Turkey)

Channel-Robust RFF for Low-Latency 5G Device Identification in SIMO Scenarios

Yingjie Sun and Guyue Li (Southeast University, China); Hongfu Chou (University of Luxembourg, Luxembourg); Hu Aiqun (Southeast University, China)

Physical Layer Security for RIS-Aided Hardware-Impaired Cell-Free Massive MIMO

Sowrabh Banik, Malay Chakraborty and Ekant Sharma (Indian Institute of Technology Roorkee, India)

Pilot Distortion Design for ToA Obfuscation in Uplink OFDM Communication

Mahmut Kemal Ercan (Bilkent University, Turkey); Alireza Pourafzal and Musa Furkan Keskin (Chalmers University of Technology, Sweden); Sinan Gezici (Bilkent University, Turkey); Henk Wymeersch (Chalmers University of Technology, Sweden)

Robust Radio Frequency Fingerprint Extraction and Identification for LoRa Low-Power Devices

Jiangtao Wang, Hu Aiqun, Tianshu Chen and Chen Yanbing (Southeast University, China)

Efficient Dual-UAV Trajectory Design and Communication Scheduling for Jamming-Aided Physical-Layer Secure Communication

Xinran Wang and Peng Wu (Wuhan University, China); Xiaopeng Yuan (RWTH Aachen University, Germany); Yulin Hu (Wuhan University, China & RWTH Aachen University, Germany); Anke Schmeink (RWTH Aachen University, Germany)

Thursday, April 16 9:00 - 10:30

PHY 14: Modulation

Room: 409

Chairs: Chun-hsuan Kuo (Mediatek USA Inc, USA), Seyedsaeed Razavikia (KTH Royal Institute of Technology, Sweden)

Block-Level Nonlinear Interference-Exploiting Precoding for PSK: Beyond CI-SLP and CI-BLP

Xiao Tong (Xi'an Jiaotong University, China); Lei Lei (Xi'an Jiaotong University, China); Ang Li (Xi'an Jiaotong University, China)

Latency-Optimized OFDM Systems via Wavelet Transform

Md Abu Bakar Siddik (University of Bundeswehr Munich, Germany); Matthias Korb (University of the Bundeswehr, Munich, Germany)

Low PAPR Waveform Construction via Trellis Coded Modulation

Chun-hsuan Kuo (Mediatek USA Inc, USA)

Designing Modulation for Approximate Digital over-the-Air Computation

Seyedsaeed Razavikia (KTH Royal Institute of Technology, Sweden); Carlo Fischione (KTH, Sweden)

Spatio-Temporal Delta-Sigma Modulation for Massive MIMO with Low-Resolution DACs

Nicolas Schlegel (Institut Polytechnique Paris & Nokia Networks France, France); Chadi Jabbour (Telecom Paris, France); Philippe Ciblat (Telecom Paris & Institut Polytechnique de Paris, France)

Thursday, April 16 9:00 - 10:30

PHY_IS7: Physical Layer and Communication Theory

Room: Exhibition Hall IS 7

IQ Imbalance Compensation for Receivers with 1-Bit Quantization and Oversampling

Konstantin Kochs (Technische Universität Dresden, Germany); Florian Mann and Meik Dörpinghaus (TU Dresden, Germany); Gerhard P. Fettweis (Technische Universität Dresden, Germany)

Compressed Multiband Sensing in FR3 Using Alternating Direction Method of Multipliers

Dexin Wang (New York University Abu Dhabi, United Arab Emirates & NYU Wireless, USA); Isha Jariwala (New York University, USA & NYU WIRELESS, USA); Ahmad Bazzi (New York University and NYU WIRELESS, USA & New York University Abu Dhabi, United Arab Emirates); Sundeep Rangan (New York University, USA); Theodore Rappaport (New York University & NYU WIRELESS, USA); Marwa Chafii (New York University Abu Dhabi and NYU WIRELESS, United Arab Emirates)

Placement Delivery Array Design for Coded Caching Scheme in Partially Cooperative Device-to-Device Networks

Rashid Ummer N T (Indian Institute of Science, India); K. K. Krishnan Namboodiri (EURECOM, France); B. Sundar Rajan (Indian Institute of Science, India)

On NOMA Short Packet THz Communications with Misalignment Error and Hardware Impairment

Rahul Maurya (Indian Institute of Technology, Indore, India); Puspraj Singh Chauhan (Indian Institute of Technology, Indore, India); Vimal Bhatia (Indian Institute of Technology Indore, India); Zhiguo Ding (University of Manchester, United Kingdom (Great Britain))

Improving Multicarrier Systems with Intentional Frequency Offsets and Optimized Power Allocation

Joohyun Son (Hanwha Systems, Korea (South)); Ian P Roberts (UCLA, USA); Hanwoong Kim, Hyunwoo Lee, Incheol Hwang, Minchul Hong, Sunwoo Min, Yunseo Lee and Daesik Hong (Yonsei University, Korea (South))

Thursday, April 16 2:00 - 3:30

ETNA 17: Network Prototypes and Applications

Room: 403

Auto-Scaling and Load-Aware SDNFV Architecture for 5G User Plane Functions

Tse-Han Wang (National Yang Ming Chiao Tung University, Taiwan & Chunghwa Telecom Laboratories, Taiwan); Jian-Yu Li, Li-Hsing Yen and Chien-Chao Tseng (National Yang Ming Chiao Tung University, Taiwan)

A Pareto Optimality Approach for Link Adaptation in DECT NR+

Fabian Graf (Siemens, Germany); Michael Villnow (Siemens AG, Germany); Thomas Watteyne (Inria, France)

Design and Experimental Validation of a Low-Jitter and High-Reliability VLC System for Industrial Internet-of-Things

Shuhan Cheng and Zhuoyang Wang (USTC, China); Nuo Huang and Weijie Liu (University of Science and Technology of China, China); Chen Gong (USTC, China)

Testbed for Digitally-Assisted RF Self-Interference Cancellation Based on Envelope Detectors

Fu Hu, Wensheng Pan, Ying Shen, Hongzhi Zhao and Shihai Shao (University of Electronic Science and Technology of China, China)

Predictive Handover Optimization Using Hybrid Radio Propagation Modeling for 5G and Beyond

G Rakkesh (Sathyabama Institute of Science and Technology, India & Indian Institute of Technology Madras, India); Sai Prasad Pirati, Anil Kumar Yerrapragada and Radha Krishna Ganti (Indian Institute of Technology Madras, India)

Thursday, April 16 2:00 - 3:30

**ETNA 18: Emerging Technologies, Network Architectures, and Applications
Prototype 2**

Room: 406

ASTDroid: Abstract Syntax Trees Enhanced GNNs for Android Malware Detection

Lihao Liu and Xingyuan Wei (School of Cyber Security, University of Chinese Academy of Sciences & Institute of Information Engineering, Chinese Acad); Rui Mao and Yan Wang (Institute of Information Engineering, Chinese Academy of Sciences, China & School of Cyber Security, University of Chinese); Fangyuan Li (School of Cyber Security, University of Chinese Academy of Sciences & Institute of Information Engineering, Chinese Acad)

Open5GFusion: Synergizing Open-Source 5G Platforms for Enhanced Network Flexibility and Research

Methsara Dissanayaka and Vipula Wakkumbura (Dialog University of Moratuwa Mobile Communication Research Laboratory, Sri Lanka); Dileeka Dias and Kasun T. Hemachandra (University of Moratuwa, Sri Lanka)

UniAir: A Unified AI Framework for Multi-Task Joint Optimization over the Air Interface

Yijia Feng (Nokia Bell Labs China, China); Yihang Huang (Chongqing University of Posts and Telecommunications, China); Chenhui Ye (China); Tianyu Jiao (Shanghai Jiao Tong University, China & Nokia Bell Labs China, China); Yunbo Hu (Nokia Bell Labs China, China); Zhuoran Xiao and Tao Tao (Nokia Bell Labs, China)

Unleashing Sensor-Aided Environment Awareness for Beam Management in Beyond-5G Networks: An OpenAirInterface Experimental Platform

Aron Schott, Berk Acikgoz and Omar Massoud (RWTH Aachen University, Germany); Marina Petrova (RWTH Aachen University, Germany & KTH Royal Institute of Technology, Sweden); Ljiljana Simić (RWTH Aachen University, Germany)

Towards Latency SLO Guaranteed Inference Serving in Dynamic Mobile Edge Computing Networks

YunFan Jin, Fengxian Guo and Chenxi Liu (Beijing University of Posts and Telecommunications, China); Mugen Peng (Beijing University of posts & Telecommunications, China); Tony Q. S. Quek (Singapore University of Technology and Design, Singapore)

Thursday, April 16 2:00 - 3:30

ETNA_IS8: Emerging Technologies, Network Architectures, and Applications

Room: Exhibition Hall IS8

Multi-Modal Data Driven Virtual Base Station Construction for Massive MIMO Beam Alignment

Yijie Bian and Wei Guo (The Hong Kong University of Science and Technology, Hong Kong); Jie Yang (Southeast University, China); Shenghui Song and Jun Zhang (The Hong Kong University of Science and Technology, Hong Kong); Shi Jin (Southeast University, China); Khaled B. Letaief (The Hong Kong University of Science and Technology, Hong Kong)

Sharing Disaster Information Using Mobile Cache at Disaster

Toshiki Tomimori (Ritsumeikan University, Japan); Makoto Misumi (Fukuoka University, Japan); Noriaki Kamiyama (Ritsumeikan University, Japan)

Joint Uplink and Downlink Resource Allocation and Antenna Activation for Pinching Antenna Systems

Shreya Khisa (Concordia University, Canada); Ali Mahdi Amhaz (Concordia University - Canada, Canada); Mohamed Elhattab and Chadi Assi (Concordia University, Canada); Sanaa Sharafeddine (American University of Beirut, Lebanon)

Experimental Investigation of Symbol Error Rate in Cost-Effective Full-Duplex RoFSO System

Akhilesh Kumar Savita (Indian Institute of Technology Roorkee, India); Tannu Singh (Indian Institute of Technology, Roorkee, India); Anshul Jaiswal (Indian Institute of Technology Roorkee, India)

QoS-Aware Energy Optimization via Cell Switching in Heterogeneous Networks

Maryam Salamatmoghadasi (Carleton University, Canada); Amir Mehrabian (École de Technologie Supérieure, Canada); Halim Yanikomeroglu (Carleton University, Canada); Georges Kaddoum (ETS Engineering School, University of Québec, Canada)

Design and Development of a Digital Twin Framework for V2I Channel Modeling

Sharan Karthick BL (IIIT Sri City, India); Raja VaraPrasad (Indian Institute of Information Technology (IIIT) Sricity, India)

Optimizing Erasure Coding and Node Allocation for Blockchain Storage: A Guided Decomposition Approach

The Hoang Nguyen and Cong Thanh Nguyen (Ho Chi Minh City University of Technology, VNU-HCM, Vietnam); Hoang-Anh Pham (Ho Chi Minh City University of Technology (HCMUT) & Vietnam National University Ho Chi Minh City (VNU-HCM), Vietnam)

Lightweight Neural Network Distillation for Real-Time CAN Bus Intrusion Detection in Vehicles

Amirmasoud N Pourmiri, Ali Eslami and Sergio A. Salinas (Wichita State University, USA)

Thursday, April 16 2:00 - 3:30

MAC_IS8: Advanced Protocols and Architectures for Next-Generation Networks

Room: Exhibition Hall IS8

Chair: Doohwan Lee (NTT, Japan)

On the Performance of Cognitive RSMA-Enabled Large-Scale MEC Networks

Mengting Pan, Xianling Wang, Youxi Lin and Yue Tian (Xiamen University of Technology, China); Yijie Mao (ShanghaiTech University, China)

DESTIN: Dynamic Device Selection for Mobile Sensors-as-a-Service Platforms

Prince Kumar (Indian Institute of Technology (IIT) Patna, India); Arijit Roy (Indian Institute of Technology Patna & SensorDrops Networks Pvt. Ltd., India); Farid Nait-Abdesselam (Université Paris Cité, France); Aryan Garv (Manipal University Jaipur, India); Swoyam Swarup Nanda (International Institute of Information Technology, Bhubaneswar, India)

Analytical Modeling of Energy Consumption for a LoRaWAN Class B Node

Satoshi Yamazaki (Tokai University, Japan); Hidenobu Isogai (Hitachi, Ltd, Japan)

Distributed Random Access Based on IRSA-NOMA in Cell-Free Massive MIMO

I Nyoman Apraz Ramatryana (Universitas Nahdlatul Ulama Yogyakarta, Indonesia & Dublin City University, Ireland); Sobia Jangsher (Dublin City University, Ireland)

Thursday, April 16 2:00 - 3:30

MAC11: V2X/MEC

Room: 402

Chair: Abhisha Garg (Indian Institute of Technology, Kanpur, India)

RLCVP: Collaborative Vehicular Perception Against Data Fabrication Attacks

Zhiping Lin, Hongyi Chen and Liang Xiao (Xiamen University, China); Zefang Lv (Fudan University, China); Chen Chen and Liqing Ye (Xiamen University, China)

Generative AI Empowering Collaborative HD Map Refinement in Vehicular Edge Computing

Jing Yao, Yongmin Zhang, Bingting Jiang, Yuanlin Wei and Pengyu Huang (Central South University, China)

Stackelberg-Contract-Based Dependent Task Offloading and Resource Pricing in PVEC Networks

Liang Zhao and Yiwen Zhang (China Three Gorges University, China); Shurui Peng (State Grid Yichang Power Supply Company, China); Zilong Bai and Rui Chen (China Three Gorges University, China); Victor C.M. Leung (SMBU, China & The University of British Columbia, Canada)

AI Explainability for Adaptive mmWave Beam Configuration in Dynamic Vehicular Environments

Ugur Yigit (University of Surrey, United Kingdom (Great Britain)); Ayhan Akbas (Ankara Bilim University, Turkey); Abdulkadir Kose (Abdullah Gül University, Turkey); Chuan Heng Foh and Mohammad Shojafar (University of Surrey, United Kingdom (Great Britain))

Decentralized Learning Framework for Anomaly Detection in Integrated UAV and CAV Ecosystems

Ishtiaq Ahmad (Czech Technical University in Prague, Czech Republic)

Thursday, April 16 2:00 - 3:30

MLO 17: Semantic communications III

Room: 404

Chair: Jason Muliawan (National Taiwan University, Taiwan)

On the Theory of Semantic Information and Communication for Logical Inference

Ahmet F Saz, Siheng Xiong and Faramarz Fekri (Georgia Institute of Technology, USA)

Multi-Reference Nonlinear Transform Source-Channel Coding for Wireless Image Semantic Transmission

Cheng Yuan, Yufei Jiang and Xu Zhu (Harbin Institute of Technology, Shenzhen, China)

Speech Semantic Communication System Based on Mamba and Parallel Channel-Spatial Attention

Zhidu Li, Beifan Li and Qing Xue (Chongqing University of Posts and Telecommunications, China); Yue Tian (Xiamen University of Technology, China); Juzhen Wang (Hangzhou Dianzi University, China); Mingliang Deng (Chongqing University of Posts and Telecommunications, China)

DAM-SC: Text-Driven Semantic Communication for Ultra-Low Bitrate Video Transmission Using Dynamic Attribute Models

Longfei Zhou, Xiaohui Li, Feixiang Liu and Guanchong Niu (Xidian University, China)

Diffusion Model-Assisted Task-Oriented Semantic Communication with DRL-Based Resource Optimization

Jason Muliawan and Wanjiun Liao (National Taiwan University, Taiwan)

Thursday, April 16 2:00 - 3:30

MLO 18: UAV I

Room: 405

REM-Diff: Conditional Diffusion for UAV-Based Radio Map Construction in Urban Environments

Youbiao Wu, Jie Li, Qihui Wu, Haikuo Xu and Jieyu Gao (Nanjing University of Aeronautics and Astronautics, China); Yuchao Liu (China Research Institute of Radiowave Propagation, China)

Secrecy Energy Efficiency Maximization for RIS-Assisted UAV-MEC Networks: A Deep Reinforcement Learning Based Approach

Wen-Jing Wang, Shutian Li, Jinguo Zhang and Tao Zhang (Xi'an University of Posts and Telecommunications, China); Nan Qi (Nanjing University of Aeronautics and Astronautics, China)

UAV-Assisted Joint Data Collection and Wireless Power Transfer for Batteryless Sensor Networks

Wen Zhang, Aimin Wang, Geng Sun and Jiahui Li (Jilin University, China); Jiacheng Wang, Changyuan Zhao and Dusit Niyato (Nanyang Technological University, Singapore)

SAASN: A Spatially-Aware Adaptive Scheduling Network for Large-Scale Multi-UAV Tasking

Jiaqing Xiong, Xiaohui Li, Feixiang Liu and Guanchong Niu (Xidian University, China)

Hierarchical Deep Reinforcement Learning-Based Adaptive Task Allocation for Multi-AUV Cooperative Hunting

Jiarun Tang and Shilong Hu (Huazhong University of Science and Technology, China); Xiao Huang (China Ship Development and Design Center, China); Wei Liu (Huazhong University of Science and Technology, China); Shimin Gong (Sun Yat-sen University, China); Jing Xu (Huazhong University of Science and Technology, China)

Thursday, April 16 2:00 - 3:30

MLO_IS8: Machine Learning and Optimization for Wireless Systems

Room: Exhibition Hall IS8

Chair: Indrasen Singh (Vellore Institute of Technology Vellore, India)

RFF-BO: Efficient Antenna Position Optimization for Fluid Antenna-Aided MU-MISO Systems

Xingjian Jiang and Qiang Sun (Nantong University, China); Li Dong (Macau University of Science and Technology, Macao); Shuping Dang (University of Bristol, United Kingdom (Great Britain)); Kai Kit Wong (University College London, United Kingdom (Great Britain)); Chan-Byoung Chae (Yonsei University, Korea (South))

Leveraging Kernel Symmetry for Joint Compression and Error Mitigation in Edge Model Transfer

Anis Hamadouche and Mathini Sellathurai (Heriot-Watt University, United Kingdom (Great Britain))

MARBLE-Net: Learning to Localize in Multipath Environment with Adaptive Rainbow Beams

Qiushi Liang (Shanghaijiaotong University, China); Yeyue Cai, Jianhua Mo and Meixia Tao (Shanghai Jiao Tong University, China)

Mitigating High-Frequency Component Degradation in Radio Map Generation: A Novel VAE-Enhanced Latent Diffusion Model

Zhanqi Jin (Sun Yat-Sen University, China); Nan Li and Tingting Yang (Peng Cheng Laboratory, China); Haixia Zhang (Shandong University, China); Xiaoxia Huang (Sun Yat-sen University, China)

Data Generation for Unseen Ground Truth Using β -Variational Autoencoders: A Synthetic Approach for Real-Time Positioning Systems

Rajathi Sankaralingam (IIITDM, Kancheepuram, India); Raviteja Bommireddy (IIITDM Kancheepuram, India); Preeth Raguraman (IIITDM Kancheepuram, India)

GSERB: A Novel Attention-Integrated Ghost Residual Block for Enhanced DoA Estimation

Constantinos Mylonakis and Nikolaos Evangelidis (Aristotle University of Thessaloniki, Greece); Pantelis Velanas and Aikaterini Margariti (Acceligenca Ltd, Cyprus); Nikolaos V. Kantartzis (Aristotle University of Thessaloniki, Greece); Pavlos Lazaridis (University of Huddersfield, United Kingdom (Great Britain)); Sotirios Goudos and Zaharias D. Zaharis (Aristotle University of Thessaloniki, Greece)

NetDiT: A Diffusion-Transformer Framework for Synthetic Network Packet Generation

Daniyal Farhangi (University of Tehran, Iran); Santosh Nukavarapu (Old Dominion University, USA); Tamer Nadeem (Virginia Commonwealth University, USA)

Thursday, April 16 2:00 - 3:30

PHY 15: Information Theory

Room: 407

Chairs: Saman Atapattu (RMIT University, Australia), Liang Xu (Harbin Institute of Technology (Shenzhen), China)

Secure Rate-Distortion-Perception Trade-off with Side Information

Gustaf Åhlgren (Information Coding Division, Linköping University, Sweden); Onur Günlü (Technische Universität Dortmund, Germany & Linköping University, Sweden)

Spectrum Sensing Under Random Beam Geometry

Saman Atapattu (RMIT University, Australia)

Pseudo-Random Asynchronous Multi-Satellite Cooperative Transmission Scheme for Cohesive Clustered Satellite Networks

Liang Xu (Harbin Institute of Technology (Shenzhen), China); Jian Jiao (Harbin Institute of Technology - Shenzhen, China); Zhixiang Zhang (Harbin Institute of Technology, Shenzhen, China); Xingjian Zhang (Harbin Institute of Technology (Shenzhen), China); Ye Wang (Peng Cheng Laboratory, China); Qinyu Zhang (Shenzhen Graduate School, Harbin Institute of Technology, China)

Joint Analysis of Localization and CoMP Transmission Performance in Integrated Sensing and Communication Networks

Muyu Mei, Jiawen Yu and Feng Li (Jiangsu University, China); Chunhui Feng and Baoyi Xu (Xidian University, China); Xu Bao (Jiangsu University, China); Mingwu Yao (Xidian University, China)

Standard Condition Number-Based Robust Signal Detection with Whitening Under Uncertainty

Tharindu Udupitiya and Saman Atapattu (RMIT University, Australia); Prathapasinghe Dharmawansa (University of Moratuwa, Sri Lanka); Chinthia Tellambura (The University of Alberta, Canada); Mérouane Debbah (Khalifa University of Science and Technology, France)

Thursday, April 16 2:00 - 3:30

PHY 16: Physical Layer Security II

Room: 408

Chair: Raed Mesleh (German Jordanian University, Jordan)

Covertness Analysis in LEO Mega Constellations

Haichao Wei (Dalian Maritime University, China); Na Deng (Dalian University of Technology, China); Martin Haenggi (University of Notre Dame, USA)

Permutation-Based Obfuscation for Secure Space Shift Keying in MIMO Systems

Raed Mesleh (German Jordanian University, Jordan); Saud Althunibat (Princess Sumaya University for Technology, Jordan); Mohammad Abudayah (German Jordanian University, Jordan)

Robust Aerial RIS-Aided Secure Transmission in LEO Satellite Systems with Beamforming and Cooperative Jamming

Yu Zhang, Shuangrui Zhao and Yue Gao (Xidian University, China); Yufeng Kang (China Mobile Communications Group Co., Ltd., China); Yulong Shen (Xidian University, China); Xiaohong Jiang (Future University-Hakodate, Japan)

Comparison of Methods to Experimentally Validate Information-Theoretic Physical Layer Security

Johannes Voichtleitner (Technische Universität München, Germany); Moritz Wiese (Technical University of Munich, Germany); Holger Boche (Technical University Munich, Germany)

Hilbert-Wavelet Signal Representation and Supervised Contrastive Learning for Robust Cross-Day WiFi Authentication

Yongcai Xiao (State Grid Jiangxi Electric Power Research Institute, China); Songyan Li, Huifang Zhang and Yu Zhang (Xidian University, China); Heng Liu and Yuxin Deng (State Grid Jiangxi Electric Power Research Institute, China); Shuangrui Zhao and Jiandong Wang (Xidian University, China)

Thursday, April 16 2:00 - 3:30

PHY 17: Reconfigurable Intelligence Surface

Room: 409

Channel Estimation Performance Analysis for RIS-Aided Cell-Free Massive MIMO with RF Impairments in Secure Communications

Feiyang Guan, Pei Liu and Jia Fan (Wuhan University of Technology, China); Yue Zhang (Shantou University, China); Giovanni Interdonato (Ericsson AB, Sweden); Stefano Buzzi (University of Cassino and Lazio Meridionale/CNIT, Italy)

RIS-Assisted MIMO System Design: A Low Complex MIMO Precoder Selection Method

Osman Mert Yilmaz (TUBITAK BILGEM, Turkey & Istanbul Technical University, Turkey); Tayfun Yilmaz (Kocaeli University, Turkey & Yildiz Technical University, Turkey); Ali Gorcin (Istanbul Technical University, Turkey); Ibrahim Hokelek (Tubitak Bilgem, Turkey); Haci Ilhan (Yildiz Technical University, Turkey)

Joint UAV Trajectory and RIS Resource Optimization via Hybrid MARL-AO in Integrated Aerial-Terrestrial Networks

Amirhossein Taherpour (Columbia U, USA); Abbas Taherpour (Imam Khomeini International University, Iran); Tamer Khattab (Qatar University, Qatar)

Joint Resource Allocation of SIM-Aided Integrated Communication and Computation in 6G Networks

Qiyu Chen and Qiao Qi (Hangzhou Normal University, China); Jiancheng An (Nanyang Technological University, Singapore); Ming Ying, Zhaohui Yang, Xiaoming Chen and Chongwen Huang (Zhejiang University, China)

Dual-Polarized Wavenumber-Division Multiplexing in LoS Holographic MIMO Communications with Arbitrary Position and Orientation

Yuming Gao, Jianping Zheng, Fei Wang and Shuai Lu (Xidian University, China)

Thursday, April 16 4:00 - 5:30

ETNA 19: Emerging Technologies, Network Architectures, and Applications
Prototypes 3

Room: 403

Chair: Chenyuan Feng (University of Exeter, United Kingdom (Great Britain) & Deep NeuroRAN Company, United Kingdom (Great Britain))

AERO: Adaptive Semi-One-Class Ratio-Fusion Learning for Device-Free Robust Wireless Sensing

Po-Chen Wu, Tzu-Hsun Huang, Tsung-Ting Tsai and Kai-Ten Feng (National Yang Ming Chiao Tung University, Taiwan); Zhi Ding (University of California at Davis, USA); Jen-Ming Wu (Hon Hai Research Institute, Taiwan)

Testbed Evaluation of AI-Based Precoding in Distributed MIMO Systems

Tianzheng Miao, Thomas Feys, Gilles Callebaut and Jarne Van Mulders (KU Leuven, Belgium); Md Arifur Rahman (IS-Wireless, Poland); François Rottenberg (KU Leuven, Belgium)

Orientation-Aware Adaptive Kalman Filtering for Robust UWB Indoor Localization on Smartphones

Renyun Fan, Hyuckjin Choi and Yutaka Arakawa (Kyushu University, Japan)

Perceptual-Quality Based AMC for Enhanced mmWave Spectral Efficiency: Concept and Experiment

Kivanç Değirmenci (Sabanci University, Turkey); Hasan Atalay Günel (TUBİTAK BİLGEM, Turkey); Mohaned Chraïti and Ozgur Ercetin (Sabanci University, Turkey); Ali Ghraryeb (Hamad Bin Khalifa University, Qatar); Ali Gorcin (Istanbul Technical University, Turkey)

MeshPay: Resilient Offline Payment with Wireless Mesh Network

Quang Huy Do (Paris-East Créteil University, France); Sara Tucci-Piergiovanni (CEA LIST, University of Paris-Saclay, France); Justice Owusu Agyemang (Ejara Lab, France); Sami Souihi (University of Paris Saclay, France & LiSSi Lab & NT Dept, University Paris Est UPEC, France)

Thursday, April 16 4:00 - 5:30

ETNA 20: 5G/6G Networks

Room: 406

Clustering-Based User Selection in Federated Learning: Metadata Exploitation for 3GPP Networks

Ce Zheng (Pengcheng Lab, China); Shiyao Ma (Southwest University, China); Ke Zhang (Waseda University, Japan); Chen Sun (Sony China Research Laboratory Beijing, China); Wenqi Zhang (Sony (China) Research Laboratory, China)

A Study on Synchronization of Multi-Modal Services over 5G: From Application Layer to RAN

Zhao-Xin Pan and Shiann-Tsong Sheu (National Central University, Taiwan)

Unified Reference Signal Sequence Design for Integrated Sensing and Communication

Wenjia Liu (DOCOMO Beijing Communications Laboratories, China); Xiaolin Hou (DOCOMO Beijing Communications Laboratories Co., Ltd, China); Juan Liu (DOCOMO Beijing Communications Laboratories, China); Lan Chen (DOCOMO Beijing Communications Laboratories Co., Ltd., China)

Cancelling Inter-AP-Interference for UL Channel Estimation in Virtual FD CF-mMIMO Systems

Santosh Kumar Singh (IIT Roorkee, India); Rohit Saini (DA-IICT, India & National Institute of Technology Uttarakhand, India); Abhay Kumar Sah (IIT Roorkee, India)

Open-Source 5G Testbed with Network Slicing: System Evaluation and Application Testing

Kurrshanth Vijithan, Ishana Dewmini, Sairisan Rajaretnam, Sheron Clarence Leslie George, Dileeka Dias and Kasun T. Hemachandra (University of Moratuwa, Sri Lanka)

Thursday, April 16 4:00 - 5:30

ETNA 21: Internet of Things

Room: 407

Data Exchange Framework for Cooperative Edge Sensing

Yi-Qing Li, Yi-Tong Deng and Tsì-Uí ík (National Yang Ming Chiao Tung University, Taiwan); Jen hao Hsu (National Tsing Hua University, Taiwan & Physical Education Office, Taiwan)

Hybrid Semantic-Bit Networks for Asymmetric Industrial WNCSSs: Resource Optimization with Peak Age of Semantic-Enabled Loop

Yu Zhou and Lei Feng (Beijing University of Posts and Telecommunications, China); Celimuge Wu (The University of Electro-Communications, Japan); Zhixiang Yang and Li Wenjing (Beijing University of Posts and Telecommunications, China); Kungpeng Xu and Fan He (Beijing Smartchip Semiconductor Technology Co Ltd, China)

A Joint Optimization Transmission Scheme Based on BATS Code for Multipath Transmission

Mengyu Wu, Xiaoran Wang and Jinbei Zhang (Sun Yat-sen University, China)

PreAlzNet: Smartwatch-Based Attention-LSTM for Early-Stage Alzheimer's Prediction

Aarju Dixit (Indian Institute of Technology Jodhpur, India & IIT Jodhpur, India); Debasis Das (Indian Institute of Technology Jodhpur,, India)

Hierarchical Federated Reinforcement Learning for Collaborative Wireless Distributed Systems

Xiaoyang Zhang and Chen-Khong Tham (National University of Singapore, Singapore)

Thursday, April 16 4:00 - 5:30

MAC_IS9: Advanced Protocols and Architectures for Next-Generation Networks

Room: Exhibition Hall IS 9

Chair: Zixiang Ren (NTU, Singapore)

A Cross-Layer Protocol for Missing Tag Identification Under Probabilistic Cloning Attacks in Large-Scale RFID Systems

Rui Wang, Chu Chu, Sun Mao and Fading Zhao (Sichuan Normal University, China); Wen Guangjun (University of Electronic Science and Technology of China, China)

Seamless Handover Mechanisms for CF-mMIMO Networks in O-RAN: A dApp Approach

Abhinav Kumar (IS Wireless, Poland & KU Leuven, Belgium); Md Arifur Rahman (IS-Wireless, Poland); Sofie Pollin (KU Leuven, Belgium)

Optimal Power Control and Resource Unit Allocation for Cross-BSS IEEE 802.11be Networks

Jingrui Liao (Wuhan University, China); Ming Gan (Huawei Technologies Co., Ltd, China); Yulin Hu (Wuhan University, China & RWTH Aachen University, Germany); Yuxi Lu (Wuhan University, China)

Delay- and Mobility-Aware Parallelized SFC Deployment in Space-Ground Integrated Networks

Venkatarami Reddy Chintapalli (National Institute of Technology Warangal, Telangana, India); Solanki Himalay Harjivan and Amal Manikandan (National Institute of Technology, Calicut, India); Aditya Premjit (National Institute of Technology Calicut, India); Aryachandran S (National Institute of Technology, Calicut, India)

Thursday, April 16 4:00 - 5:30

MAC12: Resource Management/Slicing

Room: 402

Chair: Abhay Kumar Sah (IIT Roorkee, India)

Fairness-Aware Throughput Optimization for Dynamic Traffic in 5G Networks

Avirup Das (Singapore University of Technology and Design (SUTD), Singapore); Marie Siew (Singapore University of Technology and Design, Singapore); Xiaoxi Zhang (Sun Yat-sen University, China); David Yau (Singapore University of Technology and Design, Singapore)

Enhancing the Trustworthiness of Multi-Slice 6G Networks Through Hierarchical, Environment-Aware Resource Allocation

Roya Khanzadeh (Johannes Kepler University Linz, Austria); Fjolla Ademaj-Berisha (Silicon Austria Labs GmbH, Austria); Sara Berri (ETIS, CY Cergy Paris University, ENSEA, CNRS, France); Linda Senigaglia (ETIS UMR 8051, CYU, ENSEA, CNRS, France); Arsenia Chorti (ETIS UMR 8051, CY University, ENSEA, CNRS & ETIS, France); Andreas Springer (Johannes Kepler University Linz, Austria); Hans-Peter Bernhard (Johannes Kepler University Linz, Austria & Silicon Austria Labs GmbH, Austria)

Deep Reinforcement Learning Based Scheduler for B5G Networks

Tanvi Mathur, Rahul Chhangani, Debajit Choudhury and Abhay Kumar Sah (IIT Roorkee, India); Shashi Kiran Mada and Shekar Nethi (MathWorks, India)

Mitigating 6G Control-Plane Congestion via Group-Based Session Management Approach

Tetsu Joh (KDDI Research, Inc., Japan); Takahiko Kato (University of Fukui, Japan); Shota Ono (The University of Tokyo, Japan); Chikara Sasaki and Atsushi Tagami (KDDI Research, Inc., Japan); Akihiro Nakao (The University of Tokyo, Japan)

Joint Resource Allocation for Multiple AirComp Systems: A Polynomial-Time Optimal Framework

Sourav Dutta (Indian Institute of Technology Mandi, India); Gabor Fodor (Ericsson Research & Royal Institute of Technology (KTH), Sweden); Carlo Fischione (KTH, Sweden)

Thursday, April 16 4:00 - 5:30

MLO 19: UAV II

Room: 404

Cooperative Resource Allocation for UAV-Assisted IoT with Dynamic Topologies: A Multi-Agent Reinforcement Learning Approach

Shilong Zhang, Tao Yu, Tong Liu, Jinhua Chen, Weiyu Wang, Franck Junior Aboya Messou and Keping Yu (Hosei University, Japan)

Reasoning Meets Adaptation: Bridging Global LLM Planning and Distributed UAV Control

Chaeyeon Cha, Suyeon Jin and Hyunggon Park (Ewha Womans University, Korea (South))

Movable Antenna-Aided Beamforming and Dual-Scale Mobility Optimization in UAV Systems

Shengwei Shi and Sixing Yin (Beijing University of Posts and Telecommunications, China); Zhentao Zhao (Beijing City University, China)

QoS-Aware Radio Resource Allocation in UAV-Assisted NOMA Networks with Multi-Agent Soft Actor-Critic Learning

Ze Song (Macao Polytechnic University, China); Yue Liu (Macao Polytechnic University, Macao); QianKun Zhang (Macao Polytechnic University, China); Zelin Ji (University of Electronic Science and Technology of China, China); Zhijin Qin (Tsinghua University, China)

Diffusion-Based DAG Service Orchestration in Multi-UAV-Enabled Edge Computing

Jiayi Meng, Lanlan Rui, Zixuan Chen and Yang Yang (Beijing University of Posts and Telecommunications, China); ShaoYong Guo (Beijing University of Posts and Telecommunications & State Key Laboratory of Networking & Switching Technology, China); Xuesong Qiu (Beijing University of Posts and Telecommunications, China)

Thursday, April 16 4:00 - 5:30

MLO 20: Wireless Security

Room: 405

Chair: Abdikarim Mohamed Ibrahim (Sunway University, Malaysia)

An Intrusion Detection Mechanism for Smart Homes Using Channel-Based Lightweight Classification

Junhua Hou and Xinyu Wan (University of Sydney, Australia); Abbas Jamalipour (School of Electrical and Computer Engineering, University of Sydney, Australia & Graduate School of Information Sciences, Tohoku University, Japan)

TDGCN-Based Mobile Multiuser Physical-Layer Authentication for EI-Enabled IIoT

Rui Meng (Beijing University of Posts and Telecommunications, China); Hangyu Zhao (Chinese University of Hong Kong, Hong Kong); Liang Jin, Bingxuan Xu, Ce Liu and Xiaodong Xu (Beijing University of Posts and Telecommunications, China)

DRIFT-CL: A Continual Learning Framework with Advanced Drift Detection for Intrusion Detection in Evolving Networks

Samia Saidane (University of Trento, Italy); Francesco Telch and Kussai Shahin (Trentino Digitale Spa, Italy); Fabrizio Granelli (University of Trento, Italy)

A Safety-Constrained Reinforcement Learning Framework for Reliable Wireless Autonomy

Abdikarim Mohamed Ibrahim and Rosdiadee Nordin (Sunway University, Malaysia)

Thursday, April 16 4:00 - 5:30

MLO_IS9: Machine Learning and Optimization for Wireless Systems

Room: Exhibition Hall IS 9

Modeling and Parameter Estimation of Air-to-Ground Channels Using a Mixture of Skew Normal Distributions

Zhaojun Liu and Sixing Yin (Beijing University of Posts and Telecommunications, China)

Graph Neural Network-Based End-to-End Learning for Multi-User MIMO Systems

Hao Chang and Hoang Triet Vo (The University of Sydney, Australia); Alva Kosasih (Nokia, France); Branka Vucetic (University of Sydney, Australia); Wibowo Hardjawana (The University of Sydney, Australia)

Design and Optimization of DGS-Based MIMO Antenna Using Machine Learning for Modern Wireless Communications

Jayraman G (Vellore Institute of Technology, India); Indrasen Singh (Vellore Institute of Technology Vellore, India); Dilip Kumar Choudhary (Vellore Institute of Technology, India)

Fine-Tuning and Feature Fusion for Automatic Modulation Classification

Jikui Zhao and Qi Cheng (Oklahoma State University, USA); Wang Huaxia (Rowan University, USA)

CRAFT: A Co-Adaptive Freeze and Train Strategy for Dynamic Neural Networks

Priscilla Sharon Allwin, Manil Dev Gomony and Marc Geilen (Eindhoven University of Technology, The Netherlands)

LOREN: Low Rank-Based Code-Rate Adaptation in Neural Receivers

Bram Van Bolderik and Vlado Menkovski (Technische Universiteit Eindhoven, The Netherlands); Sonia Heemstra de Groot (Eindhoven Technical University, The Netherlands); Manil Dev Gomony (Eindhoven University of Technology, The Netherlands)

Thursday, April 16 4:00 - 5:30

PHY 18: Physical Layer Security III

Room: 408

Chair: Sachinkumar B Mallikarjun (RPTU University Kaiserslautern-Landau, Kaiserslautern, Germany)

Multi-Attribute-Based Physical-Layer Authentication in Next-Generation Wireless Networks

Sachinkumar B Mallikarjun (RPTU University Kaiserslautern-Landau, Kaiserslautern, Germany); Jyothirbindu Maddali (RPTU, Germany); Christoph Lipps (German Research Center for Artificial Intelligence, Germany); Andreas Weinand (University of Kaiserslautern-Landau, Germany); Hans D. Schotten (RPTU Kaiserslautern-Landau, Germany)

Location-Aware RIS-AN Adaptation for Physical-Layer Security and Energy Efficiency

Sri Wahyuni (National Yangming Chiaotong University, Taiwan); Jane-Hwa Huang (National Chi Nan University, Taiwan); Chih-Min Yu (Chung Yuan Christian University, Taiwan); Li-Chun Wang (National Chiao Tung University, Taiwan)

Enhancing Physical Layer Security in STAR-RIS Communication Systems Assisted by UAV

Yunze Zhang, Shengyu Yang, Zhengwei Qu, Pei Qin and Yong Shang (Peking University, China)

Joint Covertness and Secrecy Design for Wireless Communications Under Active Attacks

Huihui Wu (Beijing Jiaotong University, China); Yucong Wang (Tsinghua University, China); Yuming Zhang and Wei Su (Beijing Jiaotong University, China); Feifei Gao (Tsinghua University, China)

Probabilistic Covert Communication in Wireless-Powered Relay Systems

Meixian Ling, Yixi Liu, Yahui Zhou and Rui Chen (China Three Gorges University, China); Xiaojun Liu (State Grid Yichang Electric Power Supply Company, China)

Thursday, April 16 4:00 - 5:30

PHY 19: Movable Antenna Communications

Room: 409

Chairs: Yuchen Li (Southeast University, China), Ziran Wang (Southeast University, China)

Performance Characterization of Pinching-Antenna System with Movable Waveguides

Jingze Ding (Peking University, China); Zijian Zhou (The Chinese University of Hong Kong, Shenzhen, China); Bingli Jiao (Peking University, China); Rui Zhang (National University of Singapore, Singapore)

Movable Antenna Advanced Wireless Sensing with Scannable Angle Range

Yuchen Li and Chen Sun (Southeast University, China)

Spectral Efficiency Analysis of Multiuser Pinching-Antenna Systems

Mengyu Qian (Southeast University, China); Xidong Mu (Queen's University Belfast, United Kingdom (Great Britain)); Li You (Southeast University, China); Michail Matthaiou (Queen's University Belfast, United Kingdom (Great Britain))

Foldable Antenna Arrays for Massive MIMO Communications

Ziran Wang, Chen Sun and Xiqi Gao (Southeast University, China)

Ray Antenna Array Enhanced Low-Altitude ISAC: Performance Analysis and Beamforming Design

Zhiqiang Xiao and Tao Zhang (National University of Defense Technology, China); Hao Wu (The Sixty-third Research Institute, National University of Defense Technology, China); Xiaoqiang Qiao and Jiang Zhang (National University of Defense Technology, China); Zhenjun Dong and Yong Zeng (Southeast University, China)

Thursday, April 16 4:00 - 5:30

PHY_IS9: Physical Layer and Communication Theory

Room: Exhibition Hall IS 9

Hierarchical Deep Learning for Joint Turbulence and PE Estimation in Multi-Aperture FSO Systems

Mohammad Taghi Dabiri (Qatar University, Qatar); Meysam Ghanbari (Hamad Bin Khalifa University, Qatar); Rula Ammuri (Professionals for Smart Technology, Jordan); Mazen Omar Hasna (Qatar University, Qatar); Khalid A. Qaraqe (Hamad Bin Khalifa University & College of Science and Engineering, Qatar)

A Novel 3D Non-Stationary GBSM for Underground Parking Lot Scenarios

Yuqi Bai and Jie Huang (Southeast University, China); Chen Huang (Purple Mountain Laboratories & Southeast University, China); Cheng-Xiang Wang (Southeast University, China & Purple Mountain Laboratories, China)

Symbol-Synchronous Communication for Ultra-Low-Power Multi-Hop Ambient IoT Networks

Xinlei Liu (University of Antwerp, Belgium); Andrey Belogaev (University of Antwerp, Belgium & IMEC, Belgium); Jeroen Famaey (University of Antwerp - imec, Belgium)

Integrate and Fire Counting Spike Detection for Spiking Communications

Pialy Biswas and Meik Dörpinghaus (TU Dresden, Germany); Gerhard P. Fettweis (Technische Universität Dresden, Germany)

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