

ATC 2020 Program at a Glance (Final)

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| Time | Oct. 08th, 2020 | |
| 15:00-17:00 | Committee meeting | |
| | Oct. 09th, 2020 | |
| 07:15-07:45 | Registration Room: Nha Trang | |
| 07:45-08:15 | Opening Session Room: Nha Trang | |
| 08:15-09:45 | Keynote Session. Room: Nha Trang Chairs: Prof. Xuan Nam Tran (LQDTU), Prof. Xuan-Tu Tran (VNU UET) | |
| 08:15-08:45 | Keynote 1: “Radio and Optical Integration Toward Society 5.0 and 6G” <i>Dr. Atsushi Kanno, Research Manager, National Institute of Information and Communications Technology (NICT), Japan</i> | |
| 08:45-09:15 | Keynote 2: “Planar Antenna Miniaturization Technique for Electromagnetic Sensing – A Prototype view” <i>Prof. Mohammad Tariqul Islam, Universiti Kebangsaan Malaysia (UKM), Malaysia</i> | |
| 09:15-09:45 | Keynote 3: Energy Harvesting from Environment RF for IoT Applications <i>Prof. Koichiro Ishibashi, The University of Electro-Communications (UEC), Tokyo Japan</i> | |
| 09:45-10:05 | Coffee break | |
| Time | Room: Hanoi | Room: Ho Chi Minh City |
| 10:10-11:55 | S1: Networks (07 papers/105 min) Chairs: Prof. Huu Thanh Nguyen (HUST), Dr. Anh Ngoc Le (EPU) Including 01 invited paper: “Fiber wireless and optical wireless communications using high-speed photonic devices,” <i>Dr. Toshimasa Umezawa, NICT, Japan</i> | S2: IC Design and Verification (07 papers/105 min) Chairs: Dr. Le Duc Hung (HCMUS), Dr. Duy Hieu Bui (VNU UET) Including 01 invited paper: “Effects of High-Energy Electron Irradiation on the InGaP/GaAs Heterojunction Photosensor Powered by an On-Chip GaAs Solar Cell for Energy Harvesting,” <i>Dr. Than Hong Phuc (Duy Tan Uni., Vietnam)</i> |
| 12:00-13:25 | Lunch | |
| 13:30-15:30 | S3: Communications (08 papers/120 min) Chairs: Prof. Khuong Ho Van (HCMUT), Dr. Nguyen Dinh Chi (Phenikaa Uni.) Including 01 invited paper: “Orchestration of Wired and Wireless Systems for Future Mobile Transport Network,” <i>Dr. Pham Tien Dat, NICT, Japan</i> | S4: Microwave Engineering & Antennas (08 papers/120 min) Chairs: Dr. Minh Thuy Le (HUST), Dr. Thuy Linh Nguyen (LQDTU) |
| 15:30-15:45 | Coffee break | |
| 15:45-18:00 | S5: Signal Processing (08 papers/120 min) Chairs: Prof. Duc Tan Tran (Phenikaa Uni.), Dr. Dinh Trieu Duong (VNU UET) | S6: Electronics & Communication Systems (09 papers/135 min) Chairs: Dr. Nam Khanh Nguyen (VNU UET), Dr. Than Hong Phuc (Duy Tan Uni.) |
| 18:30-21:00 | Gala Dinner | |
| | Oct. 10th, 2020 | |
| 09:00-10:00 | Committee meeting | |

Technical Sessions (Final):

Friday, October 9, 10:10 - 11:55

S1: Networks

Room: Hanoi

Chairs: Prof. Huu Thanh Nguyen (HUST), Dr. Anh Ngoc Le (EPU)

10:10 Invited Talk: *Fiber wireless and optical wireless communications using high-speed photonic devices* **[Online presentation]**

[Toshimasa Umezawa](#), [Tien Dat Pham](#), [Atsushi Kanno](#) and [Naokatsu Yamamoto](#) (National Institute of Information and Communications Technology, Japan)

10:25 *A Survey on Prediction of PQoS Using Machine Learning on Wi-Fi Networks* **[Online presentation]**

[Maghsoud Morshedi](#) (University of Oslo & EyeNetworks AS, Norway); [Josef Noll](#) (University of Oslo, Norway)

10:40 *Performance Enhancement of Satellite FSO/QKD Systems using HAP-based Relaying and ARQ*

[Nam Nguyen](#) (Posts and Telecommunications Institute of Technology, Vietnam); [Hang Phan](#) (Hanoi University of Industry, Vietnam); [Hien Pham](#) (Posts and Telecommunications Institute of Technology, Vietnam); [Vuong Mai](#) (KAIST, Korea (South)); [Ngoc Dang](#) (Posts and Telecommunications Institute of Technology, Vietnam)

10:55 *Improving the feature set in IoT intrusion detection problem based on FP-Growth Algorithm*

[Le Thi Hong Van](#), [Pham Van Huong](#), [Le Duc Thuan](#) and [Minh Nguyen](#) (Academy of Cryptography Techniques, Vietnam)

11:10 *Performance analysis and optimization of hybrid fiber/FSO dual-polarization 16-QAM data link under different weather conditions*

[Kiem Nguyen Hong](#), [Quang Nguyen-The](#) and [Binh Nguyen Duc](#) (Le Quy Don Technical University, Vietnam); [Hung Nguyen Tan](#) (Danang Uni. of Science & Technology, Vietnam); [Van Dien Nguyen](#) (Danang Uni. of Science & Technology, Vietnam); [Tuan Nguyen-Van](#) (Danang University of Science and Technology (DUT), Vietnam); [Phuong Vuong Quang](#) (Hue University, Vietnam); [Dong-Nhat Nguyen](#) (Czech Technical University in Prague, Czech Republic)

11:25 *Multilevel Modulation Coding For Four-Level Holographic Data Storage Systems*

[Chi Dinh Nguyen](#) (Phenikaa University, Vietnam); [Pham Xuan Nghia](#) (Le Quy Don Technical University, Vietnam); [Cuong Chinh Duong](#) and [Nguyen Cong Luong](#) (Phenikaa University, Vietnam)

11:40 *On the Capacity of MRT/MRC Diversity Technique in Full-Duplex Relay System with Hardware Impairments over Rayleigh Fading Environments*

[Ba Cao Nguyen](#) and [Xuan Hung Le](#) (Telecommunications University, Vietnam); [Xuan Nam Tran](#) (Le Quy Don Technical University, Vietnam); [Dung Le The](#) (Chungbuk National University, Korea (South))

Friday, October 9, 10:10 - 11:55

S2: IC Design and Verification

Room: Ho Chi Minh City

Chairs: Dr. Le Duc Hung (HCMUS), Dr. Duy Hieu Bui (VNU UET)

10:10 Invited Talk: *Effects of High-Energy Electron Irradiation on the InGaP/GaAs Heterojunction Photosensor Powered by an On-Chip GaAs Solar Cell for Energy Harvesting*

[Than Hong Phuc](#) (Duy Tan University, Vietnam)

10:25 *New Methods for Anomaly Detection: Run Rules Multivariate Coefficient of Variation Control Charts*

[Phuong Hanh Tran](#) (Institute of Artificial Intelligence and Data Science, Dong A University, Vietnam & HEC Liège - Management School of the University of Liège, Belgium); [Athanasios C. Rakitzis](#) (University of Aegean, Greece); [Nguyen Huu Du](#) (Institute of Artificial Intelligence and Data Science, Dong A University, Danang, Vietnam); [Quoc Thong Nguyen](#) (HEC Liège Management School of the University of Liège & Dong A University, Belgium); [Phuong Hien Tran](#) (Institute of Artificial Intelligence and Data Science, Dong A University, Da Nang & Danang University of Economics, Vietnam); [Kim Phuc Tran](#) (ENSAIT & GEMTEX Laboratory, France); [Cédric Heuchenne](#) (HEC Liège - Management School of the University of Liège, Belgium)

10:40 *7.6 uW Ambient Energy Harvesting Rectenna from LTE Mobile phone Signal for IoT Applications*

[Linh Thuy Nguyen](#) (Le Quy Don Technical University, Vietnam); [Yasuo Sato](#) and [Koichiro Ishibashi](#) (The University of Electro-Communications, Japan)

10:55 *A thermal distribution, lifetime reliability prediction and spare TSV insertion platform for stacking 3D-ICs*

[Khanh N. Dang](#) (Vietnam National University, Hanoi, Vietnam); [Akram Ben Ahmed](#) (Keio University, Japan); [Fakhrul Zaman Rokhani](#) (University Putra Malaysia, Malaysia); [Abderazek Ben Abdallah](#) (The University of Aizu, Japan); [Xuan-Tu Tran](#) (Vietnam National University, Hanoi, Vietnam)

11:10 *An Improved Wide-Band Referenceless CDR with UP Pulse Selector for Frequency Acquisition*

[Ha Pham Manh](#) (Vietnam Telecommunications Authority, Vietnam); [Tho Nguyen Huu](#), [Thanh Nguyen](#) and [Quang Nguyen-The](#) (Le Quy Don Technical University, Vietnam)

11:25 *Integrated silicon optical switch for high-speed network-on-chip*

[Ho Duc Tam Linh](#) (Danang University of Science and Technology & Hue University of Sciences, Vietnam); [Nguyen Van Quang](#), [Dao Duy Tu](#), [Nguyen Van An](#) and [Vuong Quang Phuoc](#) (Hue University of Sciences, Vietnam)

11:40 *GaN HEMT thermal characteristics evaluation using an integrated approach based on the combined use of first-principles and device simulations*

[Maryia Baranova](#), [Dzmitry Hvazdouski](#), [Vladislav Volcheck](#) and [Viktor R. Stempitsky](#) (Belarusian State University of Informatics and Radioelectronics, Belarus); [Ha Dao](#) and [Tuan Trung Tran](#) (Le Quy Don Technical University, Vietnam)

Friday, October, 9 13:30 - 15:30

S3: Communications

Room: Hanoi

Chairs: Prof. Khuong Ho Van (HCMUT), Dr. Nguyen Dinh Chi (Phenikaa Uni.)

13:30 Invited Talk: *Orchestration of Wired and Wireless Systems for Future Mobile Transport Network* [Online presentation]

[Tien Dat Pham](#), [Atsushi Kanno](#) and [Naokatsu Yamamoto](#) (National Institute of Information and Communications Technology, Japan); [Tetsuya Kawanishi](#) (Waseda University & National Institute of Information and Communications Technology, Japan)

13:45 *An Initial Acquisition Scheme Combined with Carrier Recovery for Modified Walsh-Hadamard Code Division Multiplexing* [Online presentation]

[Toshiharu Kojima](#) and [Yota Yamamura](#) (The University of Electro-Communications, Japan)

14:00 *An Improved AFC Scheme for Modified Walsh-Hadamard Code Division Multiplexing* [Online presentation]

[Anna Himeno](#) and [Toshiharu Kojima](#) (The University of Electro-Communications, Japan)

14:15 *A Comparison of Three-node Two-way PLC Channel Models* [Online presentation]

[Angie Ann Gie Liong](#), [Lenin Gopal](#) and [Filbert H. Juwono](#) (Curtin University Malaysia, Malaysia); [Choo Wee Raymond Chiong](#) (Curtin University, Malaysia); [Yue Rong](#) (Curtin University, Australia)

14:30 *Secrecy Throughput Analysis of Energy Scavenging Overlay Networks with Artificial Noise*

[Pham Thi Dan Ngoc](#) (PTITHCM, Vietnam); [Bao Ho-Quoc](#) (Ho Chi Minh City University of Technology, Vietnam); [Khuong Ho-Van](#) (HoChiMinh City University of Technology, Vietnam); [Thiem Do-Dac](#) (Thu Dau Mot University, Vietnam); [Phong Nguyen - Huu](#) (Broadcast Research & Application Center (BRAC), Vietnam Television (VTV), Vietnam); [Son Vo Que](#) (HoChiMinh City University of Technology, Vietnam); [Pham Ngoc Son](#) (Ho Chi Minh City University of Technology and Education, Vietnam); [Lien Pham Hong](#) (University of Technical Education, Vietnam)

14:45 *An Analysis of the Coded MIMO-OFDMA System Performance by Using the Spatial Wideband GBSM Channel Modeling Methods*

[Nguyen Thu Nga](#), [Nguyen Thi Ha](#), [Nguyen Anh Bang](#), [Nguyen Van Duc](#) and [Nguyen Tien Hoa](#) (Hanoi University of Science and Technology, Vietnam)

15:00 *OLED-Based Visible Light Communication System Using Universal Filtered Multi-Carrier*

[Khanh Nghi Vinh](#), [Thai Pham Quang](#), [Thanh Dinh Vu](#) and [Khuong Ho-Van](#) (HoChiMinh City University of Technology, Vietnam); [Tien Dat Pham](#) (National Institute of Information and Communications Technology, Japan); [Hung Nguyen Tan](#) (Danang Uni. of Science & Technology, Vietnam)

15:15 *Secrecy Performance Analysis for MIMO Relay System with Transmit/Receive Antenna Selection under Imperfect CSI*

[Chu Tien Dung](#), [Xuan Hung Le](#), [Hoang Tran Manh](#) and [Hoang Van Toan](#) (Telecommunications University, Vietnam); [Dung Le The](#) (Chungbuk National University, Korea (South))

Friday, October 9, 13:30 - 15:30

S4: Microwave Engineering & Antennas

Room: Ho Chi Minh City

Chairs: Dr. Minh Thuy Le (HUST), Dr. Thuy Linh Nguyen (LQDTU)

13:30 *TE Plane Wave Diffraction by Window Aperture on a Thick Conducting Wall* [Online presentation]

[Khanh Nguyen](#) (Chuo University & Graduate School of Science and Engineering, Japan); [Hiroshi Shirai](#) (Chuo University, Japan)

13:45 *High Gain Folded Loop-based Multilayer Antenna at 2.4 GHz Band for Far-Field RFID Reader*

[Thanh Huong Nguyen](#) (Hanoi University of Science and Technology & MICA, Vietnam); [Do Hanh Ngan Bui](#) (Université de Grenoble-Alpes, France); [Tan Phu Vuong](#) (Grenoble INP, France)

14:00 *Genetic Programming for automated Synthesizing 3D Artificial Magnetic Conductor*

[Khac Son Nguyen](#), [Thuan Bui Bach](#), [Bui Manh Cuong](#), [Hoa Phuong Tran Thi](#), [Nguyen Khac Kiem](#), [Son Xuat Ta](#) and [Chien Ngoc Dao](#) (Hanoi University of Science and Technology, Vietnam)

14:15 *A Reflectarray Antenna Using Crosses and Square Rings for 5G Millimeter-Wave Application*

[Hoang Dang Cuong](#) (Le Quy Don Technical University, Vietnam); [Minh Thuy Le](#) (School of Electrical Engineering, Hanoi University of Science and Technology, Vietnam); [Nguyen Quoc Dinh](#) (Le Quy Don Technical University, Vietnam)

14:30 *A Sequentially Rotated Array of Polarization-Conversion Patch Antenna Using Metasurface*

[Kieu Trang Pham-Thi](#), [Son Xuat Ta](#), [Huu Truong Le](#), [Nguyen Khac Kiem](#) and [Chien Ngoc Dao](#) (Hanoi University of Science and Technology, Vietnam)

14:45 *Caustics and Beam Steering Calculations of Negative Refractive Index Lens Antenna by the Ray Tracing Method*

[Phan Van Hung](#) and [Nguyen Quoc Dinh](#) (Le Quy Don Technical University, Vietnam); [Dang Tien Dung](#) (Telecommunications University, Vietnam); [Yoshihide Yamada](#) (Malaysia-Japan International Institute of Technology, Universiti Teknologi Malaysia, Malaysia)

15:00 *Ambient RF Energy Harvesting System Based on Wide Angle Metamaterial Absorber for Battery-Less Wireless Sensors*

[Quang Minh Dinh](#) and [Minh Thuy Le](#) (School of Electrical Engineering, Hanoi University of Science and Technology, Vietnam)

15:15 *A Dual-Polarized Wideband Element Antenna for Base Station Application*

[Tran Thi Lan](#) (University of Transport and Communications, Vietnam & Yokohama National University, Japan); [Lam Phi](#) (University of Transport and Communications, Vietnam); [Do Toan](#), [Duc Nhat Nguyen](#) and [Hoang Truyen](#) (Viettel High Technology Industries Corporation, Vietnam); [Minh Thuy Le](#) (School of Electrical Engineering, Hanoi University of Science and Technology, Vietnam)

Friday, October 9, 15:45 - 17:45

S5: Signal Processing

Room: Hanoi

Chairs: Prof. Duc Tan Tran (Phenikaa Uni.), Dr. Dinh Trieu Duong (VNU UET)

15:45 *A Novel Three Steps Method for Forest Parameters Extraction Using PolInSAR Images*

[HuuCuong Thieu](#) and [MinhNghia Pham](#) (Le Quy Don Technical University, Vietnam)

16:00 *New H.266/VVC Based Multiple Description Coding for Robust Video Transmission over Error-Prone Networks*

[Dinh Trieu Duong](#) (VNU, Vietnam)

16:15 *Optimal Polarization Channel Method for Estimating Forest Height From PolInSAR Images*

[HuuCuong Thieu](#) and [MinhNghia Pham](#) (Le Quy Don Technical University, Vietnam)

16:30 *An Implementation of a Robust Visual Object Tracking System*

[An Hoang Nguyen](#), [Linh Mai](#) and [Hung Ngoc Do](#) (International University, Vietnam)

16:45 *Enhancing Quality for VVC Compressed Videos with Multi-Frame Quality Enhancement Model*

[Xiem Hoang](#) (VNU-UET, Vietnam); [Huu-Hung Nguyen](#) (Le Quy Don Technical University, Vietnam)

17:00 *Micro-Doppler-Radar-Based UAV Detection Using Inception-Residual Neural Network*

[Hai Le](#) (Le Quy Don Technical University, Vietnam); [Sang Van Doan](#) (Vietnam Naval Academy, Vietnam); [Phong Le](#) and [Huu-Hung Nguyen](#) (Le Quy Don Technical University, Vietnam); [Thien Huynh-The](#) (Kumoh National Institute of Technology, Korea); [Le-Ha Khanh](#) and [Van-Phuc Hoang](#) (Le Quy Don Technical University, Vietnam)

17:15 *An Efficient Iteration Procedure for the Cluster Newton Method in Inverse Parameter Identification of Pharmacokinetics*

[Tran Quang-Huy](#) (Ha Noi Pedagogical University No2, Vietnam); [Yen Nguyen Hoang](#) (Hanoi National University of Education, Vietnam); [Van Tu Duong](#) (NTT Hi-Tech Institute – Nguyen Tat Thanh University, Vietnam); [Tien-Anh Nguyen](#) (Le Quy Don Technical University, Vietnam); [Nguyen Canh Minh](#) (University of Transport, Vietnam); [Tran Duc-Tan](#) (Phenikaa University, Vietnam)

17:30 *Vision based steering angle estimation for autonomous vehicles*

[Khanh Du Nguyen Tu](#), [Dung Nguyen](#) and [Thanh-Hai Tran](#) (Hanoi University of Science and Technology, Vietnam)

Friday, October 9, 15:45 - 18:00

S6: Electronics & Communication Systems

Room: Ho Chi Minh City

Chairs: Dr. Nam Khanh Nguyen (VNU UET), Dr. Than Hong Phuc (Duy Tan Uni.)

15:45 *An Early Termination Technique of Polar Codes for IR-HARQ Scheme* [Online presentation]

[Krittayaporn Mueadkhunthod](#), [Watid Phakphisut](#), [Lin Myint](#) and [Pornchai Supnithi](#) (King Mongkut's Institute of Technology Ladkrabang, Thailand)

16:00 *Design of Partition Decoding for Polar Codes in 5G New Radio* [Online presentation]

[Anusorn Wongsas](#), [Watid Phakphisut](#), [Lin Myint](#) and [Pornchai Supnithi](#) (King Mongkut's Institute of Technology Ladkrabang, Thailand)

16:15 *Efficiency Comparison of Cooperative Inductive Power Transfer Systems* [Online presentation]

[QuocTrinh Vo](#), [Quang-Thang Duong](#) and [Minoru Okada](#) (Nara Institute of Science and Technology, Japan)

16:30 *Fast Multiplication in Binary Field on ARMv8 Processors*

[Luc Pham Van](#) (Posts and Telecommunications Institute of Technology, Vietnam); [Dang Hai Hoang](#) (Ministry of Information and Communications & Post and Telecommunication Institute of Technology, Vietnam)

16:45 *3D Hand Pose Estimation Using Hand PointNet on Egocentric Datasets*

[Le Hung](#) (Tan Trao University, Vietnam); [Van-Nam Hoang](#) (Hanoi University of Science and Technology, Vietnam); [Hai Vu](#) (International Research Institute MICA, Hanoi University of Science and Technology, Vietnam); [Thi-Lan Le](#) (MICA, HUST, Vietnam); [Thanh-Hai Tran](#) (Hanoi University of Science and Technology, Vietnam); [Viet-Vu Vu](#) (Information Technology Institute - Vietnam National University, Hanoi, Vietnam)

17:00 *Predicting heart failure using deep neural network*

[Minh Tuan Le](#), [Minh-Thanh Vo](#), [Linh Mai](#) and [Vu Truong Son Dao](#) (International University, Vietnam)

17:15 *Design, Fabrication Transmitter Modulator at S band for MicroSatellite with the direct RF input*

[Ha Thi Bui](#) (VietNam Space Center & VietNam National Satellite Center, Vietnam); [Duong Bach Gia](#) (VNU University of Engineering and Technology, Vietnam); [Chinh Doan Tran](#) (Vietnam National University- Hanoi, Vietnam)

17:30 *A Design of DSP, CPU architecture on FPGA for secure routers*

[Bao Bui Quoc](#), [Phu Nguyen](#) and [Hoang Trang](#) (Ho Chi Minh City University of Technology, Vietnam)

17:45 *Design a Simulation Model of Multi-radio Mobile Node in MANET*

[Anh Ngoc Le](#) (Electric Power University, Vietnam); [Van Minh Le](#) (Vinh University, Vietnam)