



THE INTERNATIONAL CONFERENCE ON ADVANCED TECHNOLOGIES FOR COMMUNICATIONS (ATC 2026)



15 - 17, October 2026 - Quy Nhon University (QNU)

ATC'26



[Conference](#) » Program

[2026 International Conference on Advanced Technologies for Communications \(ATC\) Program](#)

Thursday, October 15

Thursday, October 15 7:30 - 8:30

REG1: Registration

Thursday, October 15 8:30 - 9:00

OP: Opening

Thursday, October 15 9:00 - 9:40

KN1: Keynote speaker #1: From Connected to Cognitive: Intelligence, Autonomous and Security in Future Wireless Networks

Prof. Nauman Aslam, Northumbria University, United Kingdom

Thursday, October 15 9:40 - 10:00

CB1: Coffee Break

Thursday, October 15 10:00 - 10:40

KN2: Keynote speaker #2: Challenges and Perspectives on Artificial Intelligence Neural Networks-based Detection for

Magnetic Recording

Prof. Chanon Warisarn, King Mongkut's Institute of Technology Ladkrabang (KMITL), Thailand

Thursday, October 15 10:40 - 11:20

KN3: Keynote speaker #3: Practical Challenges and Solutions for Satellite Communications Using Multiple Bands and Orbits

Dr. Khanh D. Pham, Air Force Research Laboratory, New Mexico, USA

Thursday, October 15 11:20 - 12:00

KN4: Keynote speaker #4: From Analytical Design to AI Assistance: New Possibilities for Dielectric Resonator Antennas

Prof. Kwok Wa Leung, City University of Hong Kong (CityUHK), China

Thursday, October 15 12:00 - 13:30

LB1: Lunch Break

Thursday, October 15 13:30 - 15:22

C1: Communications

Room: Eo Gio

High-Performance Low-Complexity Detector for Multi-Stream Spatial Modulation

Minh-Tuan Le, Van-Cuong Nguyen and Quoc-Toan Dinh (Posts and Telecommunications Institute of Technology, Vietnam); Hieu Nguyen (PTIT University, Vietnam); Quynh Nhu Nguyen and Nguyen Tien Hoa (Hanoi University of Science and Technology, Vietnam)

On the Capacity of Peak-Power Limited FTR Channels with 1-Bit ADCs

Mai T. P. Le (Danang University of Science and Technology, Vietnam); Minh N Vu (University of Florida, USA); Minh-Duc Doan (HTTCollege, Vietnam); Nghi H Tran (University of Akron, USA); Van Ly Nguyen (University of Kansas, USA); Hung Nguyen-Le (The University of Danang, Vietnam)

Communication-Centric RIS-Assisted ISAC: Signal Modeling and BER Analysis

Yosefine Triwidyastuti and Tri Nhu Do (Polytechnique Montréal, Canada)

Fake Base Station Detection and Localization via Differential RSRP and Apollonius Voting

Duong Dinh Luyen, Vu Minh Duc and Nguyen Tai Hung (Hanoi University of Science and Technology, Vietnam)

PiecewiseSNR Training for Robust Multi-Hop Semantic Image Transmission

Hong Anh Vo (International University, Vietnam); Toan-Van Nguyen (San Diego State University, USA); Phuong L. Vo (International University - VNUHCM, Vietnam); Duc Ngoc Minh Dang (FPT University, Ho Chi Minh, Vietnam)

Secrecy Outage Characterization for Segmented Waveguide near-Field Pinching-Antenna Systems

Hang-Uyen Vo-Thi (Industrial University of Ho Chi Minh City, Vietnam); Dang Van Huynh (University of Information Technology, Vietnam); Nguyen Ngoc Son (Industrial University of HCM City, Vietnam); Nguyen Cong Luong (Phenikaa University, Vietnam); Tan Do-Duy (Ho Chi Minh City University of Technology and Engineering, Vietnam)

PEXIT-NN: Protograph LDPC Code Design with Neural Network EXIT Functions for Quantized Massive MIMO

Quy X. Pham (Post and Telecommunications Institute Of Technology, Vietnam); Phong Dao and Hung Dang (Posts and Telecommunications Institute of Technology, Vietnam)

Thursday, October 15 13:30 - 15:22

E1: Electronics

Room: Hon Kho

A Hybrid Framework for Non-Cooperative UAV Detection: Combining Remote ID Decoding and Edge-AI RF Fingerprinting

Trieu Le Hai (Institute of Professional Electronics Engineering, Vietnam); Van Thi Mai Nguyen, Phuong Le Tran and Tu Thanh Dong (Vietnam)

Design and Implementation of a Bluetooth Low Energy IMU-Based Air Mouse

Tran Anh Khoi (FPT University, Vietnam); Loi Duc Nguyen (The Transportation College, Vietnam); Le The Dung (Ho Chi Minh City University of Technology and Engineering, Vietnam)

A Simplified Switching Frequency Reduction Scheme Using Hamming-Distance-Based Algorithm in Model Predictive Current Control for PMSM

Hai-Nam Nguyen and Tien Nguyen-Minh (Viettel Aerospace Institute & Viettel Group, Vietnam); M. h Hoang (Viettel Aerospace Institute - Viettel Group, Vietnam); Duy-Tung Ta (F3 Center, Vietnam); Hoang Nguyen-Minh (Viettel Aerospace Insitute & Viettel Group, Vietnam)

Causal Discovery for Occupant-Environment Interactions: A Comparative Study on Residential IoT Sensor Data

Anh Tuan Dang (PTIT, Vietnam); Dat Dinh Nguyen (Posts and Telecommunications Institute of Technology, Vietnam)

Adaptive P&O-Based Loss Minimization Control for Sensorless Induction Motor Drives

Huu Tien Dat Nguyen and Van Binh Nguyen (International University, Vietnam)

Fuzzy Gain Modulation Using Distance-Weighted Density for Swarm Convergence in Artificial Potential Field Navigation

Xuan Cuong Bui and Van Binh Nguyen (International University, Vietnam)

Partitionless 5D Space Vector PWM for 6-Phase Inverters: A Minimalist Approach

Do Duy Hiep (Posts and Telecommunications Institute of Technology, Vietnam); Hieu Nguyen (PTIT University, Vietnam)

Thursday, October 15 13:30 - 15:22

IC1: Integrated Circuits

Room: Ky Co

An FPGA-Oriented Hardware-Software Co-Design for Vision-Based Vehicle Speed Measurement

Nguyen Thanh Phat (University of Information Technology, Vietnam); Duc Khai Lam (University of Information Technology, VNU-HCM, Vietnam); Nam Nhat Vo (Vietnam National University, Vietnam)

FBC2-HQC: An FPGA-Based HQC Vector-Multiplication Accelerator with a Flat Base-Case-2 Karatsuba Multiplier

Pham Thien Long Dinh (University of Information Technology, VNU-HCM, Vietnam); Anh Kiet Pham and Vu Trung Duong Le (Nara Institute of Science and Technology, Japan); Hai Tuan Vu (University of Information Technology & Vietnam National University, Vietnam); Duc Khai Lam (University of Information Technology, VNU-HCM, Vietnam); Yasuhiko Nakashima (Nara Institute of Science and Technology, Japan)

Implementation of Compact SLH-DSA Accelerator for Embedded IoT Systems

Quoc-Thinh Tran (ASICLAB, University of Information Technology, VNU-HCM, Vietnam); Minh Son Nguyen (University of Information Technology - VNUHCM, Vietnam)

Reproducible SPICE-in-the-Loop Robust Sizing of a GF180MCU Two-Stage CMOS Operational Amplifier

Cong Tu Huynh (Quy Nhon University, Vietnam); Nguyen Hao (Qui nhon, Vietnam)

Design and FPGA Implementation of a Unified OTL4.4-Compliant Architecture for 100Gbps Optical Transport Networks: Multilane Distribution, Processing and Gearbox-Based Rate Adaptation

Quan Minh Nguyen, Hung Tuan Pham, Huy Thanh Tran, Hung Dinh Vuong, Hung Nguyen and Linh H Tran (Ho Chi Minh City University of Technology, Vietnam)

JEDI-SoC: A RISC-V System-on-Chip for Pixel-Level JPEG Deduplication on FPGA

Khai Pham and Hung Nguyen (Ho Chi Minh City University of Technology, Vietnam); Thang Luong (Ho Chi Minh City University of Technology - VNUHCM, Vietnam); Luan Dinh (Ho Chi Minh City University of Technology, VNU-HCM, Vietnam); Linh H Tran (Ho Chi Minh City University of Technology, Vietnam)

An Energy-Efficient 9T SRAM Compute-in-Memory Architecture for Binary Neural Networks

Trong-Tu Bui (University of Science, VNU-HCM, Vietnam); Le Tan Huy (University of Science, Vietnam)

Thursday, October 15 13:30 - 15:22

SP1: Signal Processing

Room: Bien Ho

VieText2Sign: A 3D Avatar-Based Framework for Vietnamese Text-to-Sign Language Generation

Ngoc Son Vu (Posts and Telecommunications Institute of Technology, Vietnam); Van Son Hoang (Vietnam); Ket Dong Vu (Posts & Telecommunications Institute of Technology, Vietnam); Nam Vu (Posts and Telecommunications Institute of Technology, Vietnam)

Fine-Tuning and Retrieval-Augmented Llama-3.1 for Vietnamese Medical Dialogue Systems

Ben Do Van (Hanoi University of Science and Technology, Vietnam); Nam Do Hai (Hanoi-Amsterdam Highschool for the Gifted, Vietnam); Anh Tai Trinh (VietDuc High School, Vietnam); Thi Thu Trang Pham (Hanoi Open University, Vietnam); Tan Nghia Duong (Hanoi University of Science and Technology, Vietnam)

[A Domain-Adaptive Kolmogorov-Arnold Network for Cross-Subject EEG-Based Emotion Recognition](#)

Duc Nguyen Huu Dang, Nhut Minh Nguyen, Quang Nhan Hoang and Nhat Khanh Le (FPT University, Vietnam); Duc Ngoc Minh Dang (FPT University, Ho Chi Minh, Vietnam)

[Benchmarking Vision Transformer Architectures for Iridology-Based Lung Damage Pre-Scanning](#)

Ho Hung, Len Van Vo and Quoc Nguyen (Thu Dau Mot University, Vietnam)

[Audio-Guided Repair Gate for ASR-Robust Speech Emotion Recognition](#)

Nhut Minh Nguyen, Duc Tai Phan, Duc Nguyen Huu Dang and Thu Ky Nguyen (FPT University, Vietnam); Duc Ngoc Minh Dang (FPT University, Ho Chi Minh, Vietnam)

[KMFed: A Lightweight and Robust Byzantine-Resilient Federated Learning Defensive Framework for Edge Object Detection](#)

Huy Tuan Le, Ngoc Minh Luong, Duc Nguyen Huu Dang and Quang Nhan Hoang (FPT University, Vietnam); Tuan Cuong Nguyen (Vietnamese-German University, Vietnam); Duc Ngoc Minh Dang (FPT University, Ho Chi Minh, Vietnam)

[End-to-End Joint Training of Super-Resolution and Compression Artifact Removal for Industrial Machine Vision](#)

Dang BuiDinh (VNU University of Engineering and Technology, Vietnam); Sang NguyenQuang (National Yang Ming Chiao Tung University, Taiwan); Anh Nguyenphuong (Vietnam); Wen-Hsiao Peng (National Yang Ming Chiao Tung University, Taiwan); Hoàng Văn Xiêm (VNU University of Engineering and Technology, Vietnam)

Thursday, October 15 15:22 - 15:40

CB2: Coffee Break

Thursday, October 15 15:40 - 17:32

A1: Antennas and Propagation

Room: Ky Co

[A Streaming Sliding-Window Vectorization Architecture for Low-Latency CNN Acceleration on FPGA](#)

Hieu Nguyen (PTIT University, Vietnam); Thao Viet Vuong (Posts and Telecommunications Institute of Technology, Vietnam & PTIT, Vietnam); Minh-Tuan Le (Posts and Telecommunications Institute of Technology, Vietnam); Huyen Thanh Dao (Posts and Telecommunications Institute of Technology, Vietnam & Gunma University, Vietnam); Dao Anh Vu (Posts and Telecommunications Institute of Technology, Vietnam)

[High-Efficiency Slotted-Array Antenna Using Polarization-Converting Surface for X-Band Radar Applications](#)

Ngoc Huyen Nguyen, Thi Thu Nguyen, Hai Dang Le, Nguyen Khac Kiem and Son Xuat Ta (Hanoi University of Science and Technology, Vietnam)

Hardware-Oriented Design-Space Exploration of a Wavefront-Approximated Gaussian-Adaptive Trilateral Filter for Edge-Preserving Image Denoising

Thai Q Nguyen and Hung K. Nguyen (VNU University of Engineering and Technology, Vietnam)

A Reflectarray Antenna Using Tilted Beam Microstrip Feed for CubeSat Applications

Hong Anh Nguyen (Hanoi University of Science and Technology, Vietnam); Anh Quan Nguyen (Viettel Group, Vietnam); Quang Minh Dang, Hai Dang Le, Nguyen Khac Kiem and Son Xuat Ta (Hanoi University of Science and Technology, Vietnam)

A Chassis-Assisted Frequency-Reconfigurable C-Shaped PIFA for Dual-Band LoRa Communications in 1U CubeSats

Huu Phuc Phan and Thanh Tu Duong (Posts and Telecommunications Institute of Technology, Vietnam); Hung Viet Nguyen (Post and Telecommunications Institute of Technology, Vietnam); Kim Khoa Nguyen (École de Technologie Supérieure, Canada)

A High-Gain Circularly Polarized Antenna for Broadband Applications

Lan Nguyen and Pham Anh Tai (Posts and Telecommunications Institute of Technology, Vietnam)

Dimensionality-Reduced Beam Pattern Synthesis for 6G Massive Antenna Arrays via Legendre-ADAM Optimization

Nguyen Minh Tran (VNU - University of Engineering and Technology, Vietnam)

Thursday, October 15 15:40 - 17:32

C2: Communications

Room: Eo Gio

Performance Enhancement of Multi-Hop Relaying Networks Using NOMA Under Hardware Impairments

Minh Xuan Pham (Posts and Telecommunications Institute of Technology HoChiMinh City, Vietnam); Sang Quang Nguyen (Posts and Telecommunications Institute of Technology, Vietnam); Sang Van Minh Nguyen (Posts and Telecommunications Institute of Technology, Ho Chi Minh City, Vietnam); Bao Chau Chau Tran Nguyen and Tran Trung Duy (Posts and Telecommunications Institute of Technology, Vietnam); Lam Thanh Tu (Ton Duc Thang University, Vietnam)

Dual-RIS-Assisted Hybrid RF/THz Communication for 6G: Performance Analysis Under Different Switching Strategies

Puja Roy Dipa (Rajshahi University of Engineering & Technology, Rajshahi, Bangladesh); Md. Abdur Rakib (Bangladesh University of Business and Technology, Bangladesh); Md. Anwar Hossain (Rajshahi University of Engineering & Technology, Rajshahi, Bangladesh); Nguyen Hoang Hai (Hanoi University of Science and Technology, Vietnam)

An Evaluation of Prediction for Measured CFR Continuation Based on NMSE Multi-Seed

Nguyen Van Huy (Tran Quoc Hoan Academy, Vietnam); Nguyen Thu Nga (Hanoi University of Science and Technology, Vietnam)

Performance Analysis of Digital Self-Interference Cancellation in Monostatic IBFD-ISAC Systems with I/Q Imbalance and PA Memory Nonlinearity

Xuan Le, Kien Trinh Quang and Le Hai Nam (Le Quy Don Technical University, Vietnam); Khuc Bang (Peter the Great St. Petersburg Polytechnic University, Russia); Thi-Hong-Tham Tran (Le Quy Don Technical University, Vietnam)

Adaptive Ensemble Anomaly Detection for Irregular Event-Driven Telemetry in Multi-RAT Smart Sites

Cuong Pham-Quoc and Binh Phung-Xuan (MobiFone High Technology Center-MobiFone Corporation, Vietnam); Vu-Duc Ngo (Hanoi University of Science and Technology, Vietnam); Hoang Minh Nguyen (MobiFone High Technology Center - MobiFone Corporation, Vietnam); Xuan-Chien Le (MobiFone High Technology Center-MobiFone Corporation, Vietnam); Chien Tang-Tan (Vietnam-Korea University of Information and Communication Technology-The UDN, Vietnam); Dac-Binh Ha (Duy Tan University, Vietnam); Tuan Tang (Danang University of Science and Technology, Vietnam)

Explainable Anomaly Detection and Root Cause Localization for Operational 5G NSA Networks Using Multi-KPI Analytics

Cuong Pham-Quoc (MobiFone High Technology Center-MobiFone Corporation, Vietnam); Chien Tang-Tan (Vietnam-Korea University of Information and Communication Technology-The UDN, Vietnam); Mai T. P. Le (Danang University of Science and Technology, Vietnam); Phuc Vo Duy (University of Science and Technology, Vietnam); Vien Nguyen-Duy-Nhat and Tuan Tang (Danang University of Science and Technology, Vietnam)

DFAS-N-PSK: Secure Multicell Massive MIMO with Generalized N-PSK Jamming Detection Under Identical Spatially Correlated Rician Fading

Vu Le Quynh Giang (National Academy of Education Management, Vietnam); Kien Trung Truong (VNU-HCM University of Science, Vietnam); Hung Tran (National Economics University, Vietnam & DATCOM Lab, Vietnam); Thang Le Nhat (Post and Telecommunications Institute Technologies, Vietnam)

Thursday, October 15 15:40 - 17:32

E2: Electronics

Room: Hon Kho

Fuzzy Adaptive Sliding Mode Control for Boost Converters Feeding Constant Power Loads in DC Microgrids

Linh-Tam Nguyen, Quoc-Thang Duong, Quang-Sang Nguyen, Le-Khanh-Dung Tran, Dinh-Nhon Truong and Huu-Thai Pham (Ho Chi Minh city University of Technology and Engineering, Vietnam)

A Low-Power Embedded IoT-LoRa Platform for Real-Time Air Quality Monitoring

Tran Duc Giang, Ninh Thi Nhu Hoa, Dong Van Dung and Nguyen Ngoc Viet (Phenikaa University, Vietnam)

An Adaptive IoT System for Energy-Efficient Multi-Patient Health Monitoring

Cong Nguyen Hong and Nguyen Thanh Chien (Hanoi University of Science and Technology, Vietnam); Nguyen Hoai Nam (Ha Noi University of Science and Technology, Viettel Aerospace Institute, Vietnam); Quoc Cuong Nguyen (Hanoi University of Science and Technology, Vietnam); Kien Nguyen (Chiba University, Japan); Thuy Minh Le (School of Electrical & Electronic Engineering, Vietnam & Hanoi University of Science and Technology, Vietnam)

An Online Neural Network-Based Current Consensus Algorithm for Hierarchical Control of DC Microgrids

Hung Ly Ba, Phong Bui The, Khai Nguyen and Nga Thi-Thuy Vu (Hanoi University of Science and Technology, Vietnam)

Real-Time Hardware-in-the-Loop Implementation of a Fuzzy Variable-Step P&O MPPT for PV/Battery Systems

Tran-Anh-Dung Do, Kha-Hiep Tran, Duy-Linh Nguyen, Tran-Tien-Minh Le, Dinh-Nhon Truong and Huu-Thai Pham (Ho Chi Minh City University of Technology and Engineering)

Hybrid GATv2 for IoT Intrusion Detection with Auditable Explanation Evidence and Rule Hints

Hy Thanh Phan (Posts and Telecommunications Institute of Technology, Vietnam); De-Thu Huynh (The Saigon International University, Ho Chi Minh City, Vietnam); Huynh Trong Thua, Bao Tran and Khoa Nguyen (Posts and Telecommunications Institute of Technology, Vietnam)

An Energy-Aware MLOps Pipeline for Adaptive Visual Model Deployment at the Edge

Ngan Tran-Thu (University of Information Technology, Ho Chi Minh City, Vietnam); My Ho Thi Huynh (University of Information Technology, Vietnam); Khanh-Hoi Le-Minh (University of Information Technology - VNUHCM, Vietnam); Thanh Duc Ngo (University of Information Technology, Vietnam); Quan Le-Trung (University of Information Technology - VNUHCM, Vietnam)

Thursday, October 15 15:40 - 17:32

SP2: Signal Processing

Room: Bien Ho

Agreement Between Binarized Grad-CAM Heatmaps and Segmentation Ground Truth: A Preliminary Study

Quoc Huy Nguyen Cong and Khanh Son Nguyen (Vietnam National University Hanoi, Vietnam); Quang Manh Doan (Vrije Universiteit Brussel, Belgium); Tran Hiep Dinh (VNU University of Engineering and Technology, Vietnam); Stijn Denissen (AIMS Lab, Vrije Universiteit Brussel, Belgium); Trung Thanh Nguyen (108 Military Central Hospital & Hanoi University of Science and Technology, Vietnam); Jeroen Van Schependom (Vrije Universiteit Brussel, Belgium); Nguyen Linh Trung (Vietnam National University, Hanoi, Vietnam); Guy Nagels (Vrije Universiteit Brussel, Belgium)

Comparative Evaluation of Deep Learning Models for Individual-Tooth Segmentation in Panoramic Dental X-Rays

Hieu L. M. Ha and Hanh Thi Minh Tran (UD - University of Science and Technology, Vietnam); Thang V. N. Le (Hue University of Medicine and Pharmacy, Vietnam); Tran Dang Khoa Phan (Danang University of Science and Technology, Vietnam)

Quantitative Evaluation of NPK Content in Fertilizers Using near-Infrared Hyperspectral Imaging

Tri Minh Dinh (Ho Chi Minh City University of Technology - VNU HCMC, Vietnam); Uyen Nguyen (International University - VNU HCMC, Vietnam); Hoai Van Tran (Ho Chi Minh City University of Technology - VNU HCMC, Vietnam); Huy Nguyen and Quoc T. Huynh (International University - VNU HCMC, Vietnam)

Bit-Exact Validation of a P25/C4FM Software Receiver Against an Independent MATLAB Reference

Van Chung Pham (Le Quy Don Technical University, Vietnam); Phu-Ninh Tran (Vietnam Naval Academy, Vietnam)

HDS-ViSPSV: A Hybrid Dual-Stream Approach to Vietnamese Speaker Verification Using Spectral and Prosodic Features

Quan Trung Do, Dat Huu Ngo, Anh Thi Minh Tran, Dung Tri Nguyen, Huynh Thien Quang Nguyen and Trung Nguyen Quoc (FPT University, Vietnam)

Enhanced Scaffold-GS for High-Fidelity Novel View Synthesis

Mai-Linh Trinh (HUST, Vietnam); Thanh-Tam Nguyen (PTIT, Vietnam); Doan-Duc Phan (SEEE, HUST, Vietnam); Huu-Tien Vu (Posts and Telecommunications Institute of Technology, Vietnam); Thi-Lan Le (School of Electrical and Electronic Engineering (SEEE) HUST, Vietnam)

A Leakage-Aware Reproducibility Audit of Vibration-Thermal Signal Representations for Single-Trajectory Bearing Monitoring

Vu Minh Anh Nguyen (FPT University, Vietnam); Cao-Phuc Ha (FPT University, Ho Chi Minh City, Vietnam); Nguyen Phu Le (Vietnam Aviation Academy, Vietnam)

Thursday, October 15 18:30 - 21:00

GD: Gala Dinner

Friday, October 16

Friday, October 16 7:30 - 8:00

REG2: Registration

Friday, October 16 8:00 - 8:40

KN5: Keynote speaker #5: Intelligent Design of Wireless Power Transfer: AI-Driven Frameworks Networks

Prof. Hiroo Sekiya, Chiba University, Chiba, Japan

Friday, October 16 8:45 - 10:21

E3: Electronics

Room: Hon Kho

Cyclic Voltammetric Deposition of Gold Nanoparticles on Screen-Printed Carbon Electrodes for Enhanced Electrochemical Response

Linh Huynh Thi Thuy (School of Engineering and Technology - Hue University, Vietnam); Trieu Pham Hai (School of Engineering and Technology, Hue University, Vietnam); Phuong Phan Hoang, Thuan Nguyen Van, Minh Nguyen Le and Minh Quang Nhat Le (School of Engineering and Technology - Hue University, Vietnam)

University, Vietnam); ChunPing Jen (National Chung Cheng University, Taiwan); Lich Nguyen Quang (School of Engineering and Technology - Hue University, Vietnam)

Development of Multi-Color String Art Machine

Nazat Kabir (Rajshahi University of Engineering & Technology, Bangladesh); Md. Anwar Hossain (Rajshahi University of Engineering & Technology (RUET), Bangladesh & Electrical & Computer Engineering, Bangladesh); Nguyen Hoang Hai (Hanoi University of Science and Technology, Vietnam)

Consensus Tracking Control for Nonlinear Multi-Agent Systems Under Independent DoS Attacks

Nguyen Thi Thanh Quynh and Thanh Dao Minh (Phenikaa University, Vietnam); Chi-Van Nguyen (Moscow State Technological University Stankin, Russia)

A Filtering SIW Power Divider with Improved Selectivity for Ku-Band Applications

Tong Truong Toan and Luong Duy Manh (Le Quy Don Technical University, Vietnam); Ha Ngoc Hoat (Le Quy Don, Vietnam); Dai Xuan Loi (Military Institute of Science and Technology & Hightech Telecommunication Center, Vietnam); Hai Ngoc Le and Mai Ta (Le Quy Don Technical University, Vietnam)

Design of a Multilayer Air-Filled SIW Bandpass Filter for 5G/6G Front-End Applications

Duc Nhat Nguyen (Viettel High Technology Industries Corporation, Vietnam & Hanoi University of Science and Technology (HUST), Vietnam); Hoang Truyen (Viettel High Technology Industries Corporation, Vietnam); Cuong Manh Hoang (Hanoi University of Science and Technology & Viettel High Technology Industries Corporation, Vietnam); Sy Vinh Ho and Van Bui (Viettel High Technology Industries Corporation, Vietnam); Thuy Minh Le (School of Electrical & Electronic Engineering, Vietnam & Hanoi University of Science and Technology, Vietnam); Nguyen Xuan Quyen (Hanoi University of Science and Technology, Vietnam)

A Wideband Dual-Polarized Magneto-Electric Dipole with Non-Uniform CSRR Decoupling for 6G Base Stations Application

Quang Như Nguyễn (Hanoi University of Science and Technology (HUST), Vietnam); Long Nguyen and Quoc Cuong Nguyen (Hanoi University of Science and Technology, Vietnam); Thuy Minh Le (School of Electrical & Electronic Engineering, Vietnam & Hanoi University of Science and Technology, Vietnam)

Friday, October 16 8:45 - 10:21

SP3: Signal Processing

Room: Bien Ho

A Scalable Time-Shared Farrow Interpolation Architecture for Wideband SDR Systems

Quang Anh Nguyen, Hiep Vi Quang, Dat Le Tien and Duc Huu Nguyen (Viettel High Technology Industries Corporation (VHT), Vietnam); Hong Huy Thong Nguyen and Minh Tuan Vu (Viettel High-Technology Industries Corporation, Vietnam)

DVAL: Detector and Vision-Language Active Learning for Traffic Sign Detection

Lam Phuong Nguyen (Ton Duc Thang University, Vietnam); Duc Tai Phan (FPT University, Vietnam); Duc-Hieu Hoang (Ton Duc Thang University, Vietnam); Tri Nguyen Thai (FPT University, Vietnam); Tuan Cuong Nguyen (Vietnamese-German University, Vietnam); Duc Ngoc Minh Dang (FPT University, Ho Chi Minh, Vietnam)

Multi-Sensor Extended Object Tracking Using ET-GM-PHD and MEM-EKF Integration

Minh Ngoc Duong (Vietnam National University Hanoi, Vietnam); Hung Pham Quang (University of Engineering and Technology, Vietnam)

Adaptive Reward Mechanisms for Deep Reinforcement Learning in Heterogeneous Stock Trading

Thi Kim Ngan Tran (University of Information Technology, HCM VNU, Vietnam); Dung Ha Nguyen (UIT, VNU HCMC, Vietnam); Binh Thanh Nguyen (University of Information Technology & Geminisoft, Vietnam)

Mitigating CSS Selection Bias via Entropy-Guided Group Reweighting in Mamba-Based WSI Classification

Tuan Minh Tran and Minh Bau Luu (Posts & Telecommunications Institute of Technology, Vietnam); Quan Tran Duc, Quan Nguyen and Nam Vu (Posts and Telecommunications Institute of Technology, Vietnam)

Deployment-Oriented Lightweight CNN Receiver for 5G NR Uplink PUSCH

Son Dang (R&D Center, Viettel Network Technologies Center, VIETTEL, Vietnam); Ngo Nam-Khanh, Nguyen Ba-Thanh, Dang Nhat-Quang and Tung Huu Nguyen (Viettel High Technology Industries Corporation, Vietnam)

Friday, October 16 8:45 - 10:21

SS1-1: Special Session: AI-Enabled 5G/6G Communication Systems

Room: Ky Co

Harness-Engineered Agentic Federated Learning: A Structured Control Plane for Reliable Multi-Agent Orchestration over Wireless Networks

Nguyen Xuan Loc (Thu Dau Mot University, Vietnam)

Context-Aware Multi-Head Self-Attention for Interpretable Endpoint Threat Classification in Enterprise Systems Supporting 5G/6G Telecommunications Operations

Ngoc Hieu Le (Posts & Telecommunications Institute of Technology, Vietnam); De-Thu Huynh (The Saigon International University, Ho Chi Minh City, Vietnam); Van-Quynh Trinh, Le Ha-Thanh and Huynh Trong Thua (Posts and Telecommunications Institute of Technology, Vietnam); Anderes Gui (Bina Nusantara University, Indonesia)

Low-Complexity Geometry-Aware Hybrid Beamforming for near-Field STAR-RIS Networks

Nam Van Dinh (Phenikaa University, Vietnam); Nguyen Tien Hoa (Hanoi University of Science and Technology, Vietnam); Ngo Hoang Tu and Vo Nguyen Quoc Bao (Van Lang University, Vietnam); Hai Minh Truong and Thuan Van Le (Phenikaa University, Vietnam)

Throughput and Energy-Efficient Design for ABS-Assisted RSMA Systems Under Practical Wireless Impairments

Bui Trong Hoang (Le Quy Don Technical University, Ha Noi, Vietnam); Xuan Nghia Pham and Xuan Nam Tran (Le Quy Don Technical University, Vietnam); Ba Cao Nguyen (Telecommunications University, Vietnam)

Visual Simulation of Surface-17 Under Pauli Noise: A Browser Native Lookup Vs MWPM Comparison

Minh Van Nguyen and Hung Quang Dang (Viettel Institute for Strategic Technologies, Viettel Group); Nguyen Vu Ha (Viettel Group, Vietnam); Vu Viet Tien (Viettel Institute for Strategic Technologies Viettel Group, Vietnam); Binh Nguyen (Viettel Research & Development Institute, Vietnam); Le Ngoc Quy (Viettel Institute for Strategic Technologies Viettel Group, Vietnam)

Preamble-Free Timing Synchronization Based on Delay Dominant Multipath Components

Toya Fukushima, Tomoyuki Omuro, Jaesang Cha and Chang-Jun Ahn (Chiba University, Japan)

Friday, October 16 8:45 - 10:21

SS2-1: Special Session: Smart Transportation and Smart City Systems

Room: Eo Gio

Estimating Delay and Doppler Frequency Using Variational Bayesian SAGE for Narrowband MmWave Vehicular Channel

Anh Hong Nguyen, The Anh Nguyen, Kien Trung Do and Khanh Quang Tran (Hanoi University of Science and Technology, Vietnam)

Dynamic Point-Cloud Selection for Cooperative Real-Time Wide-Area LiDAR Mapping

Taku Noguchi, Masami Yoshida and Sho Ibuki (Ritsumeikan University, Japan)

Urban Anomaly Detection from UE Geo-Signaling Data

Ha Nguyen Dung and Hoang Minh Nguyen (MobiFone High Technology Center - MobiFone Corporation, Vietnam); Vu-Duc Ngo (Hanoi University of Science and Technology, Vietnam)

Mitigating ISI in FSK-Based Shallow Underwater Acoustic Communication Systems

Quoc Khuong Nguyen (HUST, Vietnam); Kyandoghere Kyamakya (Universitaet Klagenfurt, Austria); Hoa Nguyen Quang, Phuc Nguyen Hong, Hung Nguyen Duc and Nguyen Ba Nhat Le (Hanoi University of Science and Technology, Vietnam); Nguyen Van Duc (HUST, Vietnam)

Duration-Aware Visibility Filtering for Sequential UWB Localization Under Intermittent LOS/NLOS Links

Thuan Van Le, Nam Van Dinh, Thiem V. Pham and Sy-Hung Bach (Phenikaa University, Vietnam)

Robust Indoor Mobile Robot Localization Using Maximum Correntropy Criterion UKF

Quang Nhat Vu, Duc Minh Dang, Long Gia Ngo, Chuyen Huu Nguyen and Binh Duc Le (Vietnam National University Hanoi, Vietnam); Tan-Phong Nguyen and Thai-Mai Dinh (VNU University of Engineering and Technology, Vietnam)

Friday, October 16 10:19 - 10:40

CB3: Coffee Break

Friday, October 16 10:40 - 12:16

M1: Microwave Engineering

Room: Hon Kho

High-Performance Modular Wideband Multi-Channel Transmit-Receive (MTRx) Module with Integrated Automated Test Framework for Advanced Phased Array Systems

V. J. R. Santhosh (Bharat Electronics Limited, India); Vipin Kumar H (Bharat Electronics Ltd. & PDIC, Bharat Electronics Limited, India); Arpana MK (Bharat electronics Ltd, India & Product Development and Innovation Centre, India); Venkatamuni T (PDIC-BEL, India)

A 2-D Physics-Informed Simulation Framework for Variable-Frequency Microwave Distribution and Thermal Diffusion in Wafer-Level Processing

Byung Lyul Park and Dongyul Kim (Chiba University, Japan); Junha Kim (Lambda Micro Co., Ltd., Korea (South)); Jaesang Cha and Chang-Jun Ahn (Chiba University, Japan)

Diplexer-Assisted Dual-Band RF Energy Harvesting System for Ultra-Low-Power Applications in LTE Bands 3 and 1

Hai-Long Nguyen (Viettel High Technology, Vietnam); Hieu Nguyen (PTIT University, Vietnam); Minh-Tuan Le (Posts and Telecommunications Institute of Technology, Vietnam)

A Discrete-GaN RF-Input Sequential Load-Modulated Balanced Amplifier for the 5G-Advanced n104 Band

Cuong Manh Hoang (Hanoi University of Science and Technology & Viettel High Technology Industries Corporation, Vietnam); Duc Nhat Nguyen (Viettel High Technology Industries Corporation, Vietnam & Hanoi University of Science and Technology (HUST), Vietnam); Hoang Truyen and Do Trong Toan (Viettel High Technology Industries Corporation, Vietnam); Thuy Minh Le (School of Electrical & Electronic Engineering, Vietnam & Hanoi University of Science and Technology, Vietnam); Nguyen Xuan Quyen (Hanoi University of Science and Technology, Vietnam)

Design of an MHz-Frequency Multi-Device Wireless Power Transfer System for Wireless Robot Charging

Thanh Thien Pham (Hanoi University of Science and Technology, Vietnam); Hoa Le Minh (Northumbria University, United Kingdom (Great Britain)); Thuy Minh Le (School of Electrical & Electronic Engineering, Vietnam & Hanoi University of Science and Technology, Vietnam)

Wideband Three-Dimensional Direction Finding for UAV Surveillance Using Multi-Layer LPDA Array

Van Long Do (Viettel High Technology Industries Cooperation, Vietnam); Hoang Ban Nguyen, Binh Minh Tran and Thanh Binh Ngo (Viettel High Technology Industries Corporation, Vietnam)

Friday, October 16 10:40 - 12:16

SP4: Signal Processing

Room: Bien Ho

Automated Evaluation Framework for Large Language Models in the Vietnamese-Language Gout Domain

Quang Nguyen-Tai, Tuyen Huynh-Ngoc-Ngan and Thuat Nguyen-Khanh (UIT - VNUHCM, Vietnam); Phat Phan-Trung and Quan Le-Trung (University of Information Technology - VNUHCM, Vietnam)

AgriTATSR: Agricultural Task-Aware Thermal Super Resolution for Crop Water Stress Assessment

Nguyễn Phú Phan and Trần Quang Minh (Hanoi - Amsterdam High School for the Gifted, Vietnam); Sang NguyenQuang (National Yang Ming Chiao Tung University, Taiwan); Dang BuiDinh (VNU University of Engineering and Technology, Vietnam)

YOLO Head with Tiny- and Dual-Scale Detection (YOLO-HTD) of Small Objects for UAV Imagery

Tien Sang Ngo (East Asia University of Technology, Vietnam); Tran Hiep Dinh (VNU University of Engineering and Technology, Vietnam); Minh-Tu Cao (National Yang Ming Chiao Tung University, Taiwan); Nguyen Linh Trung (Vietnam National University, Hanoi, Vietnam); Quang Ha (University of Technology Sydney, Australia)

IHNSplice: Improving Robustness of Splice Site Prediction Under Class Imbalance via Nucleotide Transformer Embeddings and Multi-Distribution Ensemble Learning

Anh Thi Minh Tran, Quan Trung Do, Dung Tri Nguyen and Dat Huu Ngo (FPT University, Vietnam); Nguyen Doan Hieu Nguyen (Sungkyunkwan University, Korea (South)); Duc Ngoc Minh Dang (FPT University, Ho Chi Minh, Vietnam)

Color-Code ID Tags Applied to a 2.5 m × 2.0 m Kinetic LED Wall and Recognition Using a Smart Device Camera

Cho Su Hyung (Metakium.co.Ltd, Korea (South)); Hyunhee Cha (Jeonghwa Arts College, Korea (South)); Jaesang Cha (Chiba University, Japan); Ha Donggum (KBS Art Vision, Korea (South)); Chang-Jun Ahn (Chiba University, Japan)

Integration of sEMG-IMU Signals and Demographic Context for Gait Analysis in Rehabilitation

Viet Dung Nguyen, Nguyễn Kỳ Sơn, Hai Ngoc Pham, Giang Hoang Chu and My Nguyen Tra Vuong (Hanoi University of Science and Technology, Vietnam); Tung Van Nguyen (HUS High School for Gifted, Vietnam)

Friday, October 16 10:40 - 12:16

SS1-2: Special Session: AI-Enabled 5G/6G Communication Systems

Room: Ky Co

Conflict-Aware User Scheduling and Hybrid Beamforming for near-Field STAR-RIS Systems

Thuan Van Le and Hai Minh Truong (Phenikaa University, Vietnam); Ngo Hoang Tu and Vo Nguyen Quoc Bao (Van Lang University, Vietnam); Nguyen Tien Hoa (Hanoi University of Science and Technology, Vietnam)

Compute-for-Bandwidth: Secure and Dynamic Tensor Compression for 6G Edge AI Disaggregation

Hung Dang, Nguyen Minh Tan and Truong Khang Nguyen (Van Lang University, Vietnam)

Kernel Bypass for Deterministic Edge VR Telemetry in 6G

Hung Dang, Nguyen Minh Tan and Truong Khang Nguyen (Van Lang University, Vietnam)

Near-Field Channel Estimation via Deep Unfolding for Extremely Large-Scale Antenna Arrays

Nguyen The Khang (Vietnam National University Hanoi, Vietnam); Hai Son Do (Curtin University, Australia); Duy Trong Tran (CentraleSupélec, Université Paris-Saclay, France & VNU University of

Engineering and Technology, Vietnam); Thanh Trung LE (Vietnam National University, Hanoi, Vietnam); Viet-Dung Nguyen (ENSTA Bretagne, France); Trong-Minh Hoang (Posts and Telecommunications Institute of Technology, Vietnam); Karim Abed-Meraim (University of Orleans & PRISME Laboratory, France); Mérouane Debbah (Khalifa University of Science and Technology, France); Nguyen Linh Trung (Vietnam National University, Hanoi, Vietnam)

Reliability-Security Trade-off Analysis of RIS- and AJ-Assisted RSMA Systems with Discrete Phase Shifts and Imperfect SIC

Le Huu Luyen (Ho Chi Minh City University of Technology and Engineering, Vietnam); Trung Thanh Nguyen (Telecommunications University, Vietnam); Le The Dung (Ho Chi Minh City University of Technology and Engineering, Vietnam); Hoang Tran Manh (Telecommunications University, Vietnam)

Communication-Efficient Distributed Inference via Adaptive Attention Mechanisms: Modeling, Framework, and Analysis

Tianrong Ding (School of Engineering and Applied Science, University of Pennsylvania)

Friday, October 16 10:40 - 12:16

SS2-2: Special Session: Smart Transportation and Smart City Systems

Room: Eo Gio

Robust Consensus Control for Multi-Agent Systems Under Different Regional State Constraints

Tran Huy Khanh and Thiem V. Pham (Phenikaa University, Vietnam); Dung Thien Tran (Kyungpook National University, Korea (South))

FLIA: Forgotten Label Inference Attacks Against Machine Unlearning in Smart City Systems

Hoang-Trung Le-Pham (University of Science, Ho Chi Minh City, Vietnam); Hung P. Truong (Ho Chi Minh City University of Science, VNU, Vietnam); Le Kim-Hung (University of Information Technology, Vietnam)

Short-Term Forecasting of Metered District Heat Consumption for Smart City Energy Management: A Case Study of Saint Petersburg

Inga Skvortsova (Graduate School of Industrial Management, Peter the Great St. Petersburg Polytec, Russia); Olga Ergunova (Peter the Great St. Petersburg Polytechnic University, Russia & LPU, India); Andrei Georgievich Somov, Irina Bagaeva, Alessar Khalil and Viktoria Vilken (Peter the Great St. Petersburg Polytechnic University, Russia)

Receding-Horizon Model Predictive Control for Site-Constrained EV Charging Under Communication Delay

Van Cuong Nguyen (VinUniversity, Vietnam & School of Electrical and Electronic Engineering, Hanoi University of Industry, Vietnam); Anh Thu Nguyen (Hanoi University of Industry, Vietnam); Dinh Nam Vu (East Asia University of Technology, Vietnam); Phi Long Nguyen (School of Electrical and Electronic Engineering, Hanoi University of Industry & Center for Environmental Intelligence, VinUniversity, Vietnam)

ISAC-Assisted Deep Reinforcement Learning for Mobile EV Charging Robot Scheduling

Van Cuong Nguyen (VinUniversity, Vietnam & School of Electrical and Electronic Engineering, Hanoi University of Industry, Vietnam); Anh Thu Nguyen (Hanoi University of Industry, Vietnam); Trang Thi Le (Đại học Công nghiệp Hà Nội, Vietnam); Phi Long Nguyen (School of Electrical and Electronic Engineering, Hanoi University of Industry & Center for Environmental Intelligence, VinUniversity, Vietnam)

Hybrid Beamforming Architecture Using Symbol Modified QO-STBC

Tomoyuki Omuro, Toya Fukushima, Jaesang Cha and Chang-Jun Ahn (Chiba University, Japan)

Friday, October 16 12:16 - 13:30

LB2: Lunch Break

Friday, October 16 13:30 - 15:22

N1: Networks

Room: Hon Kho

Optimizing Service Placement and Task Delegation in Edge-Cloud Systems Using DRL

Vo Phi Son (VinUniversity, Vietnam); Ngoc Hung Nguyen (Lund University, Sweden); Trinh Van Chien (Hanoi University of Science and Technology, Vietnam); Van-Dinh Nguyen (Trinity College Dublin, Ireland)

Energy-Aware Scheduling of Compute-Then-Transmit Jobs for Deadline-Constrained IoT Edge Nodes

Binh Nguyen Thanh (Hanoi University of Science and Technology, Vietnam)

Resilient Software-Defined Network Routing via Hierarchical Multi-Agent Reinforcement Learning

Huynh Ngoc Anh Kiet (University of Information Technology - VNU, Vietnam); Nguyen Thanh Nhan and Chuong Dang-Le-Bao (University of Information Technology, Vietnam); Quan Le-Trung (University of Information Technology - VNUHCM, Vietnam)

QCAR: Joint Network-Memory Routing Optimization for Congestion Control in Large-Scale LLM Inference Clusters

Thang Nguyen Minh (Viettel Group, Vietnam); Minh Son Le (Viettel Semi, Vietnam)

SABER: Semantic-Aware Beam Hopping and Power Allocation for LEO Satellite Networks

Nguyen Xuan Loc (Thu Dau Mot University, Vietnam)

LogAdvAug: Adversarial Log Augmentation for Cross-Domain Anomaly Detection via LLM Fine-Tuning

Quang-Dung Dang and Hong Anh Tan Nguyen (Posts and Telecommunications Institute of Technology, Vietnam); Quoc-Dung Ngo (PTIT, Vietnam)

MLair: A Governance-Centric ML Control Plane for Multi-Tenant AI Workloads

Phu Nguyen-Tai, Nhat Tran-Minh and Tuan Le-Anh (University of Information Technology, VNU-HCM, Vietnam); Bao Nguyen-Van and Quan Le-Trung (University of Information Technology - VNUHCM, Vietnam)

Friday, October 16 13:30 - 15:22

SS1-3: Special Session: AI-Enabled 5G/6G Communication Systems

Room: Ky Co

Age-of-Information-Aware Uplink Scheduling for Digital-Twin-Assisted Smart EV Charging

Van Cuong Nguyen (VinUniversity, Vietnam & School of Electrical and Electronic Engineering, Hanoi University of Industry, Vietnam); Anh Thu Nguyen and Hoang Nha Phi (Hanoi University of Industry, Vietnam); Phi Long Nguyen (School of Electrical and Electronic Engineering, Hanoi University of Industry & Center for Environmental Intelligence, VinUniversity, Vietnam)

Dynamic Computation Offloading for Metaverse Play-to-Earn Games in LEO Satellite-Edge Computing Systems: An Evolutionary Game Approach

Vu Van Quang and Nguyen Cong Luong (Phenikaa University, Vietnam)

EnergyNet: A Hardware-Aware Graph Neural Networks for Pre-Deployment Inference Energy Prediction on IoT Edge Devices

An Le-Minh-Khanh (University of Information Technology, Vietnam); Khanh-Hoi Le-Minh (University of Information Technology - VNUHCM, Vietnam); Le Huy Trinh (University of Information and Technology & Vietnam National University, Vietnam)

Neural Network-Aided Kalman Filtering for Indoor Positioning Autonomous Vehicle System

Nguyen Minh Duc, Duc Minh Dang and Gia Long Ngo (Vietnam National University Hanoi, Vietnam); Tan-Phong Nguyen and Thai-Mai Dinh (VNU University of Engineering and Technology, Vietnam)

Machine Learning for Multi-Horizon Heat Load Forecasting and Metering Data Screening in District Heating Networks: A Two-Site Smart Metering Case Study

Inga Skvortsova (Graduate School of Industrial Management, Peter the Great St. Petersburg Polytec, Russia); Olga Ergunova (Peter the Great St. Petersburg Polytechnic University, Russia & LPU, India); Alexander Ilinskiy, Andrei Georgievich Somov, Irina Bagaeva and Viktoria Vilken (Peter the Great St. Petersburg Polytechnic University, Russia)

Occlusion-Robust 3D Human Pose Estimation from Single-View Depth Sensors Using Biomechanical Skeleton Priors and Visibility-Gated Lifting

Nguyen Tuong Thanh (Quy Nhon University, Vietnam); Hoang ChuDuc (The VNU University of Engineering and Technology & National Technology Innovation Fund, Vietnam); Cac Trong Nguyen (Sao Do University, Vietnam)

Off-Grid Multi-Source Range and Depth Estimation via MF-MUSIC and Physics-Informed Neural Networks

Phong Ngoc Hoai Nguyen (Academy of Military Science and Technology, Vietnam); Nguyen Van Duc (HUST, Vietnam); Minh Hong Phan (Institute of Electronics Hanoi, Vietnam); Dung Phan Anh (Naval Academy, Vietnam)

Friday, October 16 13:30 - 15:22

SS2-3: Special Session: Smart Transportation and Smart City Systems

Room: Eo Gio

LiteBone: A Lightweight Row-Wise Lane Detection Framework for Real-Time Embedded Systems

Dinh Tu Tran, Cong Khanh Thai and Doan Anh Khoa Bui (University of Science and Technology, Vietnam); Mai T. P. Le (Danang University of Science and Technology, Vietnam); Duy-Tuan Dao (University of Science and Technology Da Nang, Vietnam)

Development of an Edge Computing-Based Voice and Gesture-Controlled Lighting System

Anh Quoc Vu, Hung Dong Truong and Hoang Nguyen Huy Le (FPT University, Vietnam); Le The Dung (Ho Chi Minh City University of Technology and Engineering, Vietnam)

Modeling AI Workloads and Evaluating Their Impact on Edge Task Offloading Algorithms

Trung-Tru Huynh, Nguyen Hong Son and Nguyen Trung Hieu (Posts and Telecommunications Institute of Technology, Vietnam); Hung Tran Cong Accepted (Saigon International University, Vietnam)

RAG-Grounded Graph Attention Networks for Feature Selection in Network Intrusion Detection

Van Thinh Pham (Posts and Telecommunications Institute of Technology & Viettel Networks, Vietnam); Huu-Tien Vu and Hai-Chau Le (Posts and Telecommunications Institute of Technology, Vietnam)

Guard-Subsymbol GFDM for 5G NR: Enabling Spectral Containment for Supplementary Carrier Transmission

Khuc Bang and Aleksandr Gelgor (Peter the Great St. Petersburg Polytechnic University, Russia); Phuoc Nguyen Tan Hoang (University of Information Technology, VNU-HCM, Vietnam); Thi-Hong-Tham Tran, Xuan Le and Kien Trinh Quang (Le Quy Don Technical University, Vietnam)

Improving Administrative Document Understanding with Optimized GraphRAG via Genetic Algorithms

Thuan Duc Le, Bui Duc Trong, Pham Truong Chinh and Nguyen Duy Nam (Academy of Cryptography Techniques, Vietnam)

Machine Learning-Based Data Processing Framework for Reliable Low-Cost Air-Quality Monitoring

Tran Duc Trung, Nguyen Thi Van Anh and Dinh Duc Nha Nguyen (VinUniversity, Vietnam); Vu Thi Kim Nhi (School of Electrical and Electronic Engineering, Hanoi University of Industry, Vietnam); Phi Long Nguyen (School of Electrical and Electronic Engineering, Hanoi University of Industry & Center for Environmental Intelligence, VinUniversity, Vietnam)

Friday, October 16 13:30 - 15:22

T1: Emerging Technologies for Future Communications

Room: Bien Ho

Quantum Key Distribution for a Low-Altitude Hybrid Free-Space Optical-Radio Frequency Communication System

Doan Nguyen Le (Duy Tan University, Vietnam); Minh Tam Phan (FPT University, Ho Chi Minh City, Vietnam); Bac Trong Nguyen, Truong Vu and Dac-Binh Ha (Duy Tan University, Vietnam)

[Adaptive Residual-Graph Steiner-Tree Routing for Contended GHZ Multicast in Quantum Networks](#)

Quang Huy Vuong and Vinh Nguyen Thanh (Hanoi University, Vietnam & Posts and Telecommunications Institute of Technology, Vietnam); Nguyen Thi Thu-Hang and Hai-Chau Le (Posts and Telecommunications Institute of Technology, Vietnam)

[Constrained Bayesian Optimization of Asymmetric Bell-Test Parameters for DI-QKD Under Noisy and Lossy Channels](#)

Trinh-Dong Nguyen (Thuyloi University, Vietnam); Hai Tuan Vu (University of Information Technology & Vietnam National University, Vietnam); Duy Hoang Nguyen Duong (University of Information Technology, Vietnam); Van-Chieu Do (National Academy of Education Management, Vietnam)

[Funding-Mode-Sensitive Historical Replay of Atomic Price-Oracle Manipulation in DeFi](#)

Van-Khoi Le, Minh-Quan Dang, Nam-Anh Phung-Van, Tran Tuan Dung and Tuan-Dung Tran (University of Information Technology, VNU-HCM, Vietnam)

[Camera-Driven Shadow-Mode Evaluation for Adaptive Traffic Signal Control Using Real Traffic Demand Replay](#)

Nguyen Vo Quang Dong (Duy Tan University, Vietnam); Vu Hoang Tran (University of Technology and Education, Vietnam); Nhu Gia Nguyen (Duy Tan University, Vietnam); Hoang ChuDuc (The VNU University of Engineering and Technology & National Technology Innovation Fund, Vietnam); Tho Cao Phan (University of Technology and Education, Vietnam)

[Multi-Agent Vision-Language Reasoning for Forgotten-Passenger Detection in Smart-City Parking Infrastructure](#)

Linh Thi Khanh Doan, Linh Gia Pham and Chuong Dang-Le-Bao (University of Information Technology, Vietnam); Quan Le-Trung (University of Information Technology - VNUHCM, Vietnam)

[U-Shaped Ge-on-Si PIN Photodetector for Optical Sensing](#)

Khai The Chu, Vien Thi Tran, Hung Nguyen Tran, Huy Quang Pham and Vinh Huu Nguyen (Viettel Semiconductor Center, Vietnam)

Friday, October 16 15:22 - 15:40

CB4: Coffee Break

Friday, October 16 15:40 - 17:32

A2: Antennas and Propagation

Room: Ky Co

[Dual-Band Dual-Polarized Frequency-Reconfigurable Patch Antenna with Two Band-Selective Varactor Control Paths for Sub-6 GHz 5G Applications](#)

Thai Dinh Nguyen (Phenikaa University, Vietnam); Niamat Hussain (University of Glasgow, United Kingdom (Great Britain)); Nguyen Quoc Dinh (Le Quy Don Technical University, Vietnam)

[A Reflector-Assisted \$1 \times 8\$ FR3 Vivaldi Antenna Array for Wide-Angle High-Speed Railway Communications](#)

Bao Ngan Dinh (Hanoi University of Science and Technology, Vietnam); Tien Dat Nguyen (Seoul National University of Science and Technology, Korea (South)); Nguyen Quoc Dinh (Le Quy Don Technical University, Vietnam); Quoc Cuong Nguyen (Hanoi University of Science and Technology, Vietnam); Thuy Minh Le (School of Electrical & Electronic Engineering, Vietnam & Hanoi University of Science and Technology, Vietnam)

[A Wideband Cavity-Backed Patch Antenna Array with Vias and Radome Structures for X-Band Applications](#)

Van Phu Nguyen, Hoang Viet Anh, Nguyen Manh Tuan, Trinh Van Du, Tran Trung Kien and Thanh Nguyen Nhu (Viettel High Technology Industries Corporation, Vietnam)

[A 3D-Printed Frequency-Reconfigurable Dielectric Resonator Antenna for Compact IoT Devices](#)

Le Huy Trinh (University of Information and Technology & Vietnam National University, Vietnam); Thanh Tuan Phan, Huu-An Nguyen, Thai-Duong Cao and Manh-Thao Nguyen (University of Information Technology, Vietnam); Fabien Ferrero (Université Cote d'Azur, CNRS, LEAT & CREMANT, France)

[A Characteristic-Mode-Guided Wideband Dual-Polarized Antenna for FR3 6G Base Station Applications](#)

Trong Nghia Lang, Do Trong Toan, Quoc Cuong Nguyen and Hoang Truyen (Viettel High Technology Industries Corporation, Vietnam); Nguyen Xuan Quyen (Hanoi University of Science and Technology, Vietnam); Thuy Minh Le (School of Electrical & Electronic Engineering, Vietnam & Hanoi University of Science and Technology, Vietnam)

[Performance Evaluation of SRS-Based Digital Beamforming in 5G NR TDD MU-MIMO Systems](#)

Quy Van Dang, Do Trong Toan and Hoang Truyen (Viettel High Technology Industries Corporation, Vietnam); Kien Nguyen (Chiba University, Japan); Thuy Minh Le (School of Electrical & Electronic Engineering, Vietnam & Hanoi University of Science and Technology, Vietnam)

[On the Investigation of Antenna Beam Pattern Models for Fast Beam Placement in LEO Satellite Networks](#)

Tam Thi Thanh Ninh, Anh Viet Nguyen, Nguyen Minh Quan and Trinh Van Chien (Hanoi University of Science and Technology, Vietnam)

Friday, October 16 15:40 - 17:32

C3: Communications

Room: Eo Gio

[RSSI-Based Localization for Distributed Passive Wi-Fi Attack Detection](#)

Huy Le-Vinh and Thuat Nguyen-Khanh (UIT - VNUHCM, Vietnam); Bao Nguyen-Van and Quan Le-Trung (University of Information Technology - VNUHCM, Vietnam)

[Max-Min Power Allocation for Uplink RSMA-Aided Cell-Free Massive MIMO Networks](#)

Nguyen Dinh Long (Ho Chi Minh City University of Technology and Engineering, Vietnam); Hoang Tran Manh (Telecommunications University, Vietnam); Le The Dung (Ho Chi Minh City University of Technology and Engineering, Vietnam); Bui Anh Duc (Telecommunications University, Vietnam)

[Energy-Efficient UAV Covert Communications via Metaheuristic Optimization](#)

Nguyen Minh Quan, Thu Thanh Tran, Khue The Ngoc Nguyen, Tam Thi Thanh Ninh and Trinh Van Chien (Hanoi University of Science and Technology, Vietnam)

Analytical Performance Evaluation of RIS-Assisted MISO-RSMA Systems with Imperfect SIC

Kiem Nguyen Hong (Academy of Military Science and Technology, Vietnam); Tuan Minh Nguyen (Military Institute of Science and Technology, Vietnam); Trung Thanh Nguyen (Telecommunications University, Vietnam); Hoang Tran Manh (Telecommunications University, Vietnam)

MedPIGuard: Securing Multi-Agent Clinical AI Against Prompt Injection Attacks

Ngoc-Truong Nguyen and Le Kim-Hung (University of Information Technology, Vietnam)

Joint SNR-EH Performance of Diversity Combining Techniques in LoRa Downlink Networks

Hoang Thi Phuong Anh (Posts and Telecommunications Institute of Technology, Vietnam); Do Hoang Minh Han (Faculty of Electrical & Electronics Engineering, Vietnam); Thien Huynh-The (Ho Chi Minh City University of Technology and Education, Vietnam); Lam Thanh Tu (Ton Duc Thang University, Vietnam)

Importance-Aware Mixed-Precision KV Cache Compression with IQ-KVZip

Hoang-Viet Duong, Huu-Tay Ho and Le Kim-Hung (University of Information Technology, Vietnam)

Friday, October 16 15:40 - 17:32

N2: Networks

Room: Hon Kho

BehaviorDNA-G: Bridging Motif-Graph Representation and FPR-Aware Calibration for Leak-Safe API-Call Malware Detection

Hy Thanh Phan, Thanh-Van Tong, Nguyen Thi Bich Nguyen, Hien Dang and Nguyen Trung Hieu (Posts and Telecommunications Institute of Technology, Vietnam); Nguyen Duc Thinh (Posts & Telecommunications Institute of Technology, Vietnam)

Characterizing Remote Terminal Protocols for Agent-like Interactive Workloads

Cong Nguyen Chi, Tuan Anh Vu, Anh Dung Pham and Thanh Trung Nguyen (Phenikaa University, Vietnam); Kien Nguyen (Chiba University, Japan)

NetPen: Automated Network Penetration Testing Using a Multi-Agent Large Language Models Architecture

Tu Pham-Hoang-Anh, Viet Pham-Le-Quoc and Thuat Nguyen-Khanh (UIT - VNUHCM, Vietnam); Luan Van-Thien (University of Information Technology, VNU-HCM, Vietnam); Quan Le-Trung (University of Information Technology - VNUHCM, Vietnam)

Physically Aware Multi-Layer Reoptimization for IP-over-WDM Networks

Quang Huy Duong, Dinh Hung Duong, Anh Duc Vu, Thanh Tung Dinh and Trinh Van Chien (Hanoi University of Science and Technology, Vietnam)

Encrypted Traffic Classification on IoT Gateway Leveraging in-Kernel Machine Learning

Duong Duc Tuan, Hải Thanh Phạm, Nguyen Huu Thanh, Nguyen Khanh Minh and Nguyen Tai Hung (Hanoi University of Science and Technology, Vietnam)

Enhancing Network Intrusion Detection with Graph Neural Networks: A Leakage-Aware Cost-Benefit Analysis of Graph Representations

Hoang Thanh Nguyen (Post and Telecommunication Institute of Technology, Vietnam); De-Thu Huynh (The Saigon International University, Ho Chi Minh City, Vietnam); Huynh Trong Thua and Hy Thanh Phan (Posts and Telecommunications Institute of Technology, Vietnam); Anderes Gui (Bina Nusantara University, Indonesia)

A Static Semantic Consistency Checking System for Campus-Network Intent Management

Yamin Theint, Kien Nguyen and Hiroo Sekiya (Chiba University, Japan)

Friday, October 16 15:40 - 17:32

SP5: Signal Processing

Room: Bien Ho

FPGA-Based Architecture for Video Streaming Encryption Using Multi-Dimensional Chaotic Maps

Do Tran Quang, Minh Nguyen Hoang, Nguyen Thi Ngoc Linh, Ninh Nguyễn Văn Duy and Ta Thi Kim Hue (Hanoi University of Science and Technology, Vietnam)

Enhanced Bottleneck Attention Based on Lightweight Spatial Patterns

Quoc Thai Mai and Thi-The Phan (HCMC University of Technology and Engineering); Hoang Anh Pham (Post and Telecommunications Institute of Technology, Vietnam); Thanh Phuong Nguyen (Université Côte d'Azur, France); Thanh Tuan Nguyen (HCMC University of Technology and Engineering)

Subject-Independent WGAN-GP Augmentation for Minority-Class ALS Detection in Imbalanced EEG Classification

Hai-Long Nguyen (Posts and Telecommunications Institute of Technology, Vietnam); Nguyen Trinh (Posts and Telecommunications Institute of Technology & Telecom. Faculty, Vietnam); Hai-Chau Le (Posts and Telecommunications Institute of Technology, Vietnam)

A Low-Power Fixed-Point FPGA Accelerator for Vietnamese Sensitive Keyword Spotting

Hồ Văn Việt Hoàng, Hiếu Nguyễn Phúc and Cuong Truong (Faculty of Computer Engineering, University of Information Technology, Ho Chi Minh City, Vietnam; Vietnam National Unive)

A Hybrid TCN-S4 Network for Single-Lead ECG Arrhythmia Classification

Thi Thu-Trang Nguyen (Posts and Telecommunication Institute of Technology, Vietnam); Huu Cam Nguyen and Hai-Chau Le (Posts and Telecommunications Institute of Technology, Vietnam)

Skeleton-Based Real-Time Vietnamese Sign Language Recognition

Nguyen Thanh Dat (Ho Chi Minh University of technology, Vietnam); Hồng Tài Trần and Tuan-Anh Tran (Ho Chi Minh City University of Technology, Vietnam); Xuân Toàn Mai (Ho Chi Minh University of Technology, Vietnam)

Variance-Aware RDO for Temporal Quality Consistency in HEVC Video Coding

Huy Bui Quoc, Thao Nguyen Thi Huong, Tu Pham Vu Minh and Huu-Tien Vu (Posts and Telecommunications Institute of Technology, Vietnam)