

## ICUFN 2022 Advance Program

### [Program at a Glance]

<b>July 4, 2022 (Monday)</b>			
14:00 ~ 17:00	<b>ICUFN Committee Meeting (IAC/SC/OC)</b>		
Room	Room A	Room B	Room C
<b>July 5, 2022 (Tuesday)</b>			
13:00 ~ 14:30	Registration		
14:30 ~ 16:00	Tutorial 1 6G Wireless Systems: Challenges and Opportunities Prof. Walid Saad, IEEE Fellow, Virginia Tech, USA		
16:00 ~ 16:30	Break		
16:30 ~ 17:30	Workshop 1A The 9th International Workshop on Intelligent Vehicles (IV 2022)	Workshop 1B The 3rd International Workshop on Smart Radio for IoT Era I (SRIoT 2022 I)	Workshop 1C The 3rd International Workshop on Smart Radio for IoT Era II (SRIoT 2022 II)
<b>July 6, 2022 (Wednesday)</b>			
09:30 ~ 10:30	Tutorial 2 Machine Learning Techniques for Satellite Communications Dr. Miguel Angel Vazquez, Head of Space and Resilient Communications and Systems Unit, CTTC, Spain		
10:30 ~ 11:30	Opening Address Prof. Seong Ho Jeong, Organizing Committee Co-Chair  Welcome Address 1 Prof. Yoan Shin, President of KICS  Welcome Address 2 Prof. Lourdes Reig Puig, Vice Rector, Universitat Politecnica de Catalunya, Spain		

	<p>Keynote Speech 1  Reconfigurable Holographic Surfaces: A New Paradigm to Holographic Communications for 6G  Prof. Lingyang Song, IEEE Fellow, Peking University</p>		
11:30 ~ 13:00	Lunch		
13:00 ~ 14:30	<p>Session 1A  6G, 5G, PS-LTE, LTE-R, LTE-Advanced</p>	<p>Session 1B  Open Wireless Networking</p>	<p>Session 1C  Future Internet and Network</p>
14:30 ~ 14:40	Break		
14:40 ~ 16:10	<p>Session 2A  AI/Machine Learning for Mobile Communications</p>	<p>Session 2B  Security and Network Management</p>	<p>Session 2C  AI/Machine Learning for Internet of Things (IoT)</p>
16:10 ~ 16:40	Break		
16:40 ~ 18:10	<p>Session 3A  Vehicular Ad-hoc Networks and Autonomous Vehicles</p>	<p>Session 3B  Ubiquitous Computing and Sensor Networks</p>	<p>Poster Session 1</p>
18:30 ~ 20:30	Banquet		
<b>July 7, 2022 (Thursday)</b>			
09:30 ~ 10:30	<p>Keynote Speech 2  Joint Radar and Communication Design: Applications, State-of-the-Art and the Road Ahead  Prof. Lajos Hanzo, IEEE Life Fellow, University of Southampton, UK</p> <p>Keynote Speech 3  A Light in Digital Darkness: Free Space Optics to Connect the Unconnected  Prof. Mohamed-Slim Alouini, IEEE Fellow, KAUST</p>		

10:30 ~ 11:30	<p style="text-align: center;">Tutorial 3 Simulation Acceleration and Inverse Design with Artificial Intelligence Prof. Junhee Seok, Korea University</p>		
11:30 ~ 13:00	<p style="text-align: center;">Lunch</p>		
13:00 ~ 14:00	<p style="text-align: center;">Tutorial 4 A Paradigm Shift in Future Networks with Quantum Deep Learning Prof. Joongheon Kim, IEEE ComSoc Distinguished Lecturer, Korea University</p>		
14:00 ~ 14:30	<p style="text-align: center;">Break</p>		
14:30 ~ 16:00	<p style="text-align: center;">Session 4A Cloud Computing and Networks</p>	<p style="text-align: center;">Session 4B SDN, Security, and Network Virtualization</p>	<p style="text-align: center;">Poster Session 2</p>
16:00 ~ 16:30	<p style="text-align: center;">Break</p>		
16:30 ~ 18:10	<p style="text-align: center;">Session 5A Machine Learning and Computational Intelligence</p>	<p style="text-align: center;">Session 5B 6G, 5G, Computer Vision Applications &amp; Autonomous Vehicles</p>	<p style="text-align: center;">Poster Session 3</p>
<p><b>July 8, 2022 (Friday)</b></p>			
9:30 ~ 11:00	<p style="text-align: center;">Session 6A Cyber-Physical System (CPS) &amp; Information Networks</p>	<p style="text-align: center;">Session 6B Network Theory and Network Science</p>	<p style="text-align: center;">Poster Session 4</p>
<p>Closing</p>			
<p>* Tentative Schedule, Subject to change</p>			

[ICFU 2022 Technical Sessions]

**Session 1A: 6G, 5G, PS-LTE, LTE-R, LTE-Advanced**

**Session Chair: TBA**

**Room B, Time 13:00 ~ 14:30**

**1A.1: 1570810472 Rate Splitting Multiple Access for a MISO SWIPT System Aided by a Power Beacon**

*Mario Rodrigo Camana, Carla Estefania Garcia and Insoo Koo (University of Ulsan, Korea (South))*

**1A.2: 1570803533 Throughput Improvement by Transmit 3D Beamforming and MCS Incorporating 1024-QAM**

*Kentaro Yoda, Takumi Yasaka and Hiroyuki Otsuka (Kogakuin University, Japan)*

**1A.3: 1570808251 Reflection Design with LS Channel Estimation for RIS-Enhanced OFDM Systems**

*Fan-Shuo Tseng and Tsang-Yi Wang (National Sun Yat-sen University, Taiwan)*

**1A.4: 1570801359 A Low-Complexity Multiuser Adaptive Modulation Scheme for MRC Receivers in Massive MIMO Systems**

*Amin Radbord (University of Guilan, Iran); Mohammed Abdel-Hafez (United Arab Emirates University, United Arab Emirates); Mohammadreza Amini (Carleton University, Canada)*

**1A.5: 1570806936 Characteristics of Transmit Power Allocation for Poor Conditioned End Devices in LPWAN with Peak Detection Based Carrier Sense**

*Shusuke Narieda (Mie University, Japan); Takeo Fujii (The University of Electro-Communications, Japan)*

**Session 1B: Open Wireless Networking**

**Session Chair: TBA**

**Room B, Time 13:00 ~ 14:30**

**1B.1: 1570803586 On Designing Interfaces to Access Deep Learning Inference Services**

*Seung Woo Kum (Korea Electronics Technology Institute, Korea (South)); Seungtaek Oh (Korea Electronics Technology Institute, Korea (South)); Jc Yeom (KETI, Korea (South)); Jaewon Moon (Korea Electronics Technology Institute, Korea (South))*

**1B.2: 1570800151 Real-Time Dynamic Traffic Scheduling for Medical Applications on IEEE 802.15.6**

*Guilherme Gil (University of Aveiro, Portugal); Paulo Pedreiras (University of Aveiro & Instituto de Telecomunicacoes, Portugal); Luis Moutinho (University of Aveiro, Portugal)*

**1B.3: 1570812294 Spectrum Based Traffic Classification in Wireless Network Using Deep Hybrid Neural Network**

*Md. Habibur Rahman, Raihan Bin Mofidul and Yeong Min Jang (Kookmin University, Korea (South))*

**1B.4: 1570800427 QoE Comparison of Retransmission and AL-FEC on Audiovisual Groupcast over Wireless LANs**

*Toshiro Nunome and Minoru Ishida (Nagoya Institute of Technology, Japan)*

**1B.5: 1570800240 Dynamic Adaptive Agent with Critical Movement Detection for the Next Generation of Spatial Reuse**

*Yoshima Syach Putri, Dion Tanjung, Kim DongHyun and Jong Deok Kim (Pusan National University, Korea (South))*

**Session 1C: Future Internet and Network**

**Session Chair: TBA**

**Room C, Time 13:00 ~ 14:30**

**1C.1: 1570805928 Intelligent Addressing and Routing Strategy for Smart Devices on Interactive Internet of Everything Platforms**

*Pradheep Kumar Kamalasekaran (Assistant Professor & BITS Pilani, India); Srinivasan Narayansamy and Murali Bhaskaran Bhaskaran (Rajalakshmi Engineering College, India)*

**1C.2: 1570803860 Optimization of Millimeter-Wave Base Station Deployment in 5G Networks**

*Qingwen Zeng (BNU-HKBU United International College, China)*

**1C.3: 1570803719 Centralized Ultra-Precision Service Control System for Providing Ultra-Precision Services in Large-Scale Deterministic Networks**

*Eung Ha Kim and Yeoncheol Ryoo (ETRI, Korea (South))*

**1C.4: 1570805081 Deep Neural Network Based Parallel Signal Detection in SM-OFDM System**

*Zhang, Zhiquan Bai, Kaiyue Yang and Abeer Mohamed (Shandong University, China); Kyung Sup Kwak (Inha University, Korea (South)); Xinhong Hao (Beijing Institute of Technology, China)*

**1C.5: 1570804936 Beamspace Based AIC and MDL Algorithm for Counting the Number of Signals in Specific Range**

*Suk-seung Hwang, Heui-Seon Park and Seokjoo Shin (Chosun University, Korea (South)); Jae-Young Pyun (Chosun University & Dept. of Information and Communication Engineering, Korea (South))*

**Session 2A: AI/Machine Learning for Mobile Communications**

**Session Chair: TBA**

**Room A, Time 14:40 ~ 16:10**

**2A.1: 1570803310 Channel BlaQLisT: Channel Blacklist Using Q-Learning for TSCH**

*Junmyeung Kim and Sang-Hwa Chung (Pusan National University, Korea (South))*

**2A.2: 1570806899 Deep Learning Based Signal Detection in Dual Mode Generalized Spatial Modulation**

*Kaiyue Yang, Zhiquan Bai, Jinmei Zhang and Ke Pang (Shandong University, China); Xinhong Hao (Beijing Institute of Technology, China)*

**2A.3: 1570810499 An Explainable Multi-Task Learning Approach for RF-Based UAV Surveillance Systems**

*Rubina Akter (Kumoh National Institute of Technology & Networked Systems Laboratory, Korea (South)); Sang Van Doan (Vietnam Naval Academy, Vietnam & ICT CRC, Kumoh National Institute of Technology, Korea (South)); Ahmad Zainudin and Dong Seong Kim (Kumoh National Institute of Technology, Korea (South))*

**2A.4: 1570810697 Dependability Prediction with Logical Link Correlation for Industrial Wireless Communication Systems**

*Danfeng Sun (Institut f. Automation und Kommunikation, Germany); Zeyun Xiao and Huifeng Wu (Hangzhou Dianzi University, China)*

**2A.5: 1570810531 DNN Aided PSO Based-Scheme for a Secure Energy Efficiency Maximization in a Cooperative NOMA System with a Non-Linear EH**

*Carla Estefania Garcia, Mario Rodrigo Camana and Insoo Koo (University of Ulsan, Korea (South))*

**Session 2B: Security and Network Management**

**Session Chair: TBA**

**Room B, Time 14:40 ~ 16:10**

**2B.1: 1570800977 Ethereum Based Storage Aware Mining for Permissioned Blockchain Network**

*Ikechi Igboanusi, Allwinnaldo Allwinnaldo and Revin Naufal Alief (Kumoh National Institute of Technology, Korea (South)); Muhammad Rasyid Redha Ansori (Kumoh National Institute of Technology, Gumi, Korea (South)); Jae-Min Lee and Dong Seong Kim (Kumoh National Institute of Technology, Korea (South))*

**2B.2: 1570810656 RPL Authenticated Mode Evaluation: Authenticated Key Exchange and Network Behavioral**

*Arif Burak Ordu and Mehmet Bayar (Istanbul Technical University & Aselsan Inc., Turkey); Berna Ors (Istanbul Technical University, Turkey)*

**2B.3: 1570806562 Blockchain-Based Secure Ambulance-To-Everything Communications in Emergency Rescue Operations**

*Chakkaphong Suthaputchakun (Bangkok University, Thailand); Yue Cao (Wuhan University, China)*

**2B.4: 1570810133 Joint Power and Subcarrier Allocation in Multi-Cell Multi-Carrier NOMA**

*Subhankar Banerjee (University of Maryland, USA); Chung Shue Chen (Nokia Bell Labs, France); Marceau Coupechoux (LTCL, Télécom Paris, Institut Polytechnique de Paris, France); Abhishek Sinha (Tata Institute of Fundamental Research, India)*

**2B.5: 1570803369 Intent-Based 5G UPF Configuration via Kubernetes Operators in the**

*Akos Leiter and Attila Hegyi (Nokia Bell Labs, Hungary); Istvan Kispal (Nokia - Bell Labs Research, Hungary); Nandor Galambosi (Nokia Bell labs,*

*Hungary); Peter Fazekas (Budapest University of Technology and Economics, Hungary); Peter Kulics, Péter Hegyi and Jozsef Biro (Nokia Bell Labs, Hungary)*

## **Session 2C: AI/Machine Learning for Internet of Things (IoT)**

**Session Chair: TBA**

**Room C, Time 14:40 ~ 16:10**

### **2C.1: 1570794073 Implicit Multi-Hop Communication Scheme Based on Overhearing in IoT LoRa Networks**

*Dick Mugerwa, Euisin Lee, Youngju Nam, Hyunseok Choi and Yongje Shin (Chungbuk National University, Korea (South)); Hyunchong Cho (Chungbuk National University & Research Institute for Computer and Information Communication, Korea (South))*

### **2C.2: 1570804922 Deep Learning and Power Allocation Analysis in NOMA System**

*Mohammad Gaballa (Brunel University London, United Kingdom (Great Britain))*

### **2C.3: 1570800986 Unslotted CSMA/CA Mechanism with Reinforcement Learning of Wi-SUN MAC Layer**

*Sihyeon Lee and Sang-Hwa Chung (Pusan National University, Korea (South))*

### **2C.4: 1570804240 Unicast Subslot Scheduling for Wi-SUN FAN System with Packet Collision Reduction**

*Hee-Jun Lee and Sang-Hwa Chung (Pusan National University, Korea (South))*

### **2C.5: 1570804897 Lightweight P2P-RPL for Efficient P2P Communication in 6TiSCH Networks**

*Jeongbae Park and Sang-Hwa Chung (Pusan National University, Korea (South))*

## **Session 3A: Vehicular Ad-hoc Networks and Autonomous Vehicles**

**Session Chair: TBA**

**Room A, Time 16:40 ~ 18:10**

### **3A.1: 1570806493 Enhanced Velocity Estimation Based on Joint Doppler Frequency and Range Rate Measurements**



*Sohee Lim, Jaehoon Jung and Jihye Kim (Seoul National University, Korea (South)); Jeongsik Choi (Kyungpook National University, Korea (South)); Seong-Cheol Kim (Seoul National University, Korea (South))*

**3A.2: 1570806937 Cyber Threats and Cybersecurity Reassessed in UAVs Assisted Cyber Physical Systems**

*Majumder Haider, Imtiaz Ahmed and Danda B. Rawat (Howard University, USA)*

**3A.3: 1570804877 Object Detection Performance According to Packet Loss of C-V2X**

*Eunmin Choi (DGIST, Korea (South)); Dongyoon Kwon and Kyungtae Kim (Daegu Gyeongbuk Institute of Science and Technology, Korea (South)); Ji-Woong Choi (DGIST, Korea (South))*

**3A.4: 1570800767 Decentralized Collaborative Decision-Making for Topology Building in Mobile Ad-Hoc Networks**

*Philipp Helle, Sergio Feo Arenis, Kevin Shortt and Carsten Strobel (Airbus, Germany)*

**3A.5: 1570817436 Introduction to Secure Computing Methods in Unmanned Aerial Vehicles**

*Soohyun Park and Minjae Yoo (Korea University, Korea (South)); Soyi Jung (Hallym University, Korea (South)); Minseok Choi (Kyung Hee University, Korea (South)); Joongheon Kim (Korea University, Korea (South))*

**Session 3B: Ubiquitous Computing and Sensor Networks**

**Session Chair: TBA**

**Room B, Time 16:40 ~ 18:10**

**3B.1: 1570804250 An Autonomous Sailboat for Environment Monitoring**

*Yee-Teng Ang and Wey-Kean Ng (Universiti Sains Malaysia, Malaysia); Jian Wan (Aston University, United Kingdom (Great Britain)); Chee Su-Yin (Universiti Sains Malaysia, Malaysia); Firth Louise (University of Plymouth, United Kingdom (Great Britain))*

**3B.2: 1570806934 Accident Detection and Road Condition Monitoring Using Blackbox Module**

*Insan Arafat Jahan (IUT, Bangladesh); Insan Arafat Jamil (CUET, Bangladesh); Mohammad Shakhawat Hossain Fahim (BRAC University, Bangladesh); Armana Sabiha Huq (BUET, Bangladesh); Fahim*

*Faisal and Mirza Muntasir Nishat (Islamic University of Technology, Bangladesh)*

**3B.3: 1570804817 Reinforcement Learning-Based MAC for Reconfigurable Intelligent Surface-Assisted Wireless Sensor Networks**

*Faisal Ahmed, Ethungshan Shitiri and Ho-Shin Cho (Kyungpook National University, Korea (South))*

**3B.4: 1570806274 TinyML Smart Sensor for Energy Saving in IoT Precision Agriculture Platform**

*Nicolas Chollet (ECE Paris & LISV - Université de Paris Saclay, France); Naila Bouchemal (ECE Paris, France); Amar Ramdane-Cherif (Université de Versailles St.-Quentin en Yvelines & LISV Laboratory, France)*

**3B.5: 1570803512 Design of Middle Range Microwave Power Transfer (MPT) System for the Mobile Power Receiver**

*Changyoung An and Heung-Gyoon Ryu (Chungbuk National University, Korea (South))*

**Session 4A: Cloud Computing and Networks**

**Session Chair: TBA**

**Room A, Time 14:30 ~ 16:00**

**4A.1: 1570806914 A Survey of Autoscaling in Kubernetes**

*Younghan Kim and Dai Dinh Vu (Soongsil University, Korea (South))*

**4A.2: 1570800958 Modelling the Offload of AI Tasks in Mobile Clouds**

*Zhiyan Chen and Ligang He (University of Warwick, United Kingdom (Great Britain))*

**4A.3: 1570810582 Design and Development of Server-Client Cooperation Framework for Federated Learning**

*Jongbin Park (Korea Electronics Technology Institute & KETI, Korea (South))*

**4A.4: 1570800410 Optimum Control Method of Workload Placement and Air Conditioners in a GPU Server Environment**

*Nakazato Hikotoshi (NTT Network Service Systems Laboratories, Japan); Seisuke Arai (NTT, Japan); Masashi Kaneko (NTT Corporation, Japan)*

**4A.5: 1570800666 Temperature-Compensated Overcharge Protection Indirect Measurement Circuit**

*JinUk Yeon and KunSik Kim (Sunmoon University, Korea (South)); Innyeal Oh (Sunmoon University & WiseJet Inc., Korea (South))*

## **Session 4B: SDN, Security, and Network Virtualization**

**Session Chair: TBA**

**Room B, Time 14:30 ~ 16:00**

### **4B.1: 1570800673 Performance Analysis of Python Based SDN Controllers over Real Internet Topology**

*Jisi Chandroth, Jehad Ali and Byeong-hee Roh (Ajou University, Korea (South))*

### **4B.2: 1570803820 An NFV-Based Scheduling and Flexible Deployment Scheme for RaaS Functions in Cloud Data Centers**

*Tseng Hsueh-Wen (National Chung-Hsing University, Taiwan); Ting-Ting Yang (National Defense University, Taiwan); Pei-Shan Chen (National Chung-Hsing University, Taiwan)*

### **4B.3: 1570799510 Assessing the RPKI Validator Ecosystem**

*Paul Friedemann (Universität der Bundeswehr München, Germany); Nils Rodday (Universität der Bundeswehr München, Germany & University of Twente, The Netherlands); Gabi Dreo Rodosek (Universität der Bundeswehr München, Germany)*

### **4B.4: 1570801569 Privacy-Preserving Surveillance for Smart Cities**

*Ijaz Ahmad (Chosun University, Korea (South)); Eunkyung Kim (Hanbat National University, Korea (South)); Suk-seung Hwang and Seokjoo Shin (Chosun University, Korea (South))*

### **4B.5: 1570801998 Software-Defined Networking: A New Approach to Fifth Generation Networks - Security Issues and Challenges Ahead**

*Behrooz Daneshmand (ITMO University, Russia); Tu Anh Le (University ITMO, Kronverkskiy Prospekt, 49, St Petersburg, Russia)*

## **Session 5A: Machine Learning and Computational Intelligence**

**Session Chair: TBA**

**Room A, Time 16:30 ~ 18:00**

### **5A.1: 1570811364 Efficient Device-Edge Inference for Disaster Classification**

*Nathaniel Tan Sze Yang (Universiti Tunku Abdul Rahman, Malaysia); Tham Mau Luen (UTAR, Malaysia); Sing Yee Chua and Ying Loong Lee (Universiti*

*Tunku Abdul Rahman, Malaysia); Yasunori Owada (National Institute of Information and Communications Technology, Japan); Suvit Poomrittigul (Pathumwan Institute of Technology, Thailand)*

**5A.2: 1570806885 Evaluating Correctness of Reinforcement Learning Based on Actor-Critic Algorithms**

*Youngjae Kim, Manzoor Hussain, Jae-Won Suh and Jang-Eui Hong (Chungbuk National University, Korea (South))*

**5A.3: 1570806943 Leveraging Vehicular Communications in Automatic VRUs Accidents Detection**

*Bruno Ribeiro (University of Minho, Portugal); Alexandre Santos (University of Minho & Centro Algoritmi, Portugal); Maria João M. R. da C. Nicolau (Universidade do Minho & Centro ALGORITMI, Portugal)*

**5A.4: 1570798670 Signal Relaying Method for High Data Rate in the MIMO System**

*Yong-An Jung, Dong-Cheul Han, Soo-Hyun Cho and Han-Jae Shin (Gumi Electronics & Information Technology Research Institute, Korea (South)); Sunghun Lee (GERI, Korea (South)); Jae-Hyun Ro (Jeonbuk Institute of Automotive Convergence Technology, Korea (South))*

**5A.5: 1570799558 Optimization Technique of Indoor-Outdoor User Pairing in DL-NOMA System**

*Adel Alqahtani (University of Manchester, United Kingdom (Great Britain))*

**Session 5B: 6G, 5G, Computer Vision Applications & Autonomous Vehicles**

**Session Chair: TBA**

**Room B, Time 16:30 ~ 18:00**

**5B.1: 1570817443 Learning-Based Second Price Auction for Distributed Delivery Scheduling in Smart and Autonomous Urban Air Mobility**

*Joongheon Kim (Korea University, Korea (South))*

**5B.2: 1570800978 Technical Challenges and Categorization of 5G Mobile Services**

*Ronald Beaubrun (Université Laval, Canada)*

**5B.3: 1570800011 Infrastructure-Independent Pseudonym Swap Protocol for Vehicular Networks**

*Abdueli Paulo Mdee, Muhammad Toaha Raza Khan, Junho Seo and Dongkyun Kim (Kyungpook National University, Korea (South))*

**5B.4: 1570807022 Recent Advances in a Medical Domain Metaverse: Status, Challenges, and Perspective**

*Jose M Ruiz Mejia and Danda B. Rawat (Howard University, USA)*

**5B.5: 1570814430 Search Space Adaptation for Differentiable Neural Architecture Search in Image Classification**

*Youngkee Kim (Korea University, Korea (South)); Soyi Jung (Hallym University, Korea (South)); Minseok Choi (Kyung Hee University, Korea (South)); Joongheon Kim (Korea University, Korea (South))*

**Session 6A: Cyber-physical system (CPS) & Information Networks**

**Session Chair: TBA**

**Room A, Time 9:30 ~ 11:00**

**6A.1: 1570803890 Design and Implementation of a Digital Twin Platform in Vertical Farming Systems**

*Taehwan Ko and Lee Hea-Min (Korea Electronics Technology Institute, Korea (South)); Sung-Woo Byun (Korea Electronics Technology Institute (KETI) & Jeonbuk Regional Branch, Korea (South)); Donghee Noh and Choi Ju-Hwan (Korea Electronics Technology Institute, Korea (South))*

**6A.2: 1570810652 User-Centered Design to Enhance IoT Cybersecurity Awareness of Non-Experts in Smart Buildings**

*Hanning Zhao and Bilhanan Silverajan (Tampere University, Finland)*

**6A.3: 1570801766 CNN Based Multi-View Image Quality Enhancement**

*Gyu-Lee Jeon (Ewha Womans University, Korea(South)); Hee-Jae Kim, Eun Yeo and Jewon Kang (Ewha Womans University, Korea (South))*

**6A.4: 1570800681 Improving Per-Flow Fairness by ML-Based Estimation of Competing Flows' Congestion Control Algorithm**

*Keito Maeta, Gen Kitagata and Go Hasegawa (Tohoku University, Japan)*

**6A.5: 1570806779 Mitigating Coordinate Transformation for Solving Partial Differential Equations with Physics-Informed Neural Networks**

*Hyo-Seok Hwang, Suhan Son and Junhee Seok (Korea University, Korea (South))*

**Session 6B: Network Theory and Network Science**

**Session Chair: TBA**

**Room B, Time 9:30 ~ 11:00**

**6B.1: 1570800940 Experimental Evaluation of Roaming Performance of Cellular IoT Networks**

*Kalpit Ballal (Danmarks Tekniske Universitet, Denmark); Radheshyam Singh, Lars Dittmann and Sarah Ruepp (Technical University of Denmark, Denmark)*

**6B.2: 1570806888 Traffic Analytics Development Kits (TADK): Enable Real-Time AI Inference in Networking Apps**

*Kun Qiu and Harry Chang (Intel, China); Ying Wang (Intel R&D, China); Xiahui Yu, Wenjun Zhu, Yingqi Liu, Jianwei Ma and Weigang Li (Intel, China); Xiaobo Liu and Shuo Dai (ZTE, China)*

**6B.3: 1570804257 A Framework for Named Networking on Edge AI, Fritz Kevin Flores and Marnel Peradilla**

*Fritz Kevin Flores and Marnel Peradilla (De La Salle University, Philippines)*

**6B.4: 1570810721 Fault-Tolerant Distributed AAA Architecture Supporting Connectivity Disruption**

*Karri Huhtanen (Radiator Software Oy, Finland); Antti Kolehmainen (Tampere University, Finland)*

**6B.5: 1570798619 An Improved Relay Selection Scheme for FD-MIMO Based System**

*Sung-hun Lee, Sang-Bong Byun, Dong-Cheul Han, Han-Jae Shin, Soo-Hyun Cho and Yong-An Jung (Gumi Electronics & Information Technology Research Institute, Korea (South))*

**Workshop 1A: IV 2022**

**Session Chair: TBA**

**Room A, Time 16:30 ~ 17:30**

**W1A.1: 1570814358 Analysis of V2V Communication Performance on Roads and Tunnels Surrounded by Mountains**

*Young Jin Yoon (University of Kyung Pook, Korea (South)); Dong Seog Han (Kyungpook National University, Korea (South))*

**W1A.2: 1570806761 3D Map Reconstruction from Single Satellite Image Using a Deep Monocular Depth Network**

*ChangMin Son and Soon-Yong Park (Kyungpook National University, Korea (South))*

**W1A.3: 1570808271 Pig Treatment Classification on Thermal Image Data Using Deep Learning**

*Savina Colaco (Kyungpook National University, Korea (South)); Jung Hwan Kim (KyungPook National University, Korea (South)); Alwin Poulouse (Kyungpook National University, Korea (South)); Sanne Van Zutphen and Suresh Neethirajan (Wageningen University & Research, The Netherlands); Dong Seog Han (Kyungpook National University, Korea (South))*

**W1A.4: 1570812813 Dual-Inferences Mechanism for Real-Time Semantic Segmentation**

*Min Young Kim and Quyen Van Toan (Kyungpook National University, Korea (South))*

**W1A.5: 1570812992 End-To-End Autonomous Driving Using the Ape-X Algorithm in Carla Simulation Environment**

*Jae Yun Jun Kim (ECE Paris, France); Maxence Hussonnois (Deakin University, Australia)*

**Workshop 1B: SRIoT 2022 I**

**Session Chair: TBA**

**Room A, Time 16:30 ~ 17:30**

**W1B.1: 1570812956 Device Adaptive Control Method Considering Power Consumption for Pedestrian-to-Infrastructure Communication**

*Atsuki Mukoda and Noriyuki Oki (The University of Electro-Communications & Advanced Wireless and Communication Research Center (AWCC), Japan); Ayumu Ueda (The University of Electro-Communications & Advanced*

*Wireless and Communication Research Center (AWCC), Japan); Takeo Fujii (The University of Electro-Communications, Japan)*

**W1B.2: 1570808419 Evaluation of Transmission Timing Control Error for QZSS Short Message SS-CDMA Communication System**

*Hiroshi Oguma and Rei Kawai (National Institute of Technology, Toyama College, Japan); Suguru Kameda (Hiroshima University, Japan); Noriharu Suematsu (Tohoku University, Japan)*

**W1B.3: 1570810779 Characteristics of RSSI Kriging Interpolated Value in Neighborhood of Buildings**

*Ryo Miyamoto and Shusuke Narieda (Mie University, Japan); Takeo Fujii (The University of Electro-Communications, Japan); Hiroshi Naruse (MIE UNIV, Japan)*

**W1B.4: 1570816038 Differential Packet Level Index Modulation for Low Power Wide Area System**

*Mai Ohta (Fukuoka University, Japan); Takeo Fujii (The University of Electro-Communications, Japan)*

**Workshop 1C: SRIoT 2022 II**

**Session Chair: TBA**

**Room A, Time 16:30 ~ 17:30**

**W1C.1: 1570816513 Dual Energy-Aware Based Trajectory Optimization for UAV Emergency Wireless Communication Network: A Multi-Armed Bandit Approach**

*Amr Amrallah (Tokyo Institute of Technology, Japan); Ehab Mahmoud Mohamed (Aswan University, Egypt); Gia Khanh Tran (Tokyo Institute of Technology, Japan); Kei Sakaguchi (Tokyo Institute of Technology & Fraunhofer HHI, Japan)*

**W1C.2: 1570810217 Identifying Invalid Nodes in Bluetooth Mesh Networks by Using the Bayesian Probability Classification Algorithm and Time to Live**

*Ta-Te Lu, Yi-Hsuan Li and Yu-Jheng Bo (Chien Hsin University of Science and Technology, Taiwan)*

**W1C.3: 1570814582 Performance Evaluation of Highly Efficient Information Collection Methods by Trend Analysis of Sensor Information Using Pre-Learning**



*Ryuji Miyamoto, Osamu Takyu and Hiroshi Fujiwara (Shinshu University, Japan); Koichi Adachi (The University of Electro-Communications, Japan); Mai Ohta (Fukuoka University, Japan); Takeo Fujii (The University of Electro-Communications, Japan)*

**W1C.4: 1570814960 High-Sensitivity Detection Method for Signals in PhyC-SN**

*Toshi Ito and Osamu Takyu (Shinshu University, Japan); Mai Ohta (Fukuoka University, Japan); Takeo Fujii and Koichi Adachi (The University of Electro-Communications, Japan)*

**Poster Session 1**

**Session Chair: TBA**

**Room C, Time 16:30 ~ 18:00**

**P1.1: 1570800436 A Lightweight End-To-End Neural Networks for Decoding Motor Imagery Brain Signal**

*Hyeon Kyu Lee, Ji-Soo Myoung and Young-Seok Choi (Kwangwoon University, Korea (South))*

**P1.2: 1570804484 Reinforcement Learning-Based Multiple Camera Collaboration Control Scheme**

*Dongchil Kim (Korea Electronics Techonlogy Institute (KETI), Korea (South)); Chang Mo Yang (Korea Electronics Technology Institute, Korea (South))*

**P1.3: 1570808974 Multi-Label Text Classification of Economic Concepts from Economic News Articles Using Natural Language Processing**

*Soo Jeong Kim and Junhee Seok (Korea University, Korea (South))*

**P1.4: 1570811375 TCAE: Temporal Convolutional Autoencoders for Time Series Anomaly Detection**

*Jinuk Park (Korea Electronics Technology Institute, Korea (South)); Yongju Park (Korea Electronics Technology Institute (KETI), Korea (South)); Chang-il Kim (Korea Electronics Technology Institute, Korea (South))*

**P1.5: 1570804942 Ride-Hailing Service Aware Electric Taxi Fleet Management Using Reinforcement Learning**

*Paul Silva (Jeonbuk National University, Korea (South)); Young-Joo Han (Hyundai Motor Group, Korea (South)); Young-Chon Kim (Chonbuk National University, Korea (South)); Dong-Ki Kang (Jeonbuk National University, Korea (South))*

**P1.6: 1570819844 Decentralized Identifiers (DIDs)-Based Authentication Scheme for Smart Health Care System,**

*Alnazif Mohammed Alnour and Ki-Hyung Kim (Ajou University, Korea (South))*

**Poster Session 2**

**Session Chair: TBA**

**Room C, Time 16:30 ~ 18:00**

**P2.1: 1570800935 Accelerating University Admission System Using Machine Learning Techniques**

*Basil Y Alothman (Kuwait College of Science and Technology (KCST), Kuwait); Hanadi Alazmi, Mohammad Bin Ali and Noor Alqallaf (Kuwait College of Science and Technology, Kuwait); Murad Khan (Kyungpook National University & Sarhad University of Science and Technology, Korea (South))*

**P2.2: 1570799726 Unsupervised Deep Learning-Based End-To-End Network for Anomaly Detection**

*Bekhzod Olimov, Barathi Subramanian and Jeonghong Kim (Kyungpook National University, Korea (South))*

**P2.3: 1570800952 VLC Positioning by Hybrid Wk-NN/DNN in Indoor Environment**

*Sung Hyun Oh (Tech University of Korea, Korea (South)); Jeong Gon Kim (Korea Polytechnic University, Korea (South))*

**P2.4: 1570800696 Detecting the Ripeness of Strawberries and the Coordinates of the Hull Using Deep Learning**

*Seojeong Kim and Sunghwan Jeong (Korea Electronics Technology Institute, Korea (South)); Heegon Kim and Sooho Jeong (Jeonnam Agricultural Research & Extension Services, Korea (South)); Yun Ga-yun (Jeonnam Agricultural Research & Extension Services, Korea (South), Korea (South)); Keunho Park (Korea Electronics Technology Institute, Korea (South))*

**P2.5: 1570810893 Introduction to a New Use-Case Based on MPEG-IoMT: Time-Series Temperature Data Analysis by the Flower Condition**

*Jaewon Moon (Korea Electronics Technology Institute, Korea (South))*

**Poster Session 3**

**Session Chair: TBA**

**Room C, Time 16:30 ~ 18:00**

**P3.1: 1570812110 Short-Term PM2.5 Prediction Using Modified Attention Seq2Seq BiLSTMM**

*Ida Bagus Krishna Yoga Utama, Duc Hoang Tran and Yeong Min Jang (Kookmin University, Korea (South))*

**P3.2: 1570812114 An Improved Sensor Anomaly Detection Method in IoT System Using Federated Learning**

*Duc Hoang Tran, Van Linh Nguyen, Ida Bagus Krishna Yoga Utama and Yeong Min Jang (Kookmin University, Korea (South))*

**P3.3: 1570800412 Enhanced 3D Action Recognition Based on Deep Neural Network**

*Sungjoo Park (KETI, Korea (South)); Dongchil Kim (Korea Electronics Technology Institute (KETI), Korea (South))*

**P3.4: 1570800442 Object Tracking of Aerial Imaging Device Image Using Variational Autoencoder and External Memory**

*Keunho Park, Byoungjun Kim, Donghoon Kim, Seon-Hyeong Kim, Seojeong Kim and Sunghwan Jeong (Korea Electronics Technology Institute, Korea (South))*

**P3.5: 1570812436 MissVoxelNet: 3D Object Detection for Autonomous Vehicle in Snow Conditions**

*Myungsik Yoo and Anh Do (Soongsil University, Korea (South))*

**Poster Session 4**

**Session Chair: TBA**

**Room C, Time 9:30 ~ 11:00**

**P4.1: 1570800824 A Comparative Analysis of 2D Deep CNN Models for Arrhythmia Detection Using STFT-Based Long Duration ECG Spectrogram**

*Tabassum Islam Toma and Sunwoong Choi (Kookmin University, Korea (South))*

**P4.2: 1570804518 Learning Based Clinical Diagnosis Framework for Inconsistently and Partially Labeled Dataset**

*Jae-Wook Jung and Sang-Eun Jeon (Pukyong National University, Korea (South)); Jae Hyun Lee, Juhyeon Kim and Yeong Kyun Bae (Kosin University Gospel Hospital, Korea (South)); Jun-Pyo Hong (Pukyong National University, Korea (South))*

**P4.3: 1570804279 Design of Obstacle Detection Method for Autonomous Driving in Agricultural Environments**

*Sung-Woo Byun (Korea Electronics Technology Institute (KETI) & Jeonbuk Regional Branch, Korea (South)); Donghee Noh and Lee Hea-Min (Korea Electronics Technology Institute, Korea (South))*

**P4.4: 1570804441 Design of Autonomous Driving Algorithms for Fruit Harvesting in Orchards**

*Lee Hea-Min, Donghee Noh and HyunGu Kang (Korea Electronics Technology Institute, Korea (South)); Sung-Woo Byun (Korea Electronics Technology Institute (KETI) & Jeonbuk Regional Branch, Korea (South)); Choi Ju-Hwan (Korea Electronics Technology Institute, Korea (South))*

**P4.5: 1570812296 Abnormal Voltage Regulation Detection in On-Grid PV-ESS System by Support Vector Machine with Principal Component Analysis**

*Soo Jeong Kim and Junhee Seok (Korea University, Korea (South))*