2019 89th IEEE
Vehicular Technology Conference

Final Program

28 April – 1 May 2019

Kuala Lumpur, Malaysia
Welcome from the General Chair

It is my honor to welcome you to IEEE VTC2019-Spring, held in the vibrant city of Kuala Lumpur in Malaysia. This is the first time a major IEEE VTS event is being held in Malaysia, and no doubt, this will significantly contribute to further strengthen and develop IEEE membership and activities in the country and South-East Asia in general.

The conference venue, JW Marriott Kuala Lumpur, is ideally located at the heart of the famous Golden Triangle district, just across the road to The Pavilion—one of the many mega shopping complexes dotted around the city. It is in this pleasant environment that IEEE VTC2019-Spring Kuala Lumpur will bring together researchers, developers, practitioners, and business executives from all over the world to congregate. We hope you will take this opportunity to discover Malaysia and its rich culture.

Behind such a grand event, there is always a band of people who toil to make it happen; we thank those who have contributed tirelessly. The commitment of the Organizing Committee truly was inspirational. Special recognition is due to the Honorary Chair, Datuk Hod Parman; TPC Co-Chairs Tomoaki Ohtsuki and Hafizal Mohamad; and the rest of the member of the organizing committee who have contributed admirably to the preparation of this conference.

Last but not least, special thanks are due to our supporters and patrons for their strong and keen support. We wish all the participants a very enjoyable stay in Kuala Lumpur. We believe that this conference will be one of your most fruitful and memorable experience of your life from both professional and personal perspectives.

Nordin Ramli
General Chair, IEEE VTC2019-Spring

Welcome from the TPC Co-chairs

Our committee has organized exciting programs for IEEE VTC2019-Spring focusing on the latest research developments in wireless systems and networks, autonomous and connected vehicles, intelligent transportation, and promising new emerging topics.

The technical program consists of 60 oral sessions. The technical program committee has selected 291 outstanding papers for the oral sessions. Each paper has been reviewed by at least 3 independent reviewers. All papers presented will be published in the conference proceedings and in IEEE Xplore. In addition to the oral sessions, the conference hosts workshops, tutorials, industry panel sessions, and keynotes addressing some of the most challenging and thought-provoking aspects of wireless communications and vehicular technology. The creation of this impressive program would not be possible without the voluntary support from an outstanding team of colleagues that we thank sincerely.

Special thanks go to the conference track chairs who have organized a very efficient and smooth review and session organization process, as well as the workshop, panel and tutorial chairs that have organized very informative sessions. We also thank all the TPC members and reviewers for their professional and timely review of technical contributions. Of course, making a successful technical conference would not have been possible without the participation from authors, to whom we express our gratitude for presenting and sharing their ideas and contributions with our community.

We would also like to thank all members of the IEEE VTC2019-Spring organization committee for their support during all phases of the technical program development.

Hafizal Mohamad and Tomoaki Ohtsuki
TPC Co-chairs, IEEE VTC2019-Spring
Welcome from the VTS President

On behalf of IEEE VTS, it is truly an honor and a pleasure to welcome you to our flagship conference, VTC2019-Spring.

This year’s spring event is being hosted in the world-class city of Kuala Lumpur, Malaysia. The conference will put forth an exciting collection of technical tracks presenting the latest research in all things related to vehicular technology, ten excellent tutorial sessions covering topics from NOMA to 5G to vehicular networks to machine learning/artificial intelligence, workshops focused on cutting-edge topics in vehicular technology, a world-class industry program with superb experts and practitioners, and world-renowned keynote speakers and panels providing their insights on current technologies and future trends.

Overall, VTC2019-Spring promises to provide attendees with an enriching experience that will facilitate the exchange of knowledge, enable professional development and growth, and support numerous networking opportunities with other conference attendees from around the world.

Organizing a world-class conference event involves a large and highly dedicated team of volunteers, and we are very thankful to everyone making this conference an outstanding success! I sincerely thank General Chairs Nordin Ramli and Borhanuddin Mohd Ali, Honorary Chair Hod Parman, Technical Program Chairs Hafizal Mohamad and Tomoaki Ohtsuki, and the rest of the organizing team for their time, effort, dedication, and commitment to VTC2019-Spring, a premier international event in vehicular technology!

I look forward to seeing you at VTC2019-Spring in Kuala Lumpur this April 2019, where we will be Connecting the Mobile World!

With warmest regards,
Alex Wyglinski, President
IEEE Vehicular Technology Society
### Organizing Committee

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### Logistics

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Universiti Putra Malaysia, Malaysia

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Instituto de Universidade Nova of Lisbon, Portugal

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Exhibitors

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Monday, 29 April 2019

1A: 5G Networks and Systems I

1 3.5 GHz Coverage Assessment with a 5G Testbed
Adrian Schumacher, Ruben Merz, Swisscom (Switzerland) Ltd.; Andreas Burg, EPFL

2 A Proposal for Scalable 5G New Radio Frames
Hedaia Ghannam, Izzat Darwazeh, University College London

3 Comparison of Explicit CSI Feedback Schemes for 5G New Radio
Rana Ahmed Salem, Keeth Jayasinghe, Thorsten Wild, Nokia Bell Labs

4 Inter-Cell Radio Frame Coordination Scheme Based on Sliding Codebook for 5G TDD Systems
Ali Esswie, Nokia Bell Labs; Klaus Pedersen, Nokia

5 On the Multiplexing of Broadcast Traffic and Grant-Free Ultra-Reliable Communication in Uplink
Renato Barbosa Abreu, Thomas Jacobsen, Gilberto Berardinelli, Aalborg University; Klaus I. Pedersen, Nokia - Bell Labs; Nurul Huda Mahmood, Aalborg University; István Z. Kovács, Nokia Bell Labs; Preben Mogensen, Aalborg University, Nokia Bell Labs

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1B: Energy Efficiency

1 Energy Efficiency Maximization of AF Relaying SWIPT Systems with Energy Recycling
Chuanping Li, Peiran Wu, Minghua Xia, Sun Yat-sen University

2 Optimization of Time Splitting based SWIPT in Battery-Assisted Full Duplex Relays
Kamal Agrawal, IIT Delhi; Shankar Prakriya, Indian Institute of Technology, Delhi

3 Positioning of Flying Base Stations to Optimize Throughput and Energy Consumption of Mobile Devices
Zdenek Becvar, Pavel Mach, Jan Plachy, Miguel Fontanilla Perez de Tudela, Czech Technical University in Prague

4 An Energy Efficient Spatio-Temporal Compression Clustering Data Collection Scheme for Wireless Sensor Networks
Lina Xiao, Song Xiao, Yimin Zhao, Xidian University

5 Energy Efficient Base Station Transmit Power Adaptation for Green 5G Massive MIMO Systems
Vahid Khodamoradi, Adwati Saleh, Universiti Putra Malaysia; Asem A. Salha, University of Malaya; Borhamuddin Mohammed Ali, Raja Syamaluddin Azmir, Universiti Putra Malaysia; Ioannis Krikidis, University of Cyprus

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1C: UAVs I

1 Techniques for Improving the Cooperative Traffic Conflict Detection among Drones
Lukas Marcel Schalk, German Aerospace Center (DLR)

2 Autonomous Unmanned Aerial Vehicle for Search and Rescue using Software Defined Radio
Seán Óg Murphy, Kenneth N. Brown, Cormac Sreenan, University College Cork

3 Technology assessment for radio communication between UAV and Ground: qualitative study and applications
Najett Neji, Université Paris Saclay - Eevy Val d’Essonne; Tumuder Mostfa, Yasmina Bestaoui Sebbane, Université Paris Saclay

4 Full-Duplex UAV Relay Positioning for Vehicular Communications with Underlay V2V Links
pouyapourbaba, Manosa Kapuruhany Badalge, Samad Ali, Nandana Rajatheva, University of Oulu

5 High-Precision UAV Localization System for Landing on a Mobile Collaborative Robot Based on an IR Marker Pattern Recognition
Ivan Kalinov, Evgeniy Safironov, Ruslan Agishev, Mikhail Karenkov, Alexander Petrovskii, Dzmitry Tsetserukou, Skolkovo Institute of Science and Technology

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1D: Resource Allocation

1 Performance Analysis of NOMA-Based Cooperative Relaying Systems Over Hoyt Fading Channels
Stefan Panic, Dushantha Nalin K. Jayakody, National Research Tomsk Polytechnic University

2 Fast Resource Allocation for Downlink NOMA Based on Revenue and Chordal Graphs
Yu-Wen Huang, Shao-Ming Teng, Jung-Chun Kao, Yi-Chia Lo, National Tsing Hua University

3 QoE-Oriented Admission Control and Resource Allocation for Functional Split Millimeter-Wave Fronthaul Networks
Tun-Ping Huang, Chun-Hao Fang, Pei-Rong Li, Kai-Ten Feng, National Chiao Tung University

4 Semi-persistent V2X Resource Allocation with Traffic Prediction in Two-tier Cellular Networks
Peng Chu, Andrew Zhang, University of Technology Sydney; Xiaoxiang Wang, Beijing University of Posts and Telecommunications; Gengfa Fang, University of Technology Sydney; Dongyu Wang, Beijing University of Posts and Telecommunications

5 Deep Q-Network based Adaptive Resource Allocation with User Grouping on ICIC
Chien-Hao Lee, Kuang-Hsun Lin, Hung-Yu Wei, National Taiwan University

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1E: Cognitive Radio Networks

1 Replica Exchange Spatial Adaptive Play for Channel Allocation in Cognitive Radio Networks
Wangdong Deng, Shotaro Kamaishi, Koji Yamamoto, Takeyuki Nishio, Masahiro Morikura, Kyoto University

2 WhiteSpace Prediction Using Hidden Markov Model Based Maximum Likelihood Classification
Ahmad Saad, Henning Schepker, Fraunhofer ESK; Barbara Staehle, HTWG Konstanz; Rudi Knorr, Fraunhofer ESK

3 On the Joint Impact of SU Mobility and PU Activity in Cognitive Networks with Improved Energy Detection
On Thakkar, Dhasha Patil, Ahmedabad University; Guan Yong Liang, Nanyang Technological University; Sunei Sun, Institute for Infocomm Research; Yoong Choon Chang, UTAR; Malaysia; Joanne Mun-Yee Lim, School of Engineering, Monash University, Malaysia

4 Transmit Antenna Selection for Interference Aided Wireless Energy Harvesting in Cache-assisted Cognitive Relay Networks
Ashwini Bhiwade, Jitendra Otware, Intel Corporation

5 An Empirical Analysis of the Effect of Malicious Users in Decentralised Cognitive Radio Networks
Arun Sivakumaran, University of Pretoria; Aithurush S. Alfa, University of Manitoba; Sunil Maharaj, University of Pretoria; Arun Sivakumaran, University of Pretoria; Attahiru S. Alfa, University of Pretoria

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1F: Detection and Channel Estimation

1 Channel estimation strategy for LPWA transmission at low SNR: application to Turbo-FSK
Vincent Berg, CEA; Jean-Baptiste Doré, CEA-LETI MINATEC; Valérian Mannoni, CEA
2 Joint IWMMSSE-based Channel Estimation and Finsler-Manifold-based Codebook for the Design of V2X FDD Massive MIMO Systems
Hong-Yunn Chen, National Taiwan University; Cheng-Fu Chou, NTU; Leana Golubev, University of Southern California

3 Unimodular Sequence Design with Good Local Auto- and Cross-Ambiguity Function for MSPSR System
Tianjun Liu, Pingzhi Fan, Zhongchun Zhou, Southwest Jiaotong University; Guan Yong Liang, Nanyang Technological University

4 Low Density Signature based Packet Access with Phase Only Adaptive Preceding
Satoshi, Denno; Ryoko Sasaki, Yafii Hou, Okayama University

5 LMMSE-Based Sidelink Channel Estimation for LTE Communication Systems
Yu-Ching Huang, David Lin, National Chiao Tung University

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2A: 5G Networks and Systems I

1 An end-to-end demonstration for 5G network slicing
Rui Ni, Huawei

2 Achieve High Spectral Efficiency for 5G: Multi-User MIMO versus NOMA
Yejian Chen, Bell Labs, Nokia

3 Adaptive Network-Device Cooperative Diversity for Ultra-Reliable and Low-Latency Wireless Control
Saeed R. Khorasvirad, Nokia Bell Labs; harish, viswanathan

4 An Experimental Study of C-RAN Fronthaul Workload Characteristics: Protocol Choice and Impact on Network Performance
Venu Balaji Vinnakota, Naganithin Manne, Abhijit Mondal, Debarati Sen, Sandip Chakraborty, Indian Institute of Technology Kharagpur

5 Data Analytics in the 5G Radio Access Network and its Applicability to Fixed Wireless Access
Oriol Sallent, Jordi Pérez-Romero, Ramon Ferrus, Ramon Agusti, Universitat Politècnica de Catalunya (UPC)

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2B: Energy Harvesting

1 Performance Impact of Nonlinear Amplification in Massive MIMO mmWave Systems
Sara Teodoro, Universidade de Aveiro; Adão Silva, DETI / Instituto de Telecomunicações / University of Aveiro; Rui Dinis, Universidade Nova de Lisboa; Attilio Gamera, Universidade Aveiro

2 Cooperative Relaying with Energy Harvesting: Performance Analysis Using Extreme Value Theory
Zhiwei Liu, Peiran Wu, Sun Yat-sen University; Daniel Benevides da Costa, Federal University of Ceará (UFC); Minghua Xia, Sun Yat-sen University

3 Performance of Incremental Relaying with an Energy-Buffer Aided Relay
Dileep Bapatla, Shankar Prakriya, Indian Institute of Technology, Delhi

4 Reliable Communication Performance for Energy Harvesting Wireless Sensor Networks
Van Nhan Vo, Khonkaen University, Thailand; Hung Tran, Elisabeth Uhlemann, Mälardalen University; Quach Xuan Truong, VNU University of Engineering and Technology, Vietnam; Chakchai So-In, Khon Kaen University; Ali Balador, Mälardalen University

5 Resource Allocation Strategy Based on RF Energy Harvesting in Heterogeneous Networks
Jincheng Gao, Yisheng Zhao, MengJia Chen, Zhonghui Chen, Fuzhoun University

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1G: Driving Assistance

1 Performance Evaluation of Backoff Misbehaviour in IEEE 802.11ah Using Evolutionary Game Theory
Liew Jian Tereng, Fazirulhiyam Hashim, Aduwati Sali, M. Fadllee A. Rased, Universiti Putra Malaysia; Kanapathippilai Cumanan, University of York

2 Session-Enabled Joint Radio Resource Selection for Co-Operative Automated Driving
Prawjal Makkimane Keshavamurthy, Panagiotis Spapis, Huawei Technologies Dusseldorf GmbH; Dirk Dahlhaus, University of Kassel; Chan Zhou, Huawei Technologies, German Research Center

3 A Software Architecture for an Autonomous Racecar
Johannes Betz, Alexander Wischnerwski, Alexander Heilmeyer, Felix Nobis, Tim Stahl, Leonhard Hermansdorfer, Lienkamp Markus, Technical University of Munich

4 Vehicle-to-Vehicle Message Sender Identification for Co-operative Driver Assistance Systems
Hiromitsu Kobayashi, Kiyungtae Han, BaekGyu Kim, Toyota InfoTechnology Center

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2C: UAVs II

1 Improving Drone’s Command and Control Link Reliability through Dual-Network Connectivity
Raphael Amorim, Aalborg University; Jeroen Wigard, Istdv Z. Kovacs, Nokia Bell Labs; Troels B. Sorensen, Aalborg University; Guillermo Pocovi, Nokia Bell Labs

2 Optimal Collision-free Navigation for Multi-Rotor UAV Swarms in Urban Areas
Xiangpeng Wan, Hakim Ghazzai, Yehia Massoud, Stevens Institute of Technology; Hamid Menouar, Qatar Mobility Innovations Center

3 Analysis on Time-Variant Air-to-Ground Radio Communication Channel for Rotary-Wing UAVs
Hsin-An Hou, Industrial Technology Research Institute; Li-Chun Wang, National Chiao Tung University

4 Exploiting Land Transport to Improve the UAV’s Performances for Longer Mission Coverage in Smart Cities
Noureddine Lasla, Hamad Bin Khalifa University; Hakim Ghazzai, Stevens Institute of Technology; Hamid Menouar, Qatar Mobility Innovations Center; Yehia Massoud, Stevens Institute of Technology

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2D: 5G Networks

1 Efficient Low Complexity Packet Scheduling Algorithm for Mixed URLLC and eMBB Traffic in 5G
Ali Karimdehkordi, Aalborg University; Klaus I. Pedersen, Nokia - Bell Labs; Nurul Huda Mahmood, Aalborg University; Guillermo Pocovi, Nokia Bell Labs; Preben Mogensen, Aalborg University/Nokia Bell Labs

2 Preemption-Aware Rank Offloading Scheduling For Latency Critical Communications in 5G Networks
Ali Esswie, Nokia Bell Labs; Klaus Pedersen, Nokia; Preben Mogensen, Nokia Bell Labs

3 A Real-Time Transmission Scheduling Algorithm for Downlink Cognitive Long Term Evolution-Advanced
Huda Adibah Mohd Ramli, Farah Nadia Mohd Isa, Ani Liza Asnawi, Ahmad Zamani Junus, Amelia Wong Azman, International Islamic University Malaysia
5 Efficient Proportional Fairness Scheduling Method Using User Distribution in MU-MIMO THP
Yukiko Shimbo, Hirofumi Suganuma, Waseda University; Hiromichi Tomeba, Takashi Onodera, Sharp Corporation; Fumiaki Maehara, Waseda University

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Caroline Svahn, Oleg Sysoev, Linköping University; Mirdas Cirkic, Ericsson Research, Linköping; Fredrik Gunnarsson, Ericsson Research; Joel Berglund, Ericsson Research, Linköping, Sweden

2 Optimization and Learning in Energy Efficient Resource Allocation for Cognitive Radio Networks
Mdaduzi Comfort Hlople, Sunil Maharaj, University of Pretoria

3 Performance Comparison of Channel Sensing and Geolocation Database-based Resource Allocation Techniques for Cognitive Radio Networks
Samoda Ganage, Jamil Khan, Duy T. Ngo, University of Newcastle, Australia

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2F: Cooperative Communications
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Heng Liu, Key Lab of Information Coding and Transmission; Jiayi Lu, Key Lab of Information Coding and Transmission, SWJTU; Li Hao, Southwest Jiaotong University; Zheng Ma, KTH Royal Institute of Technology

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Abida Perveen, Mohammed N. Patwary, Adel Aneiba, Birmingham City University

2 Selective Redundant MP-QUIC for 5G Mission Critical Wireless Applications
Rasmus Suhr Mogensen, Aalborg University; Troels E. Kolding, Guillermo Pocovi, Mads Lauridsen, Nokia Bell Labs; Christian Markmoller, Tatiana Madsen, Aalborg University

3 System Level Analysis of eMBB and Grant-Free URLLC Multiplexing in Uplink
Renato Barbosa Abreu, Thomas Jacobsen, Aalborg University; Klaus I. Pedersen, Nokia - Bell Labs; Gilberto Berardinelli, Aalborg University; Preben Mogensen, Aalborg University; Nokia Bell Labs

4 Joint Bandwidth Orchestration and User Association in 5G Network Slicing
Ken Long, Meling Qian, Kan Chen, Xiang Yu, Chongqing University of Posts and Telecommunications

5 A Novel Algorithm For Limiting Energy Consumption in 5G Wireless Environments Using Massive MIMO Systems
Vincenzo Inzillo, Florian de Rango, University of Calabria; Alfonso Ariza Quintana, University of Malaga

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3B: Green Communications I
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Yiwen Zhou, Qili Shen, Shanghai Jiao Tong University; Mianxiong Dong, Muroran Institute of Technology; Kaoru Ota, Muroran Institute of Technology, Japan; Jun Wu, Shanghai Jiao Tong University

2 Energy Aware Wireless System based Software Defined Radio
Hanadi Salman, Reem Balatiah, Ahmed Masri, Yousef Dama, An Najah National University

3 Energy-Efficient Subchannel and Power Allocation for HetNets Based on Convolutional Neural Network
Di Xu, Xiaojing Chen, Changhao Wu, Shugong Xu, Shan Cao, Shanghai University

4 Green Communication Protocol with Geolocation
Gautam Srivastava, Brandson University; Robert Bryce, Heartland Software; Andrew Fisher, Brandon University; Jorge Crichtigo, University of Southern Carolina

5 More Capacity and Less Power: How 5G NR can Reduce Network Energy Consumption
Richard Tano, Ericsson; Pal Frenger, Ericsson AB, Sweden

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Yuki Kanaya, Masaki Bandai, Sophia University
2 A Study on Cell Configuration for HAPS Mobile Communications
Yohei Shibata, Noboru Kanazawa, Kenji Hoshino, Yoshichika Ohta, Atsushi Nagate, HAPSMobile Inc.

3 Exploring on the Critical Link Sequence of Satellite Networks
Yuanyuan Bi, Runzi Liu, Min Sheng, Jiandong Li, Weihua Wu, Jiaxin Wu, Zhanwei Wang, Xidian University

4 Making Trustable Satellite Experiments: an Application to a VoIP Scenario
Antoine Auger, TeSA Laboratory; Emmanuel Lochin, ISAE-SUPAERO; Nicolas Kuhn, CNES

5 NOMA Precoding for Cognitive Overlay Dual Satellite Systems
Rajendra Prasad Sirigina, NTU, Singapore; A.S. Madhukumar, Nanyang Technological University; Mark Bowyer, Airbus Defence and Space

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3D: Multiple Access
1 Non-Coherent Symbol Detection with TOA Estimation for Nanocommunication Networks
Pankaj Singh, Yeungnam University; Byung-Wook Kim, Hoseo University; Sung-Yoon Jung, Yeungnam University

2 LpMAC: A MAC Protocol based on Valid Prediction of the Next Hop Link in Highly Dynamic Network
Shuhua Liu, Changle Li, Pengfei Huang, Su Wang, Wanyi Gu, Xidian University

3 Multiple Access Technique for IoT Networks Serving Prioritized Emergency Applications
Kautsar Fadly Firdaus, Telkom University; Khoirul Anwar, Telkom University, Center for Advanced Wireless Technologies; Suryo Adhi Wibowo, Telkom University

4 Successive Gaussian Approximation based BP Detection for New Radio Multiple Access
I-Hsuan Liao, Jen-Ming Wu, National Tsing Hua University

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3E: Channel Modeling and Measurements
1 3-D Ray Tracing Based GPU Accelerated Field Prediction Radio Channel Simulator
Juha Pyhtilä, Pekka Sangi, University of Oulu; Heikki Karvonen, University of Oulu / Centre for Wireless Communications; Markku Juntti, Markus Berg, Erkki Salonen, Aarno Pärsinen, Rameez Lighari, University of Oulu

2 Estimation of the Velocity of Multiple Moving Persons in Non-Stationary Indoor Environments from Received RF Signals
Rym Hicheri, Matthias Pätzold, University of Agder

3 NLOS Identification for Wideband mmWave Systems at 28 GHz
An Huang, Lei Tian, Tao Jiang, Zhang Jianhua, Beijing University of Posts and Telecommunications

4 A 3D Non-Stationary Cluster Channel Model for Human Activity Recognition
Ahmed Abdelgawwad, Matthias Pätzold, University of Agder

5 Spatial Consistency Evaluation Based on Massive SIMO Measurements
Sida Dai, Fraunhofer Heinrich Hertz Institute; Martin Kurras, Fraunhofer Heinrich Hertz Institute (HHI)
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3F: MIMO
1 Internal Crosstalk Calibration for a Fully-Switched MIMO Channel Sounder
Eun Ae Lee, Junseok Kim, Pohang University of Science and Technology (POSTECH); Hyuk-Je Kim, Young-Jun Chong, Electronic Telecommunications Research Institute (ETRI); Joon Ho Cho, Pohang University of Science and Technology (POSTECH)

2 Active Power Splitter Gain and Bandwidth Optimization for a 60GHz Hybrid MIMO System
Steve Blandino, KU Leuven; Abhijit Kanitkar, Technische Universität Chemnitz, Chemnitz, Germany; Claude Desset, Andre Bourdoux, imec; Sefik Pollin, KU Leuven

3 Outage Performance for Power Beacon-Assisted Wireless-Powered Cooperative Communications
Oussama Messadi, University Putra Malaysia; Aduwati Sali, Universiti Putra Malaysia; Gaofeng Pan, Southwest University; Zhiguo Ding, UMIST; Nor Kamariah Noordin, S. J. Hashim, Universiti Putra Malaysia

4 Analytical Performance of Receive Antenna Shift Keying with Maximum Ratio Transmission and Different Detection Algorithms
Ali Mokh, Institut d'Electronique et de télécommunication de Rennes; Maryline Helard, INSA de Rennes; Matthieu Crussière, Institute of Electronics and Telecommunications of Rennes

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3G: Electric Vehicles and Intelligent Transportation
1 Electric Vehicles Assisted Multi-Household Cooperative Demand Response Strategy
Xing Luo, Xu Zhu, University of Liverpool; Eng Gee Lim, Xi’an Jiaotong-Liverpool University; Wolfgang Kellerer, Technical University of Munich

2 Incremental Hopping-window Pose-graph Fusion for Real-time Vehicle Localization
Anweshan Das, Gijs Dubbelman, Eindhoven University of Technology

3 Real-Time Driver Assistance Systems via Dual Camera Stereo Vision
Yong Da Sie, Yi-Cheng Tsai, Wei-Hsuan Lee, Jensen Chou, Chi-Yi Chiu, National Cheng Kung University

4 Road Load Model Analysis for Eco-Routing Navigation Systems in Electric Vehicles
Krantijsal Das, Chaitanya Borah, Surabhi Agarwal, Pranjal Barman, Santanu Sharma, Department of ECE, Tezpur University

5 Stabilizing Super Smart Grids Using V2G: A Probabilistic Analysis
Muhammad Adnan, National University of Computer and Emerging Sciences (FAST); Muhammad Tariq, National University of Computer and Emerging Sciences, Pakistan
Tuesday 30 April 2019

4A: Massive MIMO I
1 Low-Complexity Computation of Zero-Forcing Equalizers for Massive MIMO-OFDM
Kun Chen-Hu, Ana Garcia-Armada, Universidad Carlos III de Madrid

2 Backhaul Antenna Allocation Scheme in Massive MIMO Cellular Networks
Wen-Hsiung Kuo, Chia-How Chen, Yuan Ze University

3 Capacity Analysis of Asymmetric Multi-Antenna Relay Systems using Free Probability Theory
Lucinda Hadley, Lancaster University; Zhiguo Dong, UMIST; Zhijin Qin, Queen Mary University of London

4 Channel Estimation for Millimeter Wave Wideband Massive MIMO Systems via Tensor Decomposition
Long Cheng, Guangrong Yue, Xinyu Xiong, Zhiqiang Wang, Shaqiqian Li, University of Electronic Science and Technology of China

5 Iterative Channel and CFO Estimation for SC-FDE and OFDM based Massive MIMO Systems
Zehra Mokhtar, Maryam Sabbaghian, University of Tehran; Thomas Eriksson, Chalmers University of Technology

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4B: Internet of Things I
1 Performance Analysis of Aerial Base Station Assisted Cooperative Communication Systems
Xianling Wang, Xiamen University of Technology; Haijun Zhang, University of Science and Technology Beijing; Yue Tian, Xiamen University of Technology; Kyeong Jin Kim, Mitsubishi Electric Research Laboratories

2 Analytical Modeling and Design of Energy Efficient Class-Selection for Long Range Wide Area Networks
Wen-Ci Su, Tzu-I Wu, Pei-Rong Li, Kai-Ten Feng, National Chiao Tung University

3 Crowdedness Estimation Using RSSI on Already-deployed Wireless Sensor Networks
Naoya Matsumoto, Osaka University; Jiei Kawasaki, University of Osaka; Makoto Suzuki, Sonas Corporation; Shunsuke Saruwatari, University of Osaka; Takashi Watanabe, Osaka University

4 Performance Evaluation and Optimization of B.A.T.M.A.N. V Routing for Aerial and Ground-based Mobile Ad-hoc Networks
Benjamin Stiwa, Stefan Falten, Christian Wietfeld, TU Dortmund University

5 Secure Outdoor Smart Parking using Dual Mode Bluetooth Mesh Networks
Paul Seymour, Duminda Wijesekera, Cing-Dao Kan, George Mason University

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4C: Positioning and Navigation
1 A Framework for Navigation with LTE Time-Correlated Pseudorange Errors in Multipath Environments
Kimia Shanabei, Joshua Morales, University of California, Riverside; Zaher Kassas, University of California, Irvine

2 Simultaneous Tracking of Orhcomm LEO Satellites and Inertial Navigation System Aiding using Doppler Measurements
Joshua Morales, Joe Khalife, University of California, Riverside; Zaher Kassas, University of California, Irvine

3 User Tracking for Access Control with Bluetooth Low Energy
Robert Heyn, Marc Kuhn, Henry Schulten, Gregor Dumphart, Janick Zwyssig, ETH Zurich; Florian Trösch, Schindler Aufzüge AG; Armin Wittneben, ETH Zurich

4 Carrier-Aggregated Timing Estimation for Radio Positioning
Wen Xu, Huawei Technologies Duesseldorf GmbH; Saeed Shojaee, RWTH; Konstantinos Manolakis, Huawei Technologies

5 Fog-enabled WLANs for Indoor Positioning
Yanjun Guo, Ligjiang Zhao, Yong Wang, Xidian University; Qi Liu, Qiu Jiahui, China Unicom Company

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4D: Antenna Systems
1 Downlink Performance Using Vehicle Glass Mounted Antenna for 28-GHz Band in High Mobility Environment
Minoru Inomata, Tetsuro Imai, Daisuke Kitayama, NTT DOCOMO, INC.; Toshiaki Sayama, Osamu Kagaya, Shoji Hideaki, Shoichi Takeuchi, Kiyoshi Nohbuoka, AGC, INC.; Shoji Itoh, Ericsson; Hideshi Murai, Ericsson Japan; Arne Simonsson, Peter Ökvist, Ericsson Research

2 Dual-Band Inverted F-Shaped Antenna Array for Sub-6 GHz Smartphones
Zhengjian Tian, Rui Chen, Changle Li, Xidian University

3 Performance Evaluation of Cruise Controls and their Impact on Passenger Comfort in Autonomous Vehicle Platoons
Rahi Avinash Shet, Leibniz University of Hannover; Frederik Schewe, TU Braunschweig

4 An Improved Frequency-Hopping System with No-Hit-Zone Hopping Pattern Based on Adaptive Array Receiver for Anti-Interference
Qi Zeng, Xing Liu, Jun Zhong, Sichuan University

5 Eigenvalue Based Mutual Coupling Reduction
Sandip Ghosal, Indian Institute of Technology Kharagpur; Arijit De; Ajay, Chakrabarty

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4E: Green Communications II
1 Optimal Operating Frequency of Inductive Power Transfer through Metal Barriers
Han Zhang, Lianghui Ding, Feng Yang, Liang Qian, Shanghai Jiao Tong University

2 Optimal Transmission Policy for Maximizing Green Energy Utilization in Small Cell Networks
Mohammad Talat, Li-Hsiang Chen, National Chiao Tung University (NCTU); Chih-Min Yu, Yango University, Kai-Ten Feng, National Chiao Tung University

3 Efficient Cellular Base Stations sleep mode control using Image Matching
Sepehr Ashtarinakhai, University of New South Wales; Farzad Tofigh, Mehran Abolhasan, Justin Lipman, University of Technology Sydney; Wei Ni, CSIRO

4 On EE-SE trade-off for Downlink Full Duplex MISO Systems with Self-Energy Recycling
Mohd Hamza Naim Shaikh, Vivek Bohara, IIT-Delhi; Parag Aggarwal, Anand Srivastava, IIT DELHI

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4F: Channel Coding
1 Mutual-Information-Based Successive Cancellation List Decoding of Polar Codes
Shubham K Jha, Indian Institute of Science Bangalore; Kuntal Deka, Mohammad Tala't, Li-Hsiang Shen, National Chiao Tung University; Shubham K Jha, Indian Institute of Technology Guwahati

2 Pedestrian Tracking and Stereo Matching of Tracklets for Autonomous Vehicles
Hao Xue, Du Q, Huynh, Mark Reynolds, The University of Western Australia

3 Robust Low Density Parity Check Decoding Over Markov Gaussian Channels
Der-Feng Tseng, Shi-Shun Lin, National Taiwan University of Science and Technology
4 Construction of Replacement Set in the GC-LDPC Codes Based on BIBDs
zhouwei, Lei Cheng, Lijun Zhang, Beijing Jiaotong University

5 Hybrid Multi-Kernel Construction of Polar Codes
Lei Cheng, zhouwei, Lijun Zhang, Beijing Jiaotong University

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5G: Intelligent Transportation

1 Parallel Tree Traversals for Soft-Output MIMO Detection Using Multiple Bit Flipplings
Tsung-Hsien Lu, Jia-You Wu, Yuan-Sun Chu, National Chung Cheng University

2 Real-Time Digital Video Streaming at Low-VHF for Compact Autonomous Agents in Complex Scenes
Jihun Choi, U.S. Army Research Laboratory; Chirag Rao, Army Research Laboratory; Fikadu Dogfet, US Army Research Laboratory

3 Modeling with Things for Intelligent Monitoring System
Sabah Al-Fedaghi, Yousef Atiyah, Kuwait University

4 Stable and Safe Automated Driving using 3-D Road Geometric Features
Chaitanya Yavvari, Duminda Wijesekera, Zoran Duric, George Mason University

5 Traffic Analysis Based on Bluetooth Passive Scanning
Safa Boudabous, Julian Garbiso, Bertrand Leroy, Vedecom; Stephan Clémencion, Telecom ParisTech; Houda Labiod, Télécom ParisTech

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5A: Massive MIMO II

1 Joint Data and Pilot Power Control Algorithm for Weighted Sum SE in Uplink Single-Cell MU-Massive MIMO systems
Da Zhang, Gang Xie, Jinchun Gao, Beijing University of Posts and Telecommunications

2 K-Means MU-MIMO User Clustering for Optimized Precoding Performance
Razvan-Florentin Trifan, InfoVista, Politehnica University of Bucharest; Regis Lebour, Gregory Donnard, Yann Le Helloc, InfoVista

3 Spectral Efficiency of Very Large Multiuser MIMO Systems for Time-Selective Fading
Apoorva Chawla, Aditya K. Jagannatham, Indian Institute of Technology Kanpur

4 Uplink Pilot Reuse for Multicell MU-Massive MIMO in Physical Channel Model
Da Zhang, Gang Xie, Jinchun Gao, Beijing University of Posts and Telecommunications

5 Impact of IQI on Sum Rate of mmWave Massive MU-MIMO Systems with Hybrid Beamforming
Nana Zhang, Huairui Yin, Weidong Wang, University of Science and Technology of China

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5B: Internet of Things II

1 Validation of Backscatter Link Budget Simulations with Measurements at 915 MHz and 2.4 GHz
Muhammad Usman Sheikh, RuiFeng Duan, Riku Jäntti, Aalto University

2 A Novel Modulation for IoT: PSK-LoRa
Roberto Bonfin, Technische Universität Dresden; Marwa Chafii, ENSEA, ETIS, CNRS; Gerhard Fettweis, TU Dresden

3 Data Collection Period and Sensor Selection Method for Smart Building Occupancy Prediction
Nour Haidar, Nouredine Tami, University of La Rochelle; Felix Niemaber, Mark Thomas Wesseling, E.ON ERC. Aachen Germany; Alain Bouju, Yacine Ghamri-Doudane, University of La Rochelle

4 Doppler Frequency Trajectories of the Mechanical Robot Arm and Automated Guided Vehicle in Industrial Scenarios
kun, Liu Liu, Cheng Tao, Ze Yuan, Tao Zhou, Qiu Chencheng, Beijing Jiaotong University

5 Multi-Connectivity for Ultra-Reliable Communication in industrial scenarios
Emil J. Khatib, Dereje Assefa Wassie, Gilberto Berardinelli, Ignacio Rodriguez, Preben Mogensen, Aalborg University

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4G: Intelligent Transportation

1 Parallel Tree Traversals for Soft-Output MIMO Detection Using Multiple Bit Flipplings
Tsung-Hsien Lu, Jia-You Wu, Yuan-Sun Chu, National Chung Cheng University

2 Real-Time Digital Video Streaming at Low-VHF for Compact Autonomous Agents in Complex Scenes
Jihun Choi, U.S. Army Research Laboratory; Chirag Rao, Army Research Laboratory; Fikadu Dogfet, US Army Research Laboratory

3 Modeling with Things for Intelligent Monitoring System
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4 Stable and Safe Automated Driving using 3-D Road Geometric Features
Chaitanya Yavvari, Duminda Wijesekera, Zoran Duric, George Mason University

5 Traffic Analysis Based on Bluetooth Passive Scanning
Safa Boudabous, Julian Garbiso, Bertrand Leroy, Vedecom; Stephan Clémencion, Telecom ParisTech; Houda Labiod, Télécom ParisTech

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5C: Localization Techniques

1 Evaluating Indoor Localization Performance on an IEEE 802.11 Explicit-feedback-based CSI Learning System
Takeru Fukushima, Osaka University; Tomoki Murakami, Hirantha Abeysekera, NTT Corporation; Shunsuke Saruwatari, University of Osaka; Takashi Watanabe, Osaka University

2 An Accurate Weighted Time-Reversal Approach for Passive Indoor Localization
Lili Zheng, Binjie Hu, Jinguang Qiu, South China University of Technology

3 Iterative Localization Method Using AoA for IoT Sensor Networks
Shaghayegh Monfared, Anaïs Delépault, Mathieu Van Eekhaut, Philippe De Doncker, François Horlin, Université Libre de Bruxelles

4 On the Crucial Impact of Antennas and Diversity on BLE RSSI-based Indoor Localization
Henry Schulten, Marc Kuhn, Robert Heyn, Gregor Dumphart, ETH Zurich; Florian Trösch, Schindler Aufzüge AG; Armin Wittneben, ETH Zurich

5 Toward Regression-based Estimation of Localization Errors in Fingerprinting-based Localization
Filip Lemic, Internet Technology and Data Science Lab, University of Antwerp - imec; Vlad Handziski, Technische Universität Berlin; Jeroen Famaey, Internet Technology and Data Science Lab, University of Antwerp – imec

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5D: Beamforming I

1 Efficient Analog Beamforming with Dynamic Subarrays for mmWave MU-MISO Systems
Hongyu Li, Zhihuan Wang, Ming Li, Dalian University of Technology; Wolfgang Kellerei, Technical University of Munich

2 A Power Efficient Fully Digital Beamforming Architecture for mmWave Communications
Oner Orhan, Intel Corporation; Husein Nikpour, Intel Labs; Junyoung Nam, Intel corporation; Navid Naderializadeh, Shilpa Talwar, Intel Corporation

3 Efficient Analog Beamforming for Max-Min Fair Multicast Transmission
Zhihuan Wang, Hongyu Li, Ming Li, Dalian University of Technology; Wolfgang Kellerei, Technical University of Munich

4 Non-uniform Beam Design for Multi-user MmWave Systems
Fuliang Liu, Wendong Liu, Zhaocheng Wang, Tsinghua University

5 Delay-Aware Heuristic-Based Scheduling for 5G Flexible TDD Systems with Beamforming
Anna Lukowa, Venkatkumar Venkatasubramanian, Nokia
### 5E: Neural Networks

1. **Neural Network Based Denoising in the Wireless Channel Characterization**  
   - Zhang Jiachi, Shandong Jiaotong University; Liu Liu, Tao Zhou, Wang Kai, Beijing Jiaotong University; Piao Zheyuan, Shandong Jiaotong University  

2. **A Hybrid Fuzzy-Neural Network Approach For Multi-path Separation Of Underwater Acoustic Signals**  
   - Abigail Lee-Leon, Chau Yuen, Dorien Herremans, Singapore University of Technology and Design  

3. **Recurrent Neural Network-based Frequency-Domain Channel Prediction for Wideband Communications**  
   - Wei Jiang, German Research Center for Artificial Intelligence; Hans Schotten, University of Kaiserslautern  

4. **Co-channel multi-signal modulation classification based on Convolution Neural Network**  
   - Zhengdong Yin, Rui Zhang, Zhulu Wu, Harbin Institute of Technology  

5. **TOA Estimation Scheme Based on CNN for B-IFDM-Based Preambles**  
   - Zhe Luo, Nokia Shanghai Bell; Tao Tao, Bell Labs, Nokia Shanghai Bell; Jianguo Liu, Nokia Shanghai Bell  

### 5F: Modulation and Coding I

1. **A kind of Complementary Codes with Full-Diversity Gain over Frequency Selective Fading Channels**  
   - Sun siyue, Songling Lv, Feng Tian, Guang Liang, Shanghai Engineering Center for Micro-satellites; Kun Wang, Huawei Technologies Co., Ltd  

2. **Joint Estimation of Channel and IQ Imbalance in Media-based Modulation**  
   - Bharrat Shamasundar, A. Chockalingam, Indian Institute of Science, Bangalore  

3. **Multistage Clustering based Automatic Modulation Classification**  
   - Lamia M K, National Institute of Technology Karnataka; Lakshmi Narasimhan, IIT Palakkad  

### 5G: Machine Learning and Optimization

1. **A machine learning approach for detecting ultrasonic echoes in noisy environments**  
   - Mohamed Elamir Mohamed, Heinrich Gotzig, Valeo Schalter und Sensoren; Raoul Zöllner, Hochschule Heilbronn; Patrick Mäder, Technische Universität Ilmenau  

2. **A New Anti-jamming Strategy Based on Deep Reinforcement Learning for MANET**  
   - Yinying Xu, Ming Lei, Min Li, Minjian Zhao, Bing Hu, Zhejiang University  

3. **A Classification Framework for Correlated Sample Space in Cognitive Radar**  
   - Mostafizur Rahaman Laskar, Debanati Sen, Indian Institute of Technology Kharagpur  

4. **Machine Learning-Driven Optimal Proactive Edge Caching in Wireless Small Cell Networks**  
   - Pei-Ying Lin, Hsiao-Ting Chiu, Rung-Hung Gau, National Chiao Tung University  

5. **Joint Vehicle Routing and Loading in Delivery Planning: A Stochastic Programming Approach**  
   - Naphat Ngoemriang, Vidyasirimedhi Institute of Science and Technology; Suttinee Sawadsitang, Nanyang Technological University; Chokchai Leangsuksun, Vidyasirimedhi Institute of Science and Technology; Dusti Niyato, Nanyang Technological University; Puay Siew Tan, Singapore Institute of Manufacturing Technology  

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### 6A: Massive MIMO III

1. **One Bit Hybrid Precoding For mmWave Massive MIMO Systems**  
   - Talha Mir, Zain Siddigi, Tsinghua University; Usama Mir, Saudia Electronic System (SEU); Richard MacKenzie, British Telecom; Mo Hao, Tsinghua SEM Advanced IOT Lab, Beijing, China  

2. **One GAMP-based Learning Scheme for the Time-varying Massive MIMO Channels**  
   - Yindi Yang, Xidian University; Xiushe Zhang, Research Institute of Navigation Technology; Jianpeng Ma, Shun Zhang, Xidian University  

3. **Performance evaluation of multi-antenna receivers for vehicular communications in live LTE networks**  
   - Tomasz Izydorczyk, Fernando Tavares, Gilberto Berardinelli, Madalina Bucur, Preben Mogensen, Aalborg University  

4. **Enhanced CSI Acquisition Scheme For NR TDD Systems with Channel Shared Reception**  
   - Huan Sun, Yan Zhao, Bell Labs, China; Tao Tao, Bell Labs, Nokia Shanghai Bell  

5. **Resource Allocation and User Association in Massive MIMO Enabled Wireless Backhaul Network**  
   - Shweta Rajoria, Aditya Trivedi, W. Wilfred Godfrey, Praveen Pawar, ABV-ITM Gwalior  

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### 6B: Internet of Things III

1. **Quadrupling the Data Rate for Narrowband Internet of Things Without Modulation Upgrade**  
   - Xinyue Lui, Izzat Darwazeh, University College London  

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### 7E: Neural Networks

1. **Combating Transmit Antenna and Channel Correlations in Spatial Modulation Using Signature Constellations**  
   - Mustafa Furkan Özköç, New York University; Mutlu Koca, Bogazici University; Hikmet Sari, Nanjing University of Posts and Telecommunications  

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### 6C: Vehicular and Ad-hoc Networks

1. **Performance Enhancement of OAM-MIMO Using Successive Interference Cancellation**  
   - Shuhei Saito, Hirofumi Suganuma, Waseda University; Kayo Ogawa, Japan Women's University; Fumiaki Maehara, Waseda University  

   - Yuhao Wang, Vlad Menkovski, Eindhoven University of Technology; Ivan Wang-Hei Ho, The Hong Kong Polytechnic University; Mykola Pechenizkiy, Eindhoven University of Technology
3 A Connectivity Probability Based Cross-Layer Routing Handoff Mechanism in Software Defined Vehicular Ad Hoc Networks
Yangshui Gao, Tao Luo, Yijun Guo, Xinxin He, Beijing University of Posts and Telecommunications

4 Crash Avoidance based Periodic Safety Message Dissemination Protocol for Vehicular Ad Hoc Networks
Suzi Iryanti Fadilah, Azizul Rahman, Mohd Hadri Hilmi, Usains University Sains Malaysia

5 DrivMan: Driving Trust Management and Data Sharing in Vehicular Networks with Blockchain and Smart Contracts
Uzair Javed, Muhammad Naveed Aman, Biplab Sikdar, National University of Singapore

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6D: Beamforming II
1 Learning-based Beam Training Algorithms for IEEE 802.11ad/ay Networks
Ting-Wei Chang, National Chiao Tung University; Li-Hsiang Shen, National Chiao Tung University (NCTU); Kai-Ten Feng, National Chiao Tung University

2 2D AOA Estimation and Tilt Angle Adaptation for 3D Beamforming Interference Reduction in Massive MIMO
Ehab Ali fitouri sahlli, Mahamod Ismail, Nor Fadzilah Abdul Razak, Rosdziadee Nordin, Universiti Kebangsaan Malaysia (UKM); Mohammed Baliaqiu, South Ural State University (SUSU); M. H. Mazlan, UKM

3 Maximizing the Sum Rate of Massive MIMO with Rectangular Planar Array and MRT Beamforming
Irina Zakia, Institut Teknologi Bandung

4 Multi-resolution Beamforming and User Clustering in Downlink Massive MIMO Non-orthogonal Multiple Access System
Xinyi Zhang, Jun Wang, Jintao Wang, Jingbo Tan, Tsinghua University

5 Performance analysis of data recovery via application layer for LPWAN
Nurul Adilah Abdul Latiff, Idrus Salimi Ismail, Nur Aziemah Aziem Ali, Universiti Malaysia Terengganu

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6E: Edge Computing and Dense Networks
1 On the Coordination of Base Stations in Ultra Dense Cellular Networks
Alexios Aravanis, Olga Munoz, Antonio Pascual-Iseret, Universitat Politècnica de Catalunya; Marco Di Renzo, CNRS, Centrale Supélec, University of Paris–Sud, France

2 RSRP-based Handover Skipping for Ultra-dense Networks
Xiping Wu, University of Oxford; Harald Haas, University of Edinburgh

Wednesday, 1 May 2019

7A: NOMA I
1 Artificial Jamming Assisted Secure Transmission for MISO-NOMA Networks
Wei Wang, Nan Zhao, Dalian University of Technology; Yunfei Chen, University of Warwick; Jie Tang, Xiu-Yin Zhang, South China University of Technology; Zhiguo Ding, Lancaster University; Norman C. Beaulieu, Beijing University of Posts and Telecommunications

2 On Short Term Fairness and Throughput of User Clustering for Downlink Non-Orthogonal Multiple Access System
Mohamed Mohammed Al-Wani, Adowati Sali, Universiti Putra Malaysia; Asem A. Salah, University of Malaya; Borhanuddin Abdulkadir Kose, Chong Han, Chuan Heng Foh, University of Surrey; Mehrdad Dianati, University of Warwick

Wednesday 1 May 2019

3 Vehicle-to-Cloudlet : Game-Based Computation Demand Response for Mobile Edge Computing through Vehicles
Xi Lin, Jianhua Li, Shanghai Jiao Tong University; Wu Yang, Harbin Engineering University; Jun Wu, Shanghai Jiao Tong University; Zhifeng Zeng, Xiaodong Wang, Shanghai Flood Control Information Center

4 Modeling and Performance Analysis of Stochastic Mobile Edge Computing Wireless Networks
Yixiao Gu, Cheng Li, Bin Xia, Dingjie XU, Zhiyong Chen, Shanghai Jiao Tong University

5 Impact of Mobility on Communication Latency and Reliability in Dense HetNets
Abdulkadir Kose, Chong Han, Chuan Heng Foh, University of Surrey; Mehrdad Dianati, University of Warwick

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6F: Modulation and Coding II
1 Enhanced Codebook Assisted Tomlinson-Harashima Precoding with Low Feed-forward Overhead
Yuning Yang, Kaifi Zheng, University of Electronic Science and Technology of China; Yang Song, VIVO Mobile Communication; Yue Xiao, Xiaojuan Zeng, University of Electronic Science and Technology of China

2 Load Modulated Arrays using Channel Modulation with RF Mirrors
Sandeep Bhat, A. Chockalingam, Indian Institute of Science, Bangalore

3 Space-Time Coded OTFS Modulation in High-Doppler Channels
Rose Mary Augustine, G. D. Surabhi, A. Chockalingam, Indian Institute of Science, Bangalore

4 Fountain Coding Enabled Data Dissemination for Connected and Automated Vehicles
Mark A. Graham, Ayavldani Ganesh, Robert Piechocki, University of Bristol

5 Adaptive Modulation and Frame Length Method Based on Moore State Machine in LTE-R Communication System
MengJia Chen, Yisheng Zhao, Jincheng Gao, Zhonghai Chen, Fuzhou University

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6G: Visible Light Communication
1 Performance Analysis of Distributed Transmit Beamforming with Quantized Channel Feedback
Chang Kyung Sung, CSIRO; Ihsitiaq Ahmad, Gottfried Lechner, University of South Australia; Hajime Suzuki, CSIRO

2 Visible Light Positioning Considering Multi-path Reflections
Zhengpeng Li, Lei Zhao, Ming Jiang, Sun Yat-sen University

3 Index Time Division Multiple Access (1-TDMA) for LiFi Systems
Hanaa Abuhamroush, Harald Haas, University of Edinburgh
5 Multi-Branch Non-Orthogonal Multiple Access Transmission Scheme For 5G Chunlin Yan, Yifei Yuan, ZTE Corporation Wednesday, 1 May 2019 11:00 - 12:30 Starhill 2

7B: Security I
1 Crossfire Attack Detection using Deep Learning in Software Defined ITS Networks Akash Raj Narayanan, Tran Truong-Huu, Purnima Murali Mohan, Mohan Gurussamy, National University of Singapore

2 Experimental Evaluation of Jamming Threat in LoRaWAN Chin-Ya Huang, Ching-Wei, Ray-Guang Cheng, National Taiwan University of Science and Technology; Shanchieh Jay Yang, Rochester Institute of Technology; Shiann-Tsong Sheu, National Central University

3 Optimal Relay Selection with a Full-duplex Active Eavesdropper in Cooperative Wireless Networks He Zhou, Mingxuan, Hua Wang, Dewei Yang, Beijing Institute of Technology

4 Secure Communication with Wireless Powered Friendly Jammers under Multiple Eavesdroppers Dongxuan, He Zhou, Hua Wang, Dewei Yang, Beijing Institute of Technology

5 User Selection and Transceiver Design for Secure Transmission in MIMO Interference Networks Quy Cao, Nan Zhao, Dalian University of Technology; Guan Gui, Nanjing University of Posts and Telecommunications; Yang Cao, Dalian University of Technology; Shun Zhang, Xidian University; Yunfei Chen, University of Warwick; Hikmet Sari, Nanjing University of Posts and Telecommunications

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7C: Vehicular Communications I
1 An Efficient Authentication and Secure Vehicle-to-Vehicle Communications in an IoV Harsha Vasudev, Debasish Das, BITS Pilani, K.K. Birla Goa Campus, Goa, India.

2 DSRC and IEEE 802.11ac Adjacent Channel Interference Assessment for the 5.9 GHz Band Junming Cheo, Virginia Tech; Vuk Maroevic, Mississippi State University; Randall Nealy, Jeffrey Reed, Carl Dietrich, Virginia Tech

3 Evaluation Platform of Platoon Control Algorithms in Complex Communication Scenarios Sijie Zhu, Dip Goswami, Eindhoven University of Technology; Hong Li, NXP Semiconductors

4 Millimeter-wave V2V Communications with Cooperative Perception for Automated Driving Ryuichi Fukatsu, Tokyo Institute of Technology; Kei Sakaguchi, Tokyo Institute of Technology

5 Risk Controlled Beacon Transmission in V2V Communications Avik Dayal, Virginia Tech; Edward Colbert, US Army Research Lab; Vuk Maroevic, Mississippi State University; Jeffrey Reed, Virginia Tech

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7D: Heterogeneous Networks I
1 Coverage Performance in Aerial-Terrestrial HetNets Mohammad G. Khoshkholgh, UCB; Keivan Navaie, Lancaster University; Halim Yanikomeroglu, Carleton University; Victor C. M. Leung, The University of British Columbia; Kang G. Shin, University of Michigan

2 Cross-Tier Interference Management Scheme for Downlink mMIMO-NOMA HetNet Ahmed Nasser, Ozamu Muta, Kyushu University; Maha Elsabouuty, Egypt-Japan University of science and technology

3 Hybrid User Association with Proactive Auxiliary Intervention for Multiter Cellular Networks Antti Anttonen, Aarne Männilä, Tao Chen, VTT Research Centre of Finland Ltd.

4 Rate-Aware Instantly Decodable Network Codes for Heterogeneous Cellular Networks Abdulrahman Rabhi, Abdulrahman Ghandour, Yousef Shaanawi, Samir Al-Ghadban, King Fahd University of Petroleum and minerals

5 Seamless Mobility Management in Heterogeneous 5G Networks: A Coordination Approach among Distributed SDN Controllers Ali Saeed Dayem Alfozadi, Liverpool John Moores University; S H Shah Newaz, Universiti Teknologi Brunei; Rudy Ramli, Universiti Teknologi Brunei (UTB); Gadong, Brunei Darussalam. Gyu Myoun Lee, Thar Baker, Liverpool John Moores University

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7E: Propagation and Measurement
1 Millimetre Wave Propagation Reverse Measurements for 5G Urban Micro Scenario Saurav Dahal, Euripides Andrew Stephanou, Nathaniel Talukdar, Shabbir Ahmed, Horace King, Mike Faulkner, Victoria University of Technology

2 Highly Accurate Prediction of Radio Propagation using Model Classifier Keita Katagiri, Keita Onose, The University of Electro-Communications; Koya Sato, Tokyo University of Science; Kei Image, Tokyo Metropolitan College of Industrial Technology; Takeo Fujii, The University of Electro-Communications

3 Experimental Evaluation of the Long-Range MIMO Outdoor Channel at 2.4 GHz Felix Wunsch, Douglas Weber, Holger Jäkel, Friedrich K. Jondral, Karlsruhe Institute of Technology


5 Measurement Based Modelling of In-Train Repeater Deployments Martin Lerdh, Philipp Svoboda, Daniel Maierhofer, TU Wien; Josef Resch, Alexander Brantner, OBB Technische Services GmbH; Vaclav Raida, Markus Rupp, TU Wien

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7F: mm-Wave Systems
1 Random Access Preamble for High Doppler in Millimeter-Wave Cellular Systems Mohammed Saqui Khan, Young Soo Cho, Chung-Ang University

2 Field trial on Millimeter Wave Interrogated Access and Backhaul Tingjian Tian, Yufu Dou, renguangmei, liang gu, jingtao chen, Huawei Technologies Co., LTD; Yang Cui, Terufumi Takada, Huawei Technologies Japan K.K.; Masashi Iwabuchi, NTT DOCOMO, INC.; Jun Tsuboi, DOCOMO R&D Center; Yoshihisa Kishiyama, NTT DOCOMO, INC.

3 Transfer Learning-Based Received Power Prediction Using RGB-D camera in mmWave Networks Tomoya Mikuma, Takayuki Nishio, Masahiro Morikura, Koji Yamamoto, Kyoto University; Yusuke Asai, Ryo Miyatake, NTT Network Innovation Laboratories

4 Efficient Millimeter-Wave Infrastructure Placement for City-Scale ITS Ioannis Mavromatis, Andrea Tassi, Robert Piechocki, Andrew Nix, University of Bristol

5 OTFS Modulation with Phase Noise in mmWave Communications G. D. Surabhi, M. Kollengode Ramachandran, A. Chockalingam, Indian Institute of Science, Bangalore
Wednesday, 1 May 2019 14:00 - 15:30 Starhill 1

8A: NOMA II

1 Selective Transmission Strategy for NOMA in Downlink CoMP
Char-Dir Chung, National Taiwan University, Taiwan, R.O.C; Chia-An Ku, National Taiwan University

2 Compressive Sensing Algorithms for Multiuser Detection in Uplink Grant Free NOMA Systems
Olatayo O. Oyerinde, University of the Witwatersrand

3 Generalized Single-RF Downlink NOMA-SM System
Mohammed Al-Assi, Syed Alwae Aljunid, University Malaysia Perlis (UniMAP); Essam Sourour, Prince Sattam Bin Abdul Aziz University; M. S. Anuar, C. B. M Rashidi, University Malaysia Perlis (UniMAP)

4 Performance Analysis of MIMO Visible Light based V2V Communications
Wei Liu, Xinxun He, Beijing University of Posts and Telecommunications

5 Stochastic geometric performance analysis for cooperative NOMA systems
Szu-Liang Wang, Quanzhou Institute of Equipment Manufacturing, Haixi Institutes; Tsang-Ming Wu, Chung Yuan Christian University

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8B: Security II

1 A Preliminary Security Assessment of 5G V2X
Aljoscha Lautenbach, Nasser Nowdehi, Tomas Olovsson, Chalmers University of Technology; Romi Zaragatzy, Volvo Group

2 Evaluation of Security Access Service in Automotive Diagnostic Communication
Ryo Kurachi, Nagoya University

3 HAP-Aided Relaying Satellite FSO/QKD Systems for Secure Vehicular Networks
Minh Q. Vu, University of Aizu, Japan; Dang The Ngoc, Posts & Telecommunications Institute of Technology; Anh T. Pham, University of Aizu

4 Multi-level Location Privacy Protection Based on Differential Privacy Strategy in VANETs
Qingyuan Li, Hao Wu, Xiang Wu, Lan Dong, Beijing Jiaotong University

5 Polar Coding for Physical-layer Security without Knowledge of the Eavesdropper’s Channel
Thyago Monteiro, Marco Gomes, João Vilela, University of Coimbra; Willie K. Harrison, Brigham Young University

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8C: Vehicular Communications II

1 Software-Defined Networks Supporting Time-Sensitive In-Vehicular Communication
Timo Häckel, Philipp Mayer, Franz Korf, Thomas Schmidt, Hamburg University of Applied Sciences

2 A Comparison of the V2X Communication Systems: ITS-G5 and C-V2X
Valérien Mannoni, Vincent Berg, CEA; Stefania Sesia, Eric Pernaud, Renault Software Labs

3 Implementation and Test of DSRC standard on a Wireless-Communication-Based Active Safety System
Tina Mirfakhraie, Ramiro Liscano, Yuping He, University of Oulu; Richard Demo, York University

4 Analysis of SafeCOP Features in V2I and V2V Communication
Naeem Tahir, Kari Mäenpää, Timo Sukuvaara, Finnish Meteorological Institute

5 Markov Chain for Modeling 3D Blockage in mmWave V2I Communications
Fahd Alsaleem, John Thompson, David Laurenson, University of Edinburgh

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8D: Heterogeneous Networks II

1 Energy-Efficient Joint Resource Allocation and User Association for Heterogeneous Wireless Networks with Multi-Homed User Equipments
Guanghua Chai, Weihua Wu, Qinghai Yang, Xidian University; Kyung Sup Kwak, Inha University

2 Mobility Context Awareness in Heterogeneous Networks to Enhance Multipath Communications
Nandish P. Kuruvatti, Univ of Kaiserslautern; Hans Schotten, University of Kaiserslautern

3 Random Caching Based Cooperative Transmission in HetNets in the Presence of Popularity Prediction Errors
Li Hu, Harbin Institute of Technology (Shenzhen); Fu-Chun Zheng, Harbin Institute of Technology (Shenzhen) & The University of York; Jingjing Luo, Harbin Institute of Technology (Shenzhen); Liang Yang, Hunan University

4 System-Level Simulation for Homogeneous and Heterogeneous Cellular Networks
Nakrop Jinaporn, Simon Armour, Angela Dofexi, University of Bristol

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8E: Relaying and Multiphop Techniques

1 Design and Experimental Prototyping of Layered Hybrid Decode-Estimate-Forward Relaying
Abeer Ahmed, Lahore University of Management Sciences; Imdad Khan, Lahore; Ahmad Nayyar Hassan, Lahore University of Management Sciences; Jawwad Chatta, LUMS; Momina Ayub Uppal, Lahore University of Management Sciences

2 Joint Subcarrier Pairing and Power Allocation for Achieving Energy-Efficient Decode-and-Forward Relay Networks
Keshav Singh, Meng-Lin Ku, National Central University; Chih-Min, Yu, Yango University

3 On the Performance of DF Based Dual-Hop Mixed RF/UWOC System
Sanya Anees, Rima Deka, Indian Institute of Information Technology Guwahati

4 Throughput Analysis for IEEE 802.11 Multi-hop Networks Considering Transmission Rate
Takeshi Kanematsu, Kien Nguyen, Hiroo Sekiya, Chiba University

5 In-Band Pilot Overhead in Ultra-Reliable Low Latency Decode and Forward Relaying
Parisa Nouri, Hirlley Alves, University of Oulu; Richard Demo Souza, UFSF; Matti Latva-aho, University of Oulu

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8F: GFDM

1 Precoded-OFDM within GFDM Framework
Ahmad Nimir, Technische Universität Dresden, Germany; Marwa Chafii, ENSEA, ETIS, CNRS; Gerhard Fettweis, TU Dresden

2 A New GFDM Receiver with Tabu Search
Jinkyo Jeong, Insik Jung, Jintae Kim, Daesik Hong, Yonsei University

3 Binomial Frequency Division Multiplexing: Novel Waveform with Spectral Efficiency and Robustness to Multipath Fading
Do Young Kwak, Myungsup Kim, KAIST

4 Impact of CFO on Low Latency-Enabled UAV using “Better than Nyquist” Pulse Shaping in GFDM
Navuday Sharma, Politecnico di Milano; Atul Kumar, Technische Universität Dresden; Maurizio Magarini, Stefano Bregni, Politecnico di Milano; Dushantha Nalin K. Jayakody, National Research Tomsk Polytechnic University

5 Performance Comparison of Small Cell and Distributed Antenna Systems for In-Building Mobile Communications
Temitope Alade, University of Worcester; Qasim Ahmed, University of Huddersfield
9A: OFDM

1. Belief Propagation Receivers for Near-Optimal Detection of Nonlinearly Distorted OFDM Signals
   Sergey Zhidkov, Cifrasoft Ltd.; Rui Dinis, Universidade Nova de Lisboa

2. Rectangular Differential OFDM with index modulation
   Lixia Xiao, Pei Xiao, University of Surrey; Yue Xiao, Chaowu Wu, University of Electronic Science and Technology of China; De Mi, Institute for Communication Systems (ICS), University of Surrey; Ibrahim Hemadeh, University of Surrey

3. Reducing the PAPR of GFDM with Quadratic Programming Filter Design
   Zee Ang Sim, Regina Reine Hendranatra, Curtin University Malaysia; Zhaquan Zang, Curtin University; Filbert Juwono, Curtin University Malaysia; Lenin Gopal, Curtin University

4. Reweighted 21-VFF Modified RLS-based Channel Estimator for OFDM-IDMA Systems
   Olutayo O. Oyerinde, University of the Witwatersrand

5. Non-Cooperative Information Avoidance in Automotive OFDM Radars
   Yu-Chien Lin, Wei-Ho Chung, Ta-Sung Lee, Yun-Han Pan, National Chiao Tung University

9B: Security III

1. Shared Secret Key Generation via Carrier Frequency Offsets
   Waqas Arain, Aneeqa Ijaz, Muhammad Mahboob Ur Rahman, Information Technology University, Lahore; Dushantha Nalin K. Jayakody, National Research Tomsk Polytechnic University; Haris Aliev, Lancaster University

2. Towards a Security Architecture for Protecting Connected Vehicles from Malware
   Shahrear Iqbal, SecurityCompass; Anwar Haque, University of Western Ontario; Mohammad Zulkernine, Queen's University

3. An Adaptive Information Reconciliation Protocol for Physical-layer Based Secret Key Generation
   Zheying Zhang, Guyue Li, Aiqun Hu, Southeast University

4. Light-weight Security for Advanced Metering Infrastructure
   Mohsin Kamal, National University of Computer and Emerging Sciences, Peshawar

5. Security Rate Optimization of Cellular Networks with Jamming Based on Imperfect Wiretap CSI
   Ming Zhang, Yong Shang, Shiwei Yan, Yanbo Huang, Peking University

9C: Offloading and Opportunistic Networks

1. Characterizing and Estimating Bulk Transfer Size in Mobile Opportunistic Networks
   Gourish Goudar, Suvadip Batabyal, BITS PILANI HYDERABAD CAMPUS

2. Agile Data Offloading over Novel Fog Computing Infrastructure for CAVs
   Andrea Tassi, Ioannis Movromatis, Robert Piechocki, Andrew Nix, University of Bristol; Christian Compton, Tracey Poole, Wolfgang Schuster, Atkins Global Limited

3. A Big Sensor Data Offloading Scheme in Rail Networks
   Mahdi Saki, Mehran Abolhasan, Justin Lipman, University of Technology Sydney

4. Secure Data Offloading Strategy for Connected and Autonomous Vehicles
   Andrea Tassi, Ioannis Movromatis, Robert Piechocki, Andrew Nix, University of Bristol

5. A Social-aware Opportunistic Network Routing Protocol Based on the Node Embeddings
   Gang Xie, Nanxu Chen, Beijing University of Posts and Telecommunications

9D: Wireless Networks

1. Spectrum Efficient Support of IEEE 802.11ba in an IEEE 802.11ax Network
   Leif Wilhelmsson, Miguel M. Lopez, Ericsson AB

2. Adaptive Negotiation for Block Acknowledgment Session Management
   Kaoutar Abdelalim, Orange/IMT Atlantique; Getachew Redieteab, Sandrine Destouet Roblot, Orange; Karine Amis, CNRS, UMR 6285 Lab-STICC; IMT Atlantique

3. Analysis of Non-Pilot Interference on Link Adaptation and Latency in Cellular Networks
   Raghunandan M Rao, Virginia Tech; Yuk Marojevic, Mississippi State University; Jeffrey Reed, Virginia Tech

4. Gaussian Process Regression for Feedback Reduction in Wireless Multiuser Networks
   Samira Hornayouni, Stefan Schwarz, Markus Rupp, Technische Universität Wien

5. Experimental Validation of the Performance of Channel Prediction Algorithms in MU-MIMO-OFDM Downlink System
   Maneesha Sharma, Dhanmika Jayalath, Queensland University of Technology; Hajime Suzuki, Chang Kyung Sung, CSIRO

9E: Spectrum Sensing and Sharing

1. A PBNS Based Detection Algorithm for Cooperative Wideband Spectrum Sensing Using Hard Combining
   Kanal Captain, Dhirubhai Ambani institute of information and communication technology

2. Maximum Achievable Sum Rate in Highly Dynamic Licensed Shared Access
   Samuel Olusayo Onidare, Keivan Navaie, Qiang Ni, Lancaster University

   Cali Bento Queiroz, University of Brasilia (UnB); Robson. D. Vieira, Ektron; Andre Noll Barreto, Barkhausen Institut; Azar Zarrebini, Access Partnership; Edgar Souza, Agostinho Linhares, Anatel

   Kangjing Peng, Gang Xie, Beijing University of Posts and Telecommunications

5. On Throughput Maximization of Cooperative Spectrum Sensing using the m-out-of-k Rule
   Narasimha Rao Banavathu, Mohammed Zafar Ali Khan, Indian Institute of Technology Hyderabad

9F: D2D

1. Cooperative NOMA with AF Relaying over Nakagami-m Fading in a D2D Network
   Sandeep Joshi, Ranjan Mallik, Indian Institute of Technology Delhi

2. Coalitional Game Framework for Content Distribution Using Device-to-device Communication
   Aditya MVS, Indian Institute of Technology Bombay; Chitrarth Shrivastava, Goldman Sachs; Gaurav S. Kasbekar, Indian Institute of Technology Bombay

3. Resource Spreading for Improved Spectral and Energy Efficiency of mmWave D2D-Enabled Cellular Networks
   Anup Chaudhari, Siva Ram Murthy Chebiyiyam, Indian Institute of Technology Madras
4 BS-assisted Task Offloading for D2D Networks with Presence of User Mobility
Ghafoor Ahani, Uppsala University

5 A D2D Multicast Network Architecture for Vehicular Communications
Shashank Kumar Gupta, Jamil Khan, Duy T. Ngo, University of Newcastle Australia

VTC2019-Spring Workshops

W1: 5th International Workshop of CorNer:
Communication for Networked Smart Cities

1 An Adaptive QoS Based Video Packet Transmission Technique for IEEE802.11ac WLAN
Jamal Khan, Summera Nosheen, The University of Newcastle Australia

2 Coverage and Link Quality Improvement of Cellular IoT Networks with Multi-Operator and Multi-Link Strategies
Pascal Jörke, TU Dortmund; Johannes Gültenring, Stefan Boecker, Christian Wietfeld, TU Dortmund University

3 Deep Learning based Antenna Array Fault Detection
Kanjing Chen, University of Science and Technology of China

4 Efficient Power Allocation for Multi-Cell Uplink NOMA Network
Wali Ullah Khan, Shandong University; Furuqan Jameel, Tapani Ristaniemi, University of Jyväskylä; Basem M. Elhalawany, Benha University; Ju Liu, Shandong University

5 On the Association of Small Cell Base Stations with UAVs using Unsupervised Learning
Muhammad Karam Shehzad, Syed Ali Hassan, National University of Sciences and Technology; Aamir Mahmood, Mikael Gidlund, Mid Sweden University

6 Performance Analysis of Massive MIMO Two-Way Relay Systems with SWIPT
Jinlong Wang, Liming Zheng, Harbin Institute of Technology; Ming Ding, Data61, CSIRO; Gang Wang, Harbin Institute of Technology; Zhixue Lin, The University of Sydney

7 Performance of M-QAM Scheme over TWDP Fading for Multiple Receive Antennas System
Akshita Gupta, Rahul Makkar, Divyang Rawal, Nikhil Sharma, LNM Institute of Information Technology, Jaipur; Dushantha Nelika K. Jayakody, National Research Tomsk Polytechnic University

8 Rate-Energy Tradeoff for SWIPT Systems with Multi-User Interference Channels Under Non-linear Energy Harvesting Model
Liuhsa Li, Rongting Cai, Hui Jiang, Xin Su, Beijing University of Posts and Telecommunications

9 Realizing an Implementation Platform for Closed Loop Cyber-Physical Systems using Blockchain
Abdullah Bin Masood, National University of Science and Technology; Hassaan Khaliq Qureshi, National University of Sciences and Technology (NUST), Pakistan; Syed Muhammad Danish, National University of Science and Technology (NUST); Marios Lestas, Frederick University, Cyprus

W2: 2nd International workshop on Dependable Wireless Communications (DEWCOM)

1 A QoS-Aware Multi-Tiered Body Area Network Communication Scheme for Energy Efficient Transmission
Emeka E. Egbogah, General Dynamics Mission Systems

2 A Semi-Supervised Learning Approach to IEEE 802.11 Network Anomaly Detection
Jing Ran, Yidong Ji, TangBihua, Beijing University of Posts and Telecommunications

3 Enabling Proof-of-Work for Low-End IoT Devices
Paulo C. Bartolomeu, Emanuel Vieira, Instituto de Telecomunicações / University of Aveiro; Joaquim Ferreira, Instituto de Telecomunicações / ESTGA

W4: 1st International Workshop on Internet of Autonomous Vehicles (INAVEC)

1 A Novel Hybride Contents Oriented Communication (COC) Technique based on V2X Networks
Mushtaq Ahmad, Southwest Jiaotong University; Fakhar Abbas, Southwest Jiaotong University; Qingchun Chen, Guangzhou University; Mugeet Ahmad, Southwest Jiaotong University

2 Autonomous Driving without a Burden: View from Outside with Elevated LiDAR
Nalin Jayaweera, Nandana Rajatheva, Matti Latva-aho, University of Oulu

3 Graph Coloring based Approach for Resource Allocation in 5G Vehicle-to-Vehicle Communication
Xin Wang, Jian Zhang, Fujitsu R&D Center Co., Ltd.

4 Large Data Transfers in IoVs using Direct Links
Pranjal Shankhedral, Arobinda Gupta, IIT Kharagpur
5 Performance evaluation of energy autonomous sensors for air quality monitoring in Internet of Vehicles
Shaik Shabana Anjum, Rafidah Md Noor, Ismail Ahmedy, University of Malaya; Mohammad Hossein Anisi, University of Essex; Nasrin Aghamohammadi, University of Malaya; Norazlina Binti Khamis, Universiti Malaysia Sabah; Muhammad Ahsan Qureshi, International Islamic University

6 Power Controlled Adaptive Range Radar for Self Driving Vehicles
Rohit Singh, Deepak Saluja, Sunan Kumar, IIT Ropar

7 Real Time LiDAR Point Cloud Compression And Transmission For Intelligent Transportation System
Bhaskar Anand, Vivek Barsaiyan, Mrinal Senapati, P. Rajalakshmi, Indian Institute of Technology, Hyderabad

W5: Technology Trials and Proof-of-Concept Activities for 5G and Beyond Industry and Academic Panel 2019 (TPoCSG Panel 2019)
1 5G R&D Activities for High Capacity Technologies with Ultra High-Density Multi-Bandand Multi-Access Layered Cells
Hiroyuki Seki, Morihiko Minowa, FUJITSU LIMITED; Satoshi Suyama, Yukihiko Okumura, NTT DOCOMO, INC.

2 5G R&D Achievements for High-Data-Rate and Low-Power-Consumption Radio Access Technologies with Higher-Frequency-Band and Wider-Bandwidth Massive MIMO
Yukihiko Okumura, Satoshi Suyama, NTT DOCOMO, INC.; Naoto Ishi, Yasushi Maruta, NEC; Akihiro Okazaki, Atsushi Okamura, Mitsubishi Electric Corporation; Jun Terada, Takeshi Onizawa, NTT Corporation

3 Coordinate Descent Method for Signal Detection in IDMA
Ranran He, Yue Xiao, Jiesi Kang, Shu Fang, University of Electronic Science and Technology of China

4 Influence of Human Body on Massive MIMO Indoor Channels
Pengfei Cui, Andrew Zhang, University of Technology Sydney; Wen-Jun Lu, Nanjing University of Posts and Telecommunications; Y. Jay Guo, University of Technology Sydney; Hong-Bo Zhu, Nanjing University of Posts and Telecommunications

5 Optimal Cell Selection Method for 5G Heterogeneous Network
Masaaki Yoshihiko, Hideki Shinguro, Hiroaki Asano, Panasonic Corporation; Yoshifumi Morihiko, Yukihiko Okumura, NTT DOCOMO

W6: Swarm Intelligence: Autonomous and Connected Unmanned Aircraft Systems
1 A Cooperative Scheme for Unmanned Aerial Vehicles in Malfunction Areas
Yanshi Sun, University of Science and Technology of China; Zhiguo Ding, UMIST, Xuchu Dai, University of Science and Technology of China

2 On Network Flow Maximization via Multihop Backhauling and UAVs: An Integer Programming Approach
Abdultelef Almohamad, Mazen O. Hasna, Tamer Khattab, Qatar University; Mohamed Haouari, Old Dominion University

3 On the Relation Between the Communications System and the Collision Probability in Massive UAV Systems
Lucas Marcel Schall, Uwe-Carsten Fiebig, German Aerospace Center (DLR)

4 Public LTE Network Measurements with Drones in Rural Environment
Joonas Säe, Tampere University; Richard Wirén, Juhani Kauppi, Hella-Liina Määtäntynen, Johan Torsner, Ericsson Finland; Mikko Väkäma, Tampere University

W7: Decentralized Technologies and Applications for IoT (D’IoT) Spring 2019
1 Blockchain Combined with Smart Contract to Keep Safety Energy Trading for Autonomous Vehicles
Ning Zhao, Hao Wu, Beijing Jiaotong University

2 Joint optimization of transmit beamforming and receiver selection for cluster-based communications
Yating Gao, Ningbo Zhang, Guixia Kang, Beijing University of Posts and Telecommunications

3 Performance Analysis of Complementary GFDM in IoT Communications
Fei Li, Kan Zheng, Hang Long, Dong Guan, Beijing University of Posts And Telecommunications

4 Performance of SCMA with GFDM and FBMC in Uplink IoT Communications
Fei Li, Kan Zheng, Hang Long, Dong Guan, Beijing University of Posts And Telecommunications

5 Proof-of-Benefit: a Blockchain-enabled EV Charging Scheme
Chao Liu, Kok Keong Chai, Xiaoshuai Zhang, Yue Chen, Queen Mary University of London

6 Rapid Node Cardinality Estimation in Heterogeneous Machine-to-Machine Networks
Seshas Vivek Y., Goldman Sachs, Bengaluru; P. Hari Prasad, Daikin Industries Limited, Osaka, Japan; Rajesh Kumar, IIT Bombay; Sachin Kadam, Gaurav S. Kasbekar, Indian Institute of Technology Bombay

7 SWIPT in MIMO AF Relay Systems with Direct Link
Jinlong Wang, Harbin Institute of Technology; Gang Wang, Communication Research Center, Harbin Institute of Technology; Zhihua Lin, The University of Sydney; Liming Zheng, Harbin institute of technology; ming ding, Dn61, CSIRO

8 Use of applications in Healthcare informatics for Research Purposes by Students: Opportunities and Challenges in Jordan
jihad alzyoud, Mohammad Kharabsheh, Sukaina Alzyoud, Eman Alzbon, The Hashemite University; Goodman, Kenneth W., University of Miami, Miami

W8: The 8th International Workshop on High Mobility Wireless Communications (HMWC) 2019
1 A Contract-Stackelberg Offloading Incentive Mechanism for Vehicular Parked-Edge Computing Networks
Yuwei Li, Bo Yang, Zhijie Chen, Shanghai Jiaotong University; Cailian Chen, Xinping Guan, Shanghai Jiaotong University

2 A Deep Neural Network Method For Automatic Modulation Recognition In OFDM With Index Modulation
Yu Zhou, Fang Liu, Yuyuan Liu, Beijing University of Posts and Telecommunications

3 A Pricing Strategy for D2D Communication from a Prospect Theory Perspective
Yichao Chen, Zhejiang University; Fen Hou, University of Macau; Shibo He, Zhejiang University

4 Cluster-based resource selection scheme for 5G V2X
Jiaqi Zhao, Xinxin He, Beijing University of Posts and Telecommunications; Wang Huan, Zheng Xufei, DOCOMO Beijing Communication Laboratories, Co., Ltd.; Jie Lv, Tao Luo, Beijing University of Posts and Telecommunications; Xiaolin Hou, DOCOMO Beijing Communications Laboratories Co., Ltd

5 Clustering based Resource Management Scheme for Latency and Sum Rate Optimization in V2X Networks
Fahkar Abbas, Gang Liu, Zahid Khan, Southwest Jiaotong University; Kan Zheng, Beijing University of Posts and Telecommunications; Pingzhi Fan, Southwest Jiaotong University
6 Cooperative V2X for High Definition Map Transmission Based on Vehicle Mobility
Fangfei Wang, Dong Guan, Long Zhao, Kan Zheng, Beijing University of Posts and Telecommunications

7 Deep MIMO Detection Scheme for High-Speed Railways with Wireless Big Data
Zhongkang Chen, Dapeng Li, Youyun Xu, Nanjing University of Posts and Telecommunications

8 Energy-Efficient Power Optimization and Transmission Mode Selection for Distributed Antenna System in HSR Communications
Jinling Hu, Xiaoming Wang, Youyun Xu, Nanjing University of Posts and Telecommunications

9 Evaluation of Age of Information for LDPC Coded Transmission over AWGN Channels
Mangang Xie, Qianfan Wang, Jie Gong, Xiao Ma, Sun Yat-sen University

10 Intelligent Prediction of Mobile Vehicle Trajectory Based on Space-Time Information
Dong Guan, Hui Zhao, Long Zhao, Kan Zheng, Beijing University of Posts and Telecommunications

11 Key Technologies of Broadband Wireless Communication for Vacuum Tube High-speed Flying Train
Chencheng Qiu, LiuLiu, Ye Liu, Zheng Li, Jiachi Zhang, Tao Zhou, Beijing Jiaotong University

12 Low Complexity Detection Algorithms for OTFS under Rapidly Time-varying Channel
Lingjun Li, Southwest Jiaotong University; Yu Liang, Pingzhi Fan, Yongliang Guan, Southwest Jiaotong University, Nanyang Technological University

13 LTE and Millimeter Waves for V2I Communications: an End-to-End Performance Comparison
Marco Giordani, Andrea Zanella, Michele Zorzi, University of Padova

14 Research on LTE-V2X Sidelink Multi-carrier Resource Selection Mechanism
Jinling Hu, Chenxin Li, China Academy of Telecommunication Technology; Fang Jiayi, State Key Laboratory of Wireless Mobile Communications; Li Zhao, China Academy of Telecommunication Technology; Yan Shi, Beijing University of Posts and Telecommunications

15 SMDP Based Cross-Area Resource Management for Vehicular Cloud Networks
Zhuyue Yu, Jiayou Xie, Tang Yuliang, Liang Xiao, Xiamen University

16 Transform Domain Equalization for Doubly Selective Channels
Xiqian Luo, Zhaoyang Zhang, Zhejiang University

17 Wireless Charging Lane Deployment in Urban Areas Considering Traffic Light and Regional Energy Supply-Demand Balance
Tian Wang, Bo Yang, Cailian Chen, Xinping Guan, Shanghai Jiao Tong University