Thursday, October 18 7:30 - 8:40
Registration

Thursday, October 18 8:40 - 9:00
Opening ceremony

Thursday, October 18 9:00 - 10:00
Keynote speaker #1: Machine Learning and Cognitive Communications for 5G and IoT
Dr. Bijan Jabbari, George Mason University, Electrical and Computer Engineering Department, USA
Chair: Francis C.M. Lau (The Hong Kong Polytechnic University, Hong Kong)

Thursday, October 18 10:00 - 10:30
Coffee break

Thursday, October 18 10:30 - 11:30
Keynote speaker #2: Visible Light Communications for 5G-and-Beyond Wireless Telecommunications Networks
Dr. Hoa Le Minh Northumbria University at Newcastle, United Kingdom
Chair: Ha H Kha (Ho Chi Minh City University of Technology, VNU-HCM, Vietnam)

Thursday, October 18 11:30 - 13:10
Lunch break

Thursday, October 18 13:10 - 14:50

Communications: 1
Room: BALLROOM 2
Chair: Thi Hong Tran (Nara Institute of Science and Technology (NAIST), Japan)
13:10 A Low Inter-Code Interference Walsh-Hadamard Code Division Multiplexing for Helicopter Satellite Communications
Toshiharu Kojima and Genta Muto (The University of Electro-Communications, Japan)
pp. 1-4
13:30 Simple UE Transmission Power Control for Bidirectional Full-Duplex Communications in Cellular Networks
Hiroto Yamamoto, Sunisa Sanpan, Kazuo Mori and Kosuke Sanada (Mie University, Japan)
pp. 5-9
13:50 Non-Orthogonal Multiple Access with Coordinated Transmission Aided by Buffers in End User and Relay
Yunquon Cui and Dongwoo Kim (Hanyang University, Korea)
14:10 Precoded Dual-Polarized Spatial Modulation Over Correlated Fading Channels
Mutlu Koca and Negin Kazemipourleilabadi (Bogazici University, Turkey); Hickmet Sari (NJUPT & Sequans, France)
pp. 15-20
14:30 Amplified Backscattering in RFID Communications with Energy Harvesting Tags
Denizhan Unalan, Mutlu Koca and Hakan Deliç (Bogazici University, Turkey)
pp. 21-26

Signal Processing: 1
Room: BALLROOM 3
Chair: Ha H Kha (Ho Chi Minh City University of Technology, VNU-HCM, Vietnam)
13:10 Conversion of the Vietnamese Grammar into Sign Language Structure using the Example-Based Machine Translation Algorithm
Luyl-Da Quach (Tay Do University, Vietnam); Chi-Ngon Nguyen (Can Tho University & Dean of the College of Engineering, Vietnam)
pp. 27-31
13:30 forest height estimation from PolInSAR image using coherence set and cancellation of scattering mechanisms
Ky Dinh, Pham Nho Gi, An Hung and Ha Ho Minh (Le Qui Don Technical University, Vietnam)
pp. 32-36
13:50 Modified Three-stage algorithm for forest height estimation using Polarimetric SAR Interferometry Image
Minh Xuong and Pham Nho Gi (Le Qui Don Technical University, Vietnam); Van Hoang Trung (Le Que Don Technical University, Vietnam); Thanh Nguyen (Le Qui Don Technical University, Vietnam)
pp. 37-41
14:10 Deep Learning for Human Visual Attention Recognition Using Transfer Learning
Nam Vu (Posts and Telecommunications Institute of Technology, Vietnam); Cuong Pham (Post & Telecom. Institute of Technology, Vietnam); Huong M. Nguyen (Posts and Telecommunications Institute of Technology, Vietnam)
pp. 42-46
14:30 On Moderately Significant Bit Data Hiding Techniques for High-Definition Images
Dang Ninh Tran, Hans-Juergen Zepernick and Thi My Chinh Chu (Blekinge Institute of Technology, Sweden)
pp. 47-52

Antenna and Propagation
Room: BALLROOM 1
Chair: Dung Trinh (Ho Chi Minh City University of Technology, Vietnam)
13:10 A Design of Circularly Polarized Array Antenna for X-Band CubeSat Satellite Communication
Nguyen Kha Kiem and Phong Nguyen Duy (Hanoi University of Science and Technology, Vietnam); Le Hoang (Soongsil University, Korea); Tuan Anh Le Trong and Linh Ho Manh (Hanoi University of Science and Technology, Vietnam); Bui Thi Thu Hien (Hanoi University of Science and Technology, Vietnam); Chien Ngoc Dao (Hanoi University of Science and Technology, Vietnam)
pp. 53-56
13:30 Improved Forward Backward Method with Multiple Correction Vectors for Layered Random Rough Surfaces of Exponential Correlation Functions
Vinh Pham (Ho Chi Minh City University of Technology, Vietnam & Technische Universitat Darmstadt, Germany); Dung Trinh and Tuan Do-Hong (Ho Chi Minh City University of Technology, Vietnam); Conor Brennan (Dublin City University, Ireland)
pp. 57-61
13:50 Compact Diversity Multi-band Antennas Using for Low Power Communication Standards
Le Nay Trinh (University of Information and Technology & Vietnam National University, Vietnam); Minh Hoang Le (Ho Chi Minh University of Technology-Vietnam); Nguyen Vu Truong (Institute of Applied Mechanics and Informatics, Vietnam); Fabien Ferrero (University Nice Sophia Antipolis, CNRS, LÉAT & CREMANT, France)
pp. 62-66
14:10 Design of Miniaturized and Tunable Antenna by Integrating BST Thin Film Varactor
Thursday, October 18 14:50 - 15:20
Coffee break

Thursday, October 18 15:20 - 17:00

Communications: 2
Room: BALLROOM 2
Chair: Dung Le The (Chungbuk National University, Korea)

15:20 Design of automatic irrigation system for greenhouse based on LoRa technology
Van Anh Vu (Hanoi University of Science and Technology, Vietnam); Tuan Christian Truant (University of Cergy Pontoise, Vietnam); Thanh Dang Bui and Dong Cong Trinh (Hanoi University of Science and Technology, Vietnam)
PP. 72-77

15:40 Fixed-Point Implementation of Convolutional Neural Networks for Image Classification
Chun Yan Lo (Hong Kong Polytechnic University, Hong Kong); Francis C.M. Lau (The Hong Kong Polytechnic University, Hong Kong); Chiung Wang Sam (The University of Auckland, New Zealand)
PP. 105-109

16:00 Gender Identification of Imperfect Flowers Using Image Classification
Rob Sivde Silva (CQUniversity Sydney, Australia); Pavithra Senanayake (Ayona Business Solutions, Sri Lanka)
PP. 110-114

16:20 A Novel blind STO estimation for UWB-8QAM systems
Silvia Prasad (National Institute of Technology Warangal & National Institute of Technology Warangal, India); Mani V.V (National Institute of Technology Warangal, India)
PP. 115-119

16:40 Artificial Intelligence Based Adaptive GOP Size Selection for Effective Wyner-Ziv Video Coding
Huu-Thien Vu (Post and Telecommunication Institute of Technology, Vietnam); Thao Nguyen Thi Huong and Nguyen Huyen (Hanoi University of Science and Technology, Vietnam); Van-Giao Nguyen (Le Quy Don Technical University, Vietnam)
PP. 120-124

Signal Processing: 2
Room: BALLROOM 3
Chair: Mani V.V (National Institute of Technology Warangal, India)

15:20 Modulation Recognition using Wavelet-assisted Convolutional Neural Network
Qianwen Zhang, Zhen Xu and Peiyue Zhang (Beijing Information Science and Technology University, P.R. China)
PP. 100-104

15:40 Fixed-Point Implementation of Convolutional Neural Networks for Image Classification
Chun Yan Lo (Hong Kong Polytechnic University, Hong Kong); Francis C.M. Lau (The Hong Kong Polytechnic University, Hong Kong); Chiung Wang Sam (The University of Auckland, New Zealand)
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PP. 120-124

Thursday, October 18 15:20 - 15:50

Microwave Engineering
Invited Talk: Millimeter and THz-waves for next generation of fast wireless backhaul links: towards 100 Gbit/s on the air links
Prof. Guillaume Ducournau, IEMN Université Lille 1, Polytech'Lille Graduate School, France
Room: BALLROOM 1
Chair: Vo Nguyen Quoc Bao (Posts and Telecommunications Institute of Technology, Vietnam)

Thursday, October 18 15:50 - 17:30

Microwave Engineering
Room: BALLROOM 1
Chair: Guillaume Ducournau (Polytech-Lille, France)

15:50 Wideband Unit-cell for Linearly Polarized X-band Transmitarray Applications
Tuyen Nguyen (Ho Chi Minh City International University, Vietnam); Nguyen Binh Duong (International University, Vietnam); Van-Su Tran (International University, HCMC VNU, Vietnam); Linh Mai (International University of Viet Nam, Vietnam); Le Huy Trinh (University of Information and Technology & Vietnam National University, Vietnam)
PP. 125-128

16:10 Design of An Independently Biased Cascade GaN HEMT Microwave Power Amplifier
Luong Duy Manh, Nguyen Huy Hoang and Ta Chi Hieu (Le Quy Don Technical University, Vietnam); Duong Bach Gia (VNU University of Engineering and Technology, Vietnam)
PP. 129-132

16:30 Reflectometer with Complete Error Correction
Khoa Huynh and Gerhard Zimmer (Frankfurt University of Applied Sciences, Germany)
PP. 133-136

16:50 Application of RSSI to ground penetrating radar using ultra wideband technology
Nguyen Huuven and Pham Thanh Hiep (Le Quy Don Technical University, Vietnam)
PP. 137-141

17:10 An array of antipodal Vivaldi antenna with genetic optimization
Vinh Phuong Cam (International University, VNU HCMC, Vietnam); Van-Su Tran (International University, HCMC VNU, Vietnam); Nguyen Binh Duong (International University, Vietnam)
PP. 142-145

Thursday, October 18 18:30 - 21:00
Banquet
Friday, October 19 7:30 - 8:30
Registration

Friday, October 19 8:30 - 9:30
Keynote speaker #3: How to secure a connected device?
Prof. Sylvain Guilley, Telecom-ParisTech, France
Chair: Hoa Le Minh (Northumbria University, United Kingdom (Great Britain))

Friday, October 19 9:30 - 10:00
Coffee break

Friday, October 19 10:00 - 11:00

Friday, October 19 11:00 - 12:10

Friday, October 19 12:10 - 13:30
Lunch break

Friday, October 19 13:30 - 15:10

Networks: 1
Room: BALLROOM 2
Chair: Nguyen Dinh Han (Huyen University of Technology and Education, Vietnam)
13:30 PRP: A High-Performance Routing Protocol for Mobile Ad-Hoc Networks
13:30 A Scheduler for Time Slotted Channel Hopping Networks supporting QoS Differentiated Services
Kieu-Ha Phung and Huy Vuong (Hanoi University of Science and Technology, Vietnam); Huy Tran (Ho Chi Minh National University of Science and Technology, Vietnam); Huy Tran (VNU-International University, Vietnam); Pham Van Quoc (Posts and Telecommunications Institute of Technology, Vietnam)
pp. 226-231

13:40 A High Performance and Longer Lasting Network Lifetime Routing Protocol for MANETs
Vu Khanh Quy (Hanoi University of Science and Technology, Vietnam); Pham Minh Quang (Posts and Telecommunications Institute of Technology in Hochiminh City, Vietnam); Tran Thanh Tran (Ho Chi Minh University of Transport, Vietnam)
pp. 232-236

13:50 A Comparative Performance Study of RPL with Different Topologies and MAC Protocols
Minh-Thang Vo (International University, Vietnam); Linh Mai (International University of Vietnam, Vietnam); Hung Tran (VNU-International University, Vietnam)
pp. 237-241

14:00 Next Hop Node Selection in Private UAV Networks
Rohan de Silva (CQUniversity Sydney, Australia)
pp. 242-247

14:10 Fading Channels
Anh Khoa Ngo (Seoul National University, Korea); Pham Huu Le (International University VNU HCMC, Vietnam); Nguyen Quang Linh (Academy of Cryptography Techniques, Vietnam)
pp. 310-314

14:20 Dynamic Threading to Improve Embedded Software Performance in IoT Devices Using MQTT Protocol
Van-Quoc Pham (National Laboratory of Information Security, Vietnam); Phuc Bui Huu (Viettel Network Technologies Center, Vietnam); Tran Trung Duy (Hanoi University of Science and Technology, Vietnam); Tran Thanh Tran (Ho Chi Minh National University of Science and Technology, Vietnam)
pp. 315-320

14:30 An Energy Efficient AES Encryption Core for Hardware Security Implementation in IoT Systems
Dao Hiep (Posts and Telecommunications Institute of Technology, Vietnam); Kieu-Ha Phung and Huong Thu Truong (Hanoi University of Science and Technology, Vietnam); Vu Khanh Quy and Kieu-Ha Phung (Viettel Network Technologies Center, Vietnam); Thang Nguyen (Hanoi University of Science and Technology, Vietnam); Tran Thanh Tran (Ho Chi Minh National University of Science and Technology, Vietnam)
pp. 321-325

Nam Pham (Ho Chi Minh University of Science and Technology, Vietnam); Tran Thanh Tran (Ho Chi Minh University of Transport, Vietnam)
pp. 255-258

Le Quoc Hung and Tran Trung (VNU International University, Vietnam); Tran Thanh Tran (Ho Chi Minh University of Transport, Vietnam)
pp. 259-265

15:00 Security versus Reliability Study for Multi-hop Cognitive M2M Networks With Joint Impact of Interference Constraint and Hardware Noises
Pham Minh Quang (Posts and Telecommunications Institute of Technology in Hochiminh City, Vietnam); Tran Thanh Tran (Ho Chi Minh University of Transport, Vietnam)
pp. 266-270

15:10 Security-Reliability Analysis of Cognitive Radio Network using Harvest-to-Jam Protocol with Primary Co-Channel Interference
Nam Pham (Ho Chi Minh University of Science and Technology, Vietnam); Tran Thanh Tran (Ho Chi Minh University of Transport, Vietnam)
pp. 271-275

Nam Pham (Ho Chi Minh University of Science and Technology, Vietnam); Tran Thanh Tran (Ho Chi Minh University of Transport, Vietnam)
pp. 276-280

15:30 The Merged Clock Gating Architecture For Low Power Digital Clock Application On FPGA
Pham Huu Le (International University, Vietnam)
pp. 281-285

15:40 Low-complexity Check Node Processing for Trellis Min-max Nonbinary LDPC Decoding
Pham Minh Quang (Posts and Telecommunications Institute of Technology in Hochiminh City, Vietnam); Tran Thanh Tran (Ho Chi Minh University of Transport, Vietnam)
pp. 286-290

Le Quoc Hung and Tran Trung (VNU International University, Vietnam); Tran Thanh Tran (Ho Chi Minh University of Transport, Vietnam)
pp. 291-295

16:00 Calibration of Conductivity Sensor using Combined Algorithm Selection and Hyperparameter Optimization: A Case Study
Tien-Dung Nguyen (International University, Vietnam); Sang Thi Thanh Nguyen (International University, Vietnam); Minh-Tuan Le (MobiFone R&D Center, MobiFone Corporation, Vietnam); Pham Huu Le (International University, Vietnam)
pp. 296-300

16:10 Internal Reciprocity Calibration for TDD Massive MIMO: An Algorithm and Experimental Results
Tien-Dung Nguyen (Viettel Network Technologies Center, Vietnam); Le Thanh Bang (Viettel, Vietnam); Tran Thanh Tran (Ho Chi Minh University of Transport, Vietnam)
pp. 301-305

16:20 A Survey of Webpage Access Prediction
Da-Thon Nguyen (University of Economics and Law, VNU-HCM, Vietnam); Hanh Tan and Duy Hoang Pham (PTIT, Vietnam)
pp. 306-309

16:30 NextHop Node Selection in Private UAV Networks
Rohan de Silva (CQUniversity Sydney, Australia)
pp. 315-321

16:40 An Energy Efficient AES Encryption Core for Hardware Security Implementation in IoT Systems
Dao Hiep (Posts and Telecommunications Institute of Technology, Vietnam); Kieu-Ha Phung and Huong Thu Truong (Hanoi University of Science and Technology, Vietnam); Tran Thanh Tran (Ho Chi Minh National University of Science and Technology, Vietnam)
pp. 322-326

16:50 A Survey of Webpage Access Prediction
Da-Thon Nguyen (University of Economics and Law, VNU-HCM, Vietnam); Hanh Tan and Duy Hoang Pham (PTIT, Vietnam)
pp. 327-331

17:00 Dynamic Threading to Improve Embedded Software Performance in IoT Devices Using MQTT Protocol
Pham Van Quoc (VNU University of Engineering and Technology, Vietnam); Pham Huu Le (International University, Vietnam); Pham Van Quoc (Posts and Telecommunications Institute of Technology, Vietnam)
pp. 332-336

17:10 Links to be Established in a Network with Dynamic and Frequency Hopping Characteristics
Kieu-Ha Phung and Huong Thu Truong (Hanoi University of Science and Technology, Vietnam); Tran Thanh Tran (Ho Chi Minh National University of Science and Technology, Vietnam)
pp. 337-341

17:20 A Survey of Webpage Access Prediction
Da-Thon Nguyen (University of Economics and Law, VNU-HCM, Vietnam); Hanh Tan and Duy Hoang Pham (PTIT, Vietnam)
pp. 342-345

17:30 Links to be Established in a Network with Dynamic and Frequency Hopping Characteristics
Kieu-Ha Phung and Huong Thu Truong (Hanoi University of Science and Technology, Vietnam); Tran Thanh Tran (Ho Chi Minh National University of Science and Technology, Vietnam)
pp. 346-350

17:40 A Survey of Webpage Access Prediction
Da-Thon Nguyen (University of Economics and Law, VNU-HCM, Vietnam); Hanh Tan and Duy Hoang Pham (PTIT, Vietnam)
pp. 351-355

17:50 Links to be Established in a Network with Dynamic and Frequency Hopping Characteristics
Kieu-Ha Phung and Huong Thu Truong (Hanoi University of Science and Technology, Vietnam); Tran Thanh Tran (Ho Chi Minh National University of Science and Technology, Vietnam)
pp. 356-360

18:00 A Survey of Webpage Access Prediction
Da-Thon Nguyen (University of Economics and Law, VNU-HCM, Vietnam); Hanh Tan and Duy Hoang Pham (PTIT, Vietnam)
pp. 361-365

18:10 Links to be Established in a Network with Dynamic and Frequency Hopping Characteristics
Kieu-Ha Phung and Huong Thu Truong (Hanoi University of Science and Technology, Vietnam); Tran Thanh Tran (Ho Chi Minh National University of Science and Technology, Vietnam)
pp. 366-370

18:20 A Survey of Webpage Access Prediction
Da-Thon Nguyen (University of Economics and Law, VNU-HCM, Vietnam); Hanh Tan and Duy Hoang Pham (PTIT, Vietnam)
pp. 371-375

18:30 Links to be Established in a Network with Dynamic and Frequency Hopping Characteristics
Kieu-Ha Phung and Huong Thu Truong (Hanoi University of Science and Technology, Vietnam); Tran Thanh Tran (Ho Chi Minh National University of Science and Technology, Vietnam)
pp. 376-380

18:40 A Survey of Webpage Access Prediction
Da-Thon Nguyen (University of Economics and Law, VNU-HCM, Vietnam); Hanh Tan and Duy Hoang Pham (PTIT, Vietnam)
pp. 381-385

18:50 Links to be Established in a Network with Dynamic and Frequency Hopping Characteristics
Kieu-Ha Phung and Huong Thu Truong (Hanoi University of Science and Technology, Vietnam); Tran Thanh Tran (Ho Chi Minh National University of Science and Technology, Vietnam)
pp. 386-390
Special Session #1
Room: BALLROOM 3
Chair: Tran Trung Duy (Posts and Telecommunications Institute of Technology, Vietnam)

15:30 On Performance Evaluation of Non-Orthogonal Multiple Access schemes in Coordinated Direct with Partial Relay Selection
    Huynh Hoa (Posts and Telecommunications Institute of Technology, Vietnam); Vo Nguyen Quoc Bao (Posts and Telecommunications Institute of Technology, Vietnam)
    Evaluation of Outage Probability and Harvested Energy for User Selection Methods in Random Wireless Networks
    Nguyen Thi Yen Linh (PTITHCM, Vietnam); Tran Trung Duy and Vo Nguyen Quoc Bao (Posts and Telecommunications Institute of Technology, Vietnam)

    Thong Nhat Tran (Posts and Telecommunications Institute of Technology, Vietnam); Nguyen Toan Van (Hongik University, Korea); Vo Nguyen Quoc Bao (Posts and Telecommunications Institute of Technology, Vietnam); Beongku An (Hongik University, Korea)

16:30 Security-Reliability Analysis of Power Beacon-Assisted Multi-hop Relaying Networks Exploiting Fountain Codes with Hardware Imperfection
    Dang The Hung (Le Quy Don Technical University, Vietnam); Tran Trung Duy (Posts and Telecommunications Institute of Technology, Vietnam); Trinh Do Quoc (Military University of Science and Technology, Vietnam); Vo Nguyen Quoc Bao and Tan Hanh (Posts and Telecommunications Institute of Technology, Vietnam)

Friday, October 19 15:30 - 17:30

Special Session #4: Invited Papers
Room: BALLROOM 1
Chairs: Tetsuya Iizuka (University of Tokyo, Japan), Nguyen Ngoc Mai-Khanh (The University of Tokyo & VLSI Design and Education Center (VDEC), Japan)

15:30 Mixed-domain analog frontend circuit design for power-efficient multi-channel sensor systems
    Takayuki Okazawa (Tokyo Denki University, Japan)

15:50 Efficient Test Generation Framework for Analog LSI with Behavior Model
    Yuichi Miyazawa and Satoshi Komatsu (Tokyo Denki University, Japan)

16:10 Time-Domain Approach for Analog Circuits: Fine-Resolution TDC and Quick-Start CDR Circuits
    Tetsuya Iizuka and Kunihiro Asada (University of Tokyo, Japan)

16:30 How FD-SOI is revolutionizing next-gen microelectronics: IoT, automotive and mobile connectivity applications
    Bich-Yen Nguyen (SOITEC, USA); Walter Schwarzenbach, Manuel Seller, Philippe Flättner, Guillaume Bensard, Christophe Girard and Christophe Maleville (Soitec, France)

16:50 ASIC Coprocessor for 254-bit Prime-Field Pairing based on General Purpose Arithmetic Unit on Quadratic Extension Field
    Hiromitsu Awano (The University of Tokyo, Japan); Makoto Ikeda (University of Tokyo Japan, Japan)

17:10 Pulse Leakage Cancellation Technique for Integrated Microwave Wide-band Sensing Applications
    Nguyen Ngoc Mai-Khanh (The University of Tokyo & VLSI Design and Education Center (VDEC), Japan); Kunihiro Asada (University of Tokyo, Japan)