

Day 1 (Aug. 24)

Session A1 – V2X Communications

Session Chair : Seung-Hoon Hwang

Paper Title	Authors
Clustering for Region-based Resource Allocation in 3GPP Vehicle-to-Vehicle Communications	Cheng-Yu Chen and Cheng-Sen Huang (National Dong Hwa University, Taiwan); Jen-Yeu Chen (National Donghwa University, Taiwan); Po-Hao Chang (National Dong Hwa University, Taiwan)
Secured Detection of Malicious Nodes in VANET's	Jetendra Joshi (NIIT University & NIIT University, India)
Adaptive Transmission Scheme for Reliable V2I Communication	Jingjun Chen (Dongguk University, Korea); Yiqiao Wei (Dongguk University, Kosovo); Seung-Hoon Hwang (Dongguk University, Korea)

Session A2 – Cognitive Radio

Session Chair : Yoan Shin

Paper Title	Authors
Outage Probability of Spectrum Sharing Cognitive Radio Networks with Non-Ideal Circuit Power Consumption of SWIPT-Enabled relay	Gyeongrae Im and Jae Hong Lee(Seoul National University, Korea)
Interference Minimization with Power-Capacity Constraints for Cognitive Radio Networks	Yara Ashraf Kamel (Teaching Assistant & New Cairo Academy, Egypt); Fatma A. Newagy (Ain-Shams University, Egypt); Mohamed Mahmoud (Doctor, Egypt); Ismail Mohammed Hafez Ismail (Ain-Shams University, Egypt)
Optimization of Sum-Utilization of Spectrum and Sum-Rate in Cognitive Radio Networks with Different Primary Activities	Waqas Khalid and Heejung Yu (Yeungnam University, Korea)

Session A3 – Resource Management and Scheduling I

Session Chair : Jen-Jee Chen

Paper Title	Authors
QoS-Based Admission Control and Traffic Balancing Strategy for Unlicensed Band in Heterogeneous Networks	Ruei-Hong Fang (AsusTek Computer Inc., Taiwan); Wei-Sheng Lai, Yu Chien Lin and Ta-Sung Lee (National Chiao Tung University, Taiwan)
Energy-Efficient Resource Allocation for LTE-A MBSFN Networks	Pei-Wen Chung (Chang Gung University, Taiwan); Ying-Che Chien (National Chiao Tung University, Taiwan); Jia-Ming Liang (Chang Gung University, Taiwan); Jen-Jee Chen (National University of Tainan, Taiwan); Kun-Ru Wu (National Chiao Tung University, Taiwan)
A practical tessellation-based load-balancing scheme in Heterogeneous Cellular Networks using MIMO	Jin-Bae Park and Kwang Soon Kim (Yonsei University, Korea)

Session A4 – Channel Estimation

Session Chair : Een-Kee Hong

Paper Title	Authors
Enhanced Mobility Leveraging UL Reference Signal	He-Hsuan Liu and Hung-Yu Wei (National Taiwan University, Taiwan)
Semi-blind Channel Estimation for Asynchronous Amplify-and Forward Two-way Relay Networks	Saeed Abdallah (University of Sharjah, United Arab Emirates)
Channel Estimation with Sounding Reference Signal and Wideband CQI for Downlink scheduling	Jung-Yeon Baek (KyungHee University, Korea); Een-Kee Hong (Kyunghee University, Korea)

Session B1 – Signal Processing for Communications

Session Chair : Fumiyuki Adachi

Paper Title	Authors
Low-Complexity MPA Detection with Multiple Antennas for Uplink SCMA Systems	Gil-Mo Kang, Hyeon Min Kim and Oh-Soon Shin (Soongsil University, Korea)
PAPR Reduction for STBC Transmit Diversity with Transmit FDE using Blind Selected Mapping	Amnart Boonkajay and Fumiyuki Adachi (Tohoku University, Japan)
A Near Optimum User Selection Criterion for Uplink and Downlink Non-Linear Spatial Filters	Tomoyuki Baba and Satoshi Denno (Okayama University, Japan)
Effect of Quantization Noise of Iterative Digital Self-Interference Canceller for OFDM Employing Full Duplex	Hiroki Yamada, Takahiro Ohtomo and Mamoru Sawahashi (Tokyo City University, Japan); Keisuke Saito (NTT DOCOMO, Inc., Japan)
Development and Evaluation of Ground-Based L-band SAR System	Kyeong-Rok Kim and Jae-Hyun Kim (Ajou University, Korea)

Session B2 – Modulation and Coding I

Session Chair : Mamoru Sawahashi

Paper Title	Authors
Capacity of FH/MFSK Systems over Rayleigh Fading Channels under MTJ	Yu-Sun Liu (National Taipei University of Technology, Taiwan)
Performance of Circular 2048QAM Using Partial LDPC Coding with Time-Varying Phase Noise	Bin Zheng and Mamoru Sawahashi (Tokyo City University, Japan)
Throughput Performance of OFDM-based 256-QAM in Small Cell Environment	Kai Osawa, Norihiro Naganuma and Hiroyuki Otsuka (Kogakuin University, Japan)
PEXIT Chart-based Forced Convergence for Low-complexity Layered Decoding	Taehyun Kim and Jun Heo (Korea University, Korea)

Session B3 – Resource Management and Scheduling II

Session Chair : Chuan-Ming Liu

Paper Title	Authors
Network-Assisted Device-Decided (NADD) Round Robin Scheduling for Multi-Pair Device-to-Device (D2D) Communications in Heterogeneous Networks	Ang-Hsun Tsai (Chung Cheng Institute of Technology, National Defense University, Taiwan); Chung-Hsien Tsai (Chung Cheng Institute of Technology, National Defense University, Taiwan); Li-Chun Wang (National Chiao Tung University, Taiwan)
Impact of Multi-User Scheduling on Distributed Antenna Small-Cell Network using STBC Transmit Diversity	Tomoyuki Saito and Fumiyuki Adachi (Tohoku University, Japan)
Conflict-Free Data Scheduling on Multiple Wireless Broadcast Channels	Chuan-Chi Lai (National Chiao Tung University, Taiwan); Yu-De Lin and Chuan-Ming Liu (National Taipei University of Technology, Taiwan); Li-Chun Wang (National Chiao Tung University, Taiwan)
A Novel Beamwidth Adaptation Protocol for Tracking in Mobile Communication System	Jeongwan Kang, Suhanya Jayaprakasam and Sunwoo Kim (Hanyang University, Korea)
Traffic Prediction-Based Green Scheduling under DRX Operation for Power Saving of Base Station in LTE-A System	Wun-Ci Su, Ping-Cheng Chen and Kai-Ten Feng (National Chiao Tung University, Taiwan)

Session B4 – Antenna and Propagation

Session Chair : Hoon Kim

Paper Title	Authors
5G Multi-Mode Antennas for Future Wireless Communication Systems	Muhammad Kamran Khattak (Incheon National University, Korea); Sungtek Kahng (University of Incheon, Korea); Abdul Rehman, Muhammad Khattak, Changhyeong Lee, Dajung Han, Heejun Park and Hoon Kim (Incheon National University, Korea)
UWB absorbing structure based on TCA techniques	Changying Wu, Xiangyao Hou and Leilei Sima (Northwestern Polytechnical University, P.R. China)
On predicted and measured attenuation by fog on 905 nm laser transmissions	Imran Ashraf and YongWan Park (Yeungnam University, Korea)

Session C1 – Sensor Network and IoT

Session Chair : Jae-Hyun Kim

Paper Title	Authors
Error Bound Analysis for 3-D Distributed RSS-AoA Based Localization in Wireless Sensor Networks	Thu L. N. Nguyen, Tuan D. Vy and Yoan Shin (Soongsil University, Korea)
A study on Phase Characteristics for Backscatter Sensor Networks	Isaac Sim, Yumin Hwang and Sun Yui Lee (Kwangwoon University, Korea); Yoan Shin (Soongsil University, Korea); Dong In Kim (Sungkyunkwan University (SKKU), Korea); Jin Young Kim (Kwangwoon University, Korea)
Effects of Time and Space Diversity for Physical Cell ID Detection for NB-IoT	Aya Shimura and Mamoru Sawahashi (Tokyo City University, Japan); Satoshi Nagata and Yoshihisa Kishiyama (NTT DOCOMO, Inc., Japan)
A GPU Implementation of Access Point to Support Massive Connectivity in MTC	KyungJun Lee and Jinho Choi (Gwangju Institute of Science and Technology (GIST), Korea)
The Challenges of Applying SDN/NFV for 5G & IoT	Do Sinh (National Chiao Tung University & Dong A University, Taiwan); Luong Vy Le, Li-Ping Tung and Bao-Shuh Lin (National Chiao Tung University, Taiwan)

Session C2 – Modulation and Coding II

Session Chair : Satoshi Denno

Paper Title	Authors
An Optimal File Placement for Raptor Coded Caching System	Wonseok Lee (Korea Advanced Institute of Science and Technology, Korea); Seung-Chan Lim (Korea Advanced Institute of Science and Technolog (KAIST), Korea); Hyuncheol Park (KAIST, Korea)
Analysis on Anti-Jamming Performance of Binary Orthogonal Keying Chirp Spread Spectrum Systems	Kwangyul Kim and Yoan Shin (Soongsil University, Korea); Yumin Hwang and Jin Young Kim (Kwangwoon University, Korea)
BER and Voice Quality Performance for Digital Modulation Schemes Under Periodic OFDM Signal	Dong-Hak Lee and Jae-Hyun Kim (Ajou University, Korea)
Non-linear Precoding with Per-stream Power Control for 16QAM Physical Layer Network Coding in MIMO Relay Channels	Yuto Nagai and Satoshi Denno (Okayama University, Japan)

Session C3 – Multiple Access

Session Chair : Yongjae Kim

Paper Title	Authors
Performance Analysis of Licensed-Assisted Access with Listen-Before-Talk in Non-Saturated Condition	Yongjae Kim (KAIST, Korea); Yujae Song (KIOST, Korea); Youngnam Han (KAIST, Korea)
Reduction of PAPR using Arithmetic Coding and APSK Modulation Technique for F-OFDMA in 5G System	Nur Fatin Nabilah Abdul Rahman, Mohd Syarhan Idris and Mohd Danial (Faculty of Electrical Engineering, UiTM, Malaysia); Azlina Idris and Azita Laily Yusof (WiCoT Group, UiTM, Malaysia)
Efficient Radio Access for Massive Machine-Type Communication –An Interleaved Retransmission Technique for Frequency Domain Equalization–	Masafumi Moriyama and Kenichi Takizawa (National Institute of Information and Communications Technology, Japan); Hayato Tezuka (National Institute of Information and Communication Technology, Japan); Masayuki Oodo and Chang-Woo Pyo (NICT, Japan); Homare Murakami, Kentaro Ishizu and Fumihide Kojima (National Institute of Information and Communications Technology, Japan)
User Selection and Grouping Algorithm Design for Beamforming in Downlink NOMA Systems	Li-Wen Chen, Ching-En Chen and Yung-Fang Chen (National Central University, Taiwan); Chin-Liang Wang (National Tsing Hua University, Taiwan)
Fair power allocation for non-orthogonal multiple access in wireless networks	Yaw-Wen Kuo, Yin-man Lee and Jane Hwa Huang (National Chi Nan University, Taiwan)

Session C4 – Convergence in Communications

Session Chair : Seokhyun Yoon

Paper Title	Authors
Influence of Capture Phenomenon on Throughput in Wireless Passive Sensor Networks: Analysis and Case Study	Heewon Seo, Jun Ha, Jin Kyung Park and Cheon Won Choi (Dankook University, Korea)
Achieving Optimal Degrees of Freedom in Multi-Source Interfering Relay Networks With Multiple Antennas	Huifa Lin and Won-Yong Shin (Dankook University, Korea); Bang Chul Jung (Chungnam National University, Korea)
A Hybrid MAC Protocol for Wearable Healthcare Systems	Pervez Khan and Syed Danial Ali Shah (Incheon National University, Korea); Daehyeon Kim (Incheon National University & Engineering Building, Korea); Sungtek Kahng and Hoon Kim (Incheon National University, Korea)
Iterative Soft Decision Feedback Equalizer for Single-Carrier Wireless Communication System	Seokhyun Yoon (Dankook University, Korea); Taehyun Jeon (Seoul National University of Technology, Korea)

Day 2 (Aug. 25)

Session D1 – Quantum Communications I	
Session Chair : Jun Heo	
Paper Title	Authors
Classical Capacity of Composite Quantum Channels	Junaid ur Rehman (Kyung Hee University, Korea); Youngmin Jeong (Kyung Hee University & Massachusetts Institute of Technology, Korea); Hyundong Shin (Kyung Hee University, Korea)
Polar Codes for Information Reconciliation	Sunghoon Lee and Jun Heo (Korea University, Korea)
Monogamy Inequalities and Disentangling Theorem	Ahmad Farooq (Kyung Hee University, Korea); Youngmin Jeong (Kyung Hee University & Massachusetts Institute of Technology, Korea); Hyundong Shin (Kyung Hee University, Korea)
Session D2 – Localization	
Session Chair : Po-Hsuan Tseng	
Paper Title	Authors
An Indoor Localization Scheme Based on Integrated Artificial Neural Fuzzy Logic	Amirul Islam, Md. Tanvir Hossan, Mostafa Zaman Chowdhury and Yeong Min Jang (Kookmin University, Korea)
LTE Indoor Positioning based on 3D Channel Model	Chih-Hao Tang (National Taipei University of Technology, Taiwan); Shin-Lin Shieh (National Taipei University, Taiwan); Po-Hsuan Tseng (National Taipei University of Technology, Taiwan)
Improved Localization Accuracy using IMU Sensor Data with RSSI based Path Loss Model Maps	M Ali, Soojung Hur and YongWan Park (Yeungnam University, Korea)
Session D3 – Devices and Implementation I	
Session Chair : Joongheon Kim	
Paper Title	Authors
PAPR and Spectrum efficiency of Wavelet-OFDM Communication System	Jun-gu Lee and Heung-Gyoon Ryu (Chungbuk National University, Korea)
Multi-Band Power Amplifier System Design for LTE MIMO Over-the-Air Testing	Lei Yen, Sakthidasan Renu, Abebe Belay, Hsin-Piao Lin and Yao-Lung Lin (National Taipei University of Technology, Taiwan); Shiann-Shiun Jeng (National Dong Hwa University, Taiwan)
Predistortion and Performance Evaluation of Nonlinear HPA Compensation	Kyeongsoo Jang and Heung-Gyoon Ryu (Chungbuk National University, Korea); Sang Bum Ryu and Sang Gyu Lee (Korea Aerospace Research Institute, Korea)
Adaptive Mobile CPU Frequency Control for Energy-Efficient Embedded Smartphones	Joongheon Kim, Miji Park, Nawon Kim, Junhui Kim and Yejin Kim (Chung-Ang University, Korea)
Session D4 – Special Session I (MIMO)	
Session Chair : Taeyoon Kim	
Paper Title	Authors
Beamforming Design for SWIPT in MISO Multicasting Systems	Thu L. N. Nguyen (Soongsil University, Korea); Jin Young Kim (Kwangwoon University, Korea); Yoan Shin (Soongsil University, Korea); Dong In Kim (Sungkyunkwan University, Korea)
An Adaptive Clustering Algorithm for Uplink Network MIMO WLANs	Tae-Yoon Kim, Wonjung Kim and Sangheon Pack (Korea University, Korea)
Using Density Evolution for Analysis of Low Complexity MIMO Detector based on Belief Propagation over a Ring Type Pair-wise Graph	Seokhyun Yoon (Dankook University, Korea)
On the Performance of Multi-user MIMO System with Dynamic Feedback Selection	Icheon Kim, Dasan Metwork Soutlion, Jae W. Lee and Chung G. Kang (Korea University, Korea)
Session E1 – Quantum Communications II	
Session Chair : Junaid ur Rehman	
Paper Title	Authors
Quantum Channel Switching with Optimal Fidelity	Muhammad Asad Ullah (Kyung Hee University, Korea); Youngmin Jeong (Kyung Hee University & Massachusetts Institute of Technology, Korea); Hyundong Shin (Kyung Hee University, Korea)
A Practical Protocol for Time Synchronized OTP with Quantum Random Number Generator	JongHyun Lee, Shinkyu Lee and Jun Heo (Korea University, Korea)
Quantum Zero-Error Capacity and its Properties	Jeonghoon Park (Korea University, Korea)
Session E2 – Network Performance I	
Session Chair : Chih-Lin Hu	
Paper Title	Authors
Handoff Performance Evaluation of Prefetching Approaches in SDN-enabled Mobile Networks	Yu-Jia Chen, Chun Rong Lin and Li-Chun Wang (National Chiao Tung University, Taiwan)
Crowdsourcing-based Handover Scheme for Wireless LAN in Vehicular Environments	Made Harta Dwijaksana (Seoul National University, Korea); Hyun Seob Oh (Seoul National University & School of Electrical Engineering and Computer Science, Korea); MinSik Hwang and Wha Sook Jeon (Seoul National University, Korea); Dong Geun Jeong (Hankuk University of Foreign Studies, Korea)
Using Two-Hop Neighborhood Information to Enhance Geographic Routing in Sparse MANETs	Chih-Lin Hu and Chuluntulga Sosorburam (National Central University, Taiwan)
Session E3 – Special Session (mmWave)	
Session Chair : Ji-Ho Lee	
Paper Title	Authors
Terahertz Component Circuits for Coherent Direct Conversion Receiver	Seung Ho Choi, Hyun Dong Lee and Kim Moonil (Korea University, Korea)
Two-ray Model Based mmWave Channel Modeling for Long-distance Wireless Communications	Jae-Hong Kwon, Dong-Hyoun Na and Young-Chai Ko (Korea University, Korea)
Hybrid Beamforming Design for Uplink Multiuser Massive MIMO Systems	Ji-Ho Lee, Yeongrok Lee and Young-Chai Ko (Korea University, Korea)
A D-band Modulating Switch for High-speed Low-power Wireless Communications	Younghwan Kim, Dongkyo Kim, Bohee Suh and Sanggeun Jeon (Korea University, Korea)
Session E4 – Special Session II (Wireless PAN)	
Session Chair : Cheon Won Choi	
Paper Title	Authors
Analysis of Selfish Backoff Attack in IEEE 802.15.4 CSMA/CA	Joongheon Kim (Chung-Ang University, Korea)
Handover in a cellular network with small moving cells	Hyun-Soo Kim, Yong-Suk Byun, and Yong-Hwan Lee (Seoul National University, Korea)
A V2X Signage OCC application shown in IEEE802.15 standard meeting	Jae-Sang Cha (Seoul National University of Science and Technology, Korea)
Coverage of Wireless Passive Sensor Network Deployed in Mass Concrete Structure	Heewon Seo, Jun Ha, Jin Kyung Park and Cheon Won Choi (Dankook University, Korea)
Session F1 – MIMO	
Session Chair : Ang-Hsun Tsai	
Paper Title	Authors
MIMO-OFDM Subband Beamforming With Limited Feedback	Che-Wei Chiang (Chunghwa Telecom Inc., Taiwan); Char-Dir Chung (Communication Society, Taiwan); Meng-Lin Ku (National Central University, Taiwan); Sen-Hung Wang (National Sun Yat-sen University, Taiwan)
SVD-Based Signal Alignment for MU-MIMO Two-Way Relay Networks	Keshav Singh (The University of Edinburgh, United Kingdom (Great Britain)); Meng-Lin Ku, Chih-Cheng Wang and Che-Ying Lin (National Central University, Taiwan)
Interference Aware Handoff based on Interference Alignment for Cellular MIMO Networks	Wan-Chen Lin and Jen-Ming Wu (National Tsing Hua University, Taiwan)
Coverage Evaluation of A Proposed CoMP System with Alamouti Transmission Diversity	Naoki Ogi, Takeshi Hattori and Masakatsu Ogawa (Sophia University, Japan)
Session F2 – Network Performance II	
Session Chair : Chin-Ya Huang	
Paper Title	Authors
Seamlessly Deliver Low Latency Content in Ultra Dense Networks	Wei-Tsang Teng, Chin-Ya Huang and Hong-Yi Wang (National Central University, Taiwan)
Evaluation of Wi-Fi Interference from a Large Number of APs in IEEE 802.15.4 Perspective	Hongchan Kim (Seoul National University, Korea); Hyung-Sin Kim (University of California, Berkeley, USA); Saewoong Bahk (Seoul National University, Korea)
Optimal Distance Threshold of Fractional Frequency Reuse Cellular Systems	Seok-Ho Chang (Dankook University, Korea)
Machine Learning based Self-Fault Diagnosis in an LTE-A Network	Kai-Cheng Wang (National Chiao Tung University & Institute of Communication Engineering, Taiwan); Chen Kuo-Ming (Institute of Communications Engineering, Taiwan); Ta-Sung Lee (National Chiao Tung University, Taiwan)
Full Duplex MAC Protocol Based on Neighbor Node Information	Dong-Gu Lee, Kin-Ki Kim and Jae-Hyun Kim (Ajou University, Korea)
Session F3 – Energy Harvesting and SWIPT	
Session Chair : Seokju Jang	
Paper Title	Authors
Energy Harvesting Efficiency Maximization for Multi-cell MISO SWIPT Systems with Zero Forcing Beamforming	Seokju Jang, Taeseok Oh and Inkyu Lee (Korea University, Korea)
Beamforming Design for Per-Antenna Power Constraints in Multiuser MISO SWIPT Systems	Chih-Li Chen and Borching Su (National Taiwan University, Taiwan)
On Hybrid Energy Utilization for Harvesting Base Station in 4G LTE	Mohammad Tala't (National Chiao Tung University (NCTU), Taiwan); Chih-min Yu (Chung Hua University, Taiwan); Meng-Lin Ku (National Central University, Taiwan); Kai-Ten Feng (National Chiao Tung University, Taiwan)
Compressive Sensing based Physical Layer Authentication for Wireless Energy Auditing Networks	Yonggu Lee, Hanseong Jo and Jinho Choi (Gwangju Institute of Science and Technology (GIST), Korea)
Investigation Into Printed Double Sided Spiral for Wireless Power Transfer	Muhammad Arif Bin Salim (NUS, Singapore); Faeyz Karim (Nanyang Technological University, Singapore); Ayman Alzayed (Kuwait University, Kuwait); Mohammed Yakoob Siyal (Nanyang Technological University, Singapore)
Session F4 – Special Session III	
Session Chair : Sunho Park	
Paper Title	Authors
A Low Complexity Syndrome Based Decoding Algorithm for Turbo Product Codes	Byungkyu Ahn, and Jun Heo (Korea University, Korea)
FPGA Implementation of DVB-S2 LDPC decoders with Adaptive Deactivation and Zero-Forcing Scheme	Sung Won Kim, Taehyun Kim and Jun Heo (Korea University, Korea)
A Study of Computation Reduction Technique of QR Iteration for MUSIC Algorithm in Vehicle Radar	Jungyeol Kim, Daehyun Kim and Younglok Kim (Sogang University, Korea)
A Multi-Carrier Proportional Fair Scheduling with Fronthaul Load Minimization for Fog Radio Access Networks	Syed Danial Ali Shah, Pervez Khan, Daehyeong Kim and Hoon Kim (Incheon National University, Korea)
Unequal Frequency Reuses for Scalable Transmission	Seok-Ho Chang (Dankook University, Korea)
Joint User Activity and Channel Estimation for Grant-free Non-Orthogonal Multiple Access	Sunho Park, Hyoungju Ji, Heejin Seo, and Byonghyo Shim (Seoul National University, Korea)