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VTC2016-Spring Program

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3 **p-Persistent Scheme for Slot Allocation in Vehicular Networks....1873**
Yiwei Mao, National Mobile Communications Research Laboratory, Southeast University, China; and Lianfeng Shen, National Mobile Communications Research Laboratory, Southeast University, China

4 **Packet Relay Assisted V2V Communication with Multiple Sectorized Relay Stations....1878**
Tien Trien Le, The University of Electro-Communications, Japan; and Yasushi Yamao, The University of Electro-Communications, Japan

5 **A Framework for Protocol Sequence Allocation in Vehicular Ad Hoc Networks....1883**
Yiwei Mao, National Mobile Communications Research Laboratory, Southeast University, China; and Lianfeng Shen, National Mobile Communications Research Laboratory, Southeast University, China

Wednesday, 18 May 2016 16:00-17:30 Jian Kang + Ye Cheng

10B: Green Wireless Communications II

Chair: G. G. Md. Nawaz Ali, NTU, Singapore

1 **A Game-Theoretical Approach for Green Power Allocation in Energy-Harvesting Device-to-Device Communications....1888**
Zhenyu Zhou, North China Electric Power University, China; Guifang Ma, North China Electric Power University, China; Chen Xu, North China Electric Power University, China; and Zheng Chang, University of Jyvaskyla, Finland

2 **Sleep Modes for Enhanced Battery Life of 5G Mobile Terminals....1893**
Mads Lauridsen, Aalborg University, Denmark; Gilberto Berardinelli, Aalborg University, Denmark; Fernando M.L. Tavares, Aalborg University, Denmark; Frank Frederiksen, Nokia, Denmark; and Preben Mogensen, Aalborg University, Denmark

3 **Energy-Efficient Resource Allocation for DifferentQoS Requirements in Heterogeneous Networks....1899**
Yuanshuang Wang, The 28th Research Institute of China Electronics Technology Group Corporation, China; ning zhao, The 28th Research Institute of China Electronics Technology Group Corporation, China; Xia Wang, Xi'an Jiaotong University, China; and Guowang Miao, KTH, Royal Institute of Technology, Sweden

4 **Access Strategy in Super WiFi Network Powered by Solar Energy Harvesting: A POMDP Method....1904**
Tingwu Wang, Tsinghua Univerisity, China; Jian Wang, Tsinghua Univerisity, China; Chunxiao Jiang, Tsinghua Univerisity, China; Jingjing Wang, Tsinghua Univerisity, China; and Yong Ren, Tsinghua Univerisity, China

5 **A Network Graph Approach for Network Energy Saving in Small Cell Networks....1910**
Tao Chen, VTT Technical Research Centre of Finland, Finland; Xianfu Chen, VTT Technical Research Centre of Finland, Finland; and Roberto Riggio, CREATE-NET, Italy

Wednesday, 18 May 2016 16:00-17:30 VIP

10C: Modulation II

Chair: Xiliang Luo, ShanghaiTech University, China

1 **Performance of Subcarrier PSK Systems Using PSAM Maximum Likelihood Estimation in Lognormal Turbulence Channels....1916**
Changming Xu, Tsinghua University, China; Julian Cheng, The University of British Columbia, Canada; and Hongming Zhang, Tsinghua University, China

2 **Ring-type Magnitude Modulation for OQPSK: Enabling NL-Amplification of Spectral Efficient Signals....1922**
António Simões, Instituto de Telecomunicações, University of Coimbra, Portugal; Pedro Bento, Instituto de Telecomunicações, University of Coimbra, Portugal; Marco Gomes, Instituto de Telecomunicações, University of Coimbra, Portugal; Rui Dinis, Instituto de Telecomunicações, FCT-UNL, Portugal; and Vitor Silva, Instituto de Telecomunicações, University of Coimbra, Portugal

3 **SNR Estimation for FM-DCSK System over Multipath Rayleigh Fading Channels....1927**
Guofa Cai, Xiamen University, China; Lin Wang, Xiamen University, China; Long Kong, University of Quebec, Canada; and Georges Kaddoum, University of Quebec, Canada

4 **A Phase Increment-Based Frequency Estimator for General PSAM in Burst Communications....1932**
Zhongyang Yu, Xidian University, China; Jinhua Sun, Xidian University, China; Baoming Bai, Xidian University, China; and Xiaojun Wu, Chang' an University, China

5 **Code-aided Joint Carrier Phase Estimation and Ambiguity Resolution for APSK Signals....1937**
Desheng Shi, Beijing Institute of Technology, China; Nan Wu, Beijing Institute of Technology, China; Hua Wang, Beijing Institute of Technology, China; Tianfeng Cheng, Beijing Institute of Technology, China; and Jingming Kuang, Beijing Institute of Technology, China

Wednesday, 18 May 2016 16:00-17:30 Wanda

10D: Cooperative Communications

1 **A Novel Graph-based Topology Control Cooperative Algorithm for Maximizing Throughput of Disaster Recovery Networks....1942**
Thuan Ngo, Tohoku University, Japan; Hiroki Nishiyama, Tohoku University, Japan; Nei Kato, Tohoku University, Japan; Satoshi Kotabe, NTT Corporation, Japan; and Hiroshi Tohjo, NTT Corporation, Japan

2 **Clustered Multiuser Detection for the Uplink of 5G Systems....1947**
Filipe Casal Ribeiro, ISCTE-IUL, Portugal; Rui Dinis, FCT-UNL, Portugal; Francisco Cercas, ISCTE-IUL, Portugal; and Adão Silva, UA, Portugal

3 **Delay Analysis for Distributed Opportunistic Cooperative Communication Under Strong Interference Channel....1952**
Haixia Cui, South China Normal University, China; Victor C. M. Leung, The University of British Columbia, Canada; Daru Pan, South China Normal University, China; and Hongjiang Wang, South China Normal University, China

4 **Heuristic Coordinated Beamforming for Heterogeneous Cellular Network....1957**
Obinna Oguejiofor, University of Leeds, United Kingdom; and Li Zhang, University of Leeds, United Kingdom

5 **A Prefiltering C-RAN Architecture with Compressed Link Data Rate in Massive MIMO....1962**
Wenting Chang, Intel mobile communications technology (Beijing) Ltd, China; Tian Xie, Tsinghua University, China; Feng Zhou, Intel Lab China, China; Jiansong Tian, Intel lab China, China; and Xu Zhang, Intel Lab China, China

Wednesday, 18 May 2016 16:00-17:30 Krabi +Pattya

10E: Navigation and Positioning II

Chair: Xianqing Yi, National University of Defense Technology, China

1 **Fundamental Bounds on Position Estimation Using Proximity Reports....1967**
Feng Yin, Ericsson, Sweden; Yuxin Zhao, Ericsson, Sweden; and Fredrik Gunnarsson, Ericsson, Sweden

2 **Gaussian Process for Propagation Modeling and Proximity Reports Based Indoor Positioning....1972**
Yuxin Zhao, Ericsson, Sweden; Feng Yin, Ericsson, Sweden; Fredrik Gunnarsson, Ericsson, Sweden; Mehdi Amirijoo, Ericsson, Sweden; and Gustaf Hendeby, Linköping University, Sweden

3 **Path Intelligence GSM Sensor: A Novel EnablingTechnology for Retail Mobile Location Analytics....1977**
Ziming He, Path Intelligence Limited, United Kingdom; and John Wilson, Path Intelligence Limited, United Kingdom

4 **Distance and Vehicle Speed Estimation Using a Uniform Circular Array Antenna....1982**
Ahmad El Assaad, Novero GmbH, Germany; Markus Krug, Munich University of Applied Sciences, Germany; and Georg Fischer, University of Erlangen-Nuremberg, Germany

5 **Localization of Emission Source in Urban Environment Based on the Doppler Effect....1987**
Jan Kelner, Military University of Technology, Poland; Cezary Ziół kowski, Military University of Technology, Poland; Leszek Nowosielski, Military University of Technology, Poland; and Marian Wnuk, Military University of Technology, Poland

Wednesday, 18 May 2016 16:00-17:30 Liu He

10F: Emerging Communications Systems

Chair: Xin Wang, Fudan University, China

1 **Secure Transmission in Cognitive Wiretap Networks....1992**
Tao Zhang, PLA University of ScienceTechnology, China; Yueming Cai, PLA University of ScienceTechnology, China; Yuzhen Huang, PLA University of ScienceTechnology, China; Caijun Zhong, Zhejiang University, China; Weiwei Yang, PLA University of ScienceTechnology, China; and George K. Karagiannidis, Aristotle University of Thessaloniki, United Arab Emirates

2 **Resource Allocation in Multi-Carrier Full-Duplex Amplify-and-Forward Relaying Networks....1997**
Na Li, Beijing University of Posts and Telecommunication, China; Yong Li, Beijing University of Posts and Telecommunication, China; Mugen Peng, Beijing University of Posts and Telecommunication, China; and Wenbo Wang, Beijing University of Posts and Telecommunication, China

3 **Optimization of Simultaneous Wireless Information and Power Transfer in Cloud Radio Access Networks....2002**
Yingna Ma, Beijing University of Posts and Telecommunication, China; Mugen Peng, Beijing University of Posts and Telecommunication, China; Zhongyuan Zhao, Beijing University of Posts and Telecommunication, China; and Zheng Zhou, Beijing University of Posts and Telecommunication, China

4 **Performance of Analog Network Coding based Two-Way EH Relay with Beamforming....2007**
Modem Sudhakar, Indian Institute of Technology, Delhi, India; and Shankar Prakriya, Indian Institute of Technology, Delhi, India

5 Robust Transceiver Optimization for MISO SWIPT Interference Channel: A Decentralized Approach....2012
Tao Peng, Fudan University, China; Feng Wang, Fudan University, China; Yongwei Huang, Guangdong University of Technology, China; and Xin Wang, Fudan University, China

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10G: Heterogeneous Networks II

Chair: Jing Zhang, Huazhong University of Science & Technology, China

1 Optimal Uplink Power Control for Dual Connected Users in LTE Heterogeneous Networks....2017
Andrijana Popovska Avramova, Technical University of Denmark, Denmark; Hua Wang, Aalborg University, Denmark; Lars Dittmann, Technical University of Denmark, Denmark; and Klaus Ingemann Pedersen, Nokia - Bell Labs, Denmark

2 Joint Power and Resource Allocation for Non-Uniform Topologies in Heterogeneous Networks....2022
ShangZhang Zou, National Mobile Communications Research Laboratory, Southeast University, Nanjing, China; Nan Liu, National Mobile Communications Research Laboratory, Southeast University, Nanjing, China; Zhiwen Pan, National Mobile Communications Research Laboratory, Southeast University, Nanjing, China; and Xiaohu You, National Mobile Communications Research Laboratory, Southeast University, Nanjing, China

3 Cell Identification Performance Optimization in Co-Channel Heterogeneous Cellular Networks Employing CRE Based on a Hierarchical Synchronization Signal Structure....2027
Manabu Mikami, Softbank Corp., Japan; Sourabh Maiti, Softbank Corp., Japan; and Hitoshi Yoshino, Softbank Corp., Japan

4 Uplink Power Control for Heterogeneous Small Cell Networks....2032
Jing Zhang, Huazhong University of Science & Technology, China; Yan Liao, Huazhong University of Science & Technology, China; and Yili Xin, Huazhong University of Science & Technology, China

5 An Experimental Evaluation on Network-Listening Based Synchronization with Loop-Back Interference Avoidance....2037
Mitsukuni Konishi, Softbank Corp., Japan; Sho Nabatame, Softbank Corp., Japan; Daigo Ogata, Softbank Corp., Japan; Atsushi Nagate, Softbank Corp., Japan; and Teruya Fujii, Softbank Corp., Japan

VTC2016-Spring Workshops

Sunday, 15 May 2016 13:00-17:30 Wanda

W1: 5th International Workshop on High Mobility Wireless Communications (HMWC) 2016

1 **Analysis of the Uplink Capacity in the High-speed Train Wireless Communication with Full-duplex Mobile Relay....2042**
Nina Lin, Sun Yat-sen University, China; Xiujie Huang, Jinan University, China; and Xiao Ma, Sun Yat-sen University, China

2 **Location-Aided Umbrella-shaped Massive MIMO Beamforming Scheme with Transmit Diversity for High Speed Railway Communications....2047**
xuhong chen, Tsinghua University, China; jiaxun lu, Tsinghua University, China; shanyun liu, Tsinghua University, China; and pingyi fan, Tsinghua University, China

3 **Coded Index Modulation with Block Markov Superposition Transmission for Highly Mobile OFDM Systems....2052**
Leijun Wang, Sun Yat-sen University, China; and Xiao Ma, Sun Yat-sen University, China

4 **Design of LDPC Coded CPM over Burst-Error Channels....2057**
Chunhui Shen, Xidian University, China; Li Bing, Xidian University, China; and Baoming Bai, Xidian University, China

5 **Joint Subcarrier and Power Allocation for DownlinkTransmission in OFDMA Heterogeneous Networks....2062**
Feng Wang, Shanghai Jiaotong University, China; and Wen Chen, Shanghai Jiaotong University, China

6 **Location-aware Low Complexity ICI Reduction in OFDM Downlinks for High-speed Railway Communication Systems with Distributed Antennas....2068**
Jiaxun Lu, Tsinghua University, China; Xuhong Chen, Tsinghua University, China; Shanyun Liu, Tsinghua University, China; and Pingyi Fan, Tsinghua University, China

7 **MAP Estimation Based on Doppler Characterization in Broadband Mobile LEO Satellite Communications....2073**
Jiangnan Lin, Institute of Computing Technology, Chinese Academy of Sciences, China; Zhanwei Hou, School of Electrical and Information Engineering, University of Sydney, China; Yiqing Zhou, Institute of Computing Technology, Chinese Academy of Sciences, China; Lin Tian, Institute of Computing Technology, Chinese Academy of Sciences, China; and Jinglin Shi, Institute of Computing Technology, Chinese Academy of Sciences, China

8 **MIMO OFDM Index Modulation with Circular-Shift-based Activation Pattern for Rapidly Time-Varying Channels....2078**
Fangchao Yao, Xidian University, China; Jianping Zheng, Xidian University, China; and Zhenzhou Li, Xidian University, China

9 **On the joint carrier frequency offset estimation andchannel tracking limits for MIMO-OFDM systemover high-mobility scenarios....2082**
Bingpeng Zhou, Southwest Jiaotong University, China; Qingchun Chen, Southwest Jiaotong University, China; Feifei Shen, Southwest Jiaotong University, China; and Qing Yu Ci, Southwest Jiaotong University, China

10 **Optimal Repair for Distributed Storage Codes in Vehicular Networks....2087**
Yaning Xu, Shanghai Jiao Tong University, China; and Qiyuan He, Shanghai Jiao Tong University, China

11 **Tradeoff of Capacity and Handover Performance in High Speed Railway Wireless Communications....2092**
Ziyue Liu, Southwest Jiaotong University, China; Enzhi Zhou, Southwest Jiaotong University, China; Pingzhi Fan, Southwest Jiaotong University, China; and Li Hao, Southwest Jiaotong University, China

12 **A Network Assisted Fast Handover Scheme for High Speed Rail Wireless Networks....2097**
Tao Deng, Institute of Mobile Communications, China; Zhengquan Zhang, Institute of Mobile Communications, China; Xian Wang, Institute of Mobile Communications, China; and Pingzhi Fan, Institute of Mobile Communications, China

13 **An mmWave wireless communication and radar detection integrated network for railways....2102**
Li Yan, Southwest Jiaotong University, China; Xuming Fang, Southwest Jiaotong University, China; Hengchao Li, Southwest Jiaotong University, China; and Chao Li, Southwest Jiaotong University, China

14 **I/O Optimized Recovery Algorithm in Vehicular Network Using PM-RBT Codes....2107**
Qiyuan He, Shanghai Jiao Tong University, China; Yaning Xu, Shanghai Jiao Tong University, China; and Yuan Luo, Shanghai Jiao Tong University, China

15 **Remote Antenna Unit Selection Assisted Seamless Handover for High-Speed Railway Communications with Distributed Antennas....2112**
Yang Lu, Beijing Jiaotong University, China; Ke Xiong, kxiong@bjtu.edu.cn, China; Zhuyan Zhao, Nokia SolutionsNetworks, China; Pingyi Fan, Tsinghua University, China; and Zhangdui Zhong, Beijing Jiaotong University, China

16 **End-to-End Performance Optimization of Tandem Queuing for High-Speed Train Networks....2118**
Yu Wu, School of Information ScienceTechnology, China; Yuxin Zheng, School of Information ScienceTechnology, China; Yaxiong Feng, School of Information ScienceTechnology, China; Yawei Zhao, School of Information ScienceTechnology, China; and Xuming Fang, School of Information Science and Technology, China

17 **Channel Modeling and Estimation in High-Speed Mobile Environment....2123**
Huiling Zuo, Beijing University of Posts and Telecommunications, China; Hengguo Song, Beijing University of Posts and Telecommunications, China; Tianpeng Yuan, Beijing University of Posts and Telecommunications, China; and Xiaofeng Tao, Beijing University of Posts and Telecommunications, China

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W2: 2nd International Workshop on Wireless Communications for High Speed Railways (HSRCom2016)

1 **Channnel Estimation with New Basis Expansion Model for Wireless Communications on High Speed Railways....2128**
Xiyu Wang, Beijing Key Lab of Transportation Data Analysis and Mining, Beijing Jiaotong University, Beijing, China; Gongpu Wang, Beijing Key Lab of Transportation Data Analysis and Mining, Beijing Jiaotong University, Beijing, China; Jingyuan Sun, Technology & Innovation/ Research/ Radio system Beijing, Nokia Company, China; and Yulong Zou, Institute of Signal Processing and Transmission, Nanjing University of Posts and Telecommunications, China

2 **Propagation Characteristics of Mobile Channel in Urban Micro-cells at 3.5 GHz and 6 GHz....2133**
Fusheng Huang, Beijing University of Posts and Telecommunications, China; Lei Tian, Beijing University of Posts and Telecommunications, China; Yi Zheng, China Mobile Research Institute, China; Runquan Miao, Beijing University of Posts and Telecommunications, China; and Jianhua Zhang, Beijing University of Posts and Telecommunications, China

3 **Channel Characterization for Mobile Hotspot Network in Subway Tunnels at 30 GHz Band....2138**
Guangkai Li, Beijing Jiaotong University, China; Bo Ai, Beijing Jiaotong University, China; Ke Guan, Beijing Jiaotong University, China; Ruisi He, Beijing Jiaotong University, China; Zhangdui Zhong, Beijing Jiaotong University, China; Bing Hui, Communications Internet Research Laboratory,

ElectronicsTelecommunications Research Institute, Korea, Republic of; and Junhyeong Kim, Communications Internet Research Laboratory, Electronics and Telecommunications Research Institute, Korea, Republic of

4 **Tunnel and Non-tunnel Channel Characterization for High-Speed-Train Scenarios in LTE-A Networks....2143**
Xiaokang Ye, Tongji University, China; Xuesong Cai, Tongji University, China; Haowen Wang, Shanghai Research Center for Wireless Communications, China; and Xuefeng Yin, Tongji University, China

5 **Measurement and Analysis of the Broadband Radio Propagation in a High-speed Railway Station....2148**
Lei Zhang, Technical University of Madrid, Spain; Jianwen Ding, Beijing Jiaotong University, China; Bei Zhang, Beijing Jiaotong University, China; Cesar Briso, Technical University of Madrid, Spain; and Ke Guan, Beijing Jiaotong University, China

6 **Impact of Mutual Coupling on LTE-R MIMO Capacity for Antenna Array Configurations in High Speed Railway Scenario....2152**
Yiru Liu, Beijing Jiaotong University, China; Bo Ai, Beijing Jiaotong University, China; and Binghao Chen, Beijing Jiaotong University, China

7 **Modeling Link Quality for High-Speed Railway Networks Based on Hidden Markov Chain....2157**
Jiayang Song, Beijing Jiaotong University, China; Huachun Zhou, Beijing Jiaotong University, China; Wei Quan, Beijing Jiaotong University, China; Tao Zheng, Beijing Jiaotong University, China; and Ping Dong, Beijing Jiaotong University, China

8 **TD-LTE Downlink Performance Assessment in High Speed Scenarios....2162**
Dan Fei, State Key Laboratory of Rail Traffic ControlSafety, Beijing Jiaotong University, China; José Rodríguez-Piñeiro, GTEC, Dep. Elect. & Sist., Fac. Informática, Univ. A Coruña, Spain; José A. García-Naya, GTEC, Dep. Elect. & Sist., Fac. Informática, Univ. A Coruña, Spain; Luis Castedo, GTEC, Dep. Elect. & Sist., Fac. Informática, Univ. A Coruña, Spain; Ke Guan, State Key Laboratory of Rail Traffic ControlSafety, Beijing Jiaotong University, China; and Lei Xiong, State Key Laboratory of Rail Traffic Control and Safety, Beijing Jiaotong University, China

9 **Compressive Sensing based Multi-User Detection in High Mobility Scenario....2167**
Guoyu Ma, Beijing Jiaotong University, China; Bo Ai, Beijing Jiaotong University, China; Fanggang Wang, Beijing Jiaotong University, China; and Xianan Hu, Beijing Jiaotong University, China

10 **Delay-Aware Dynamic Resource Allocation in High-Speed Railway Networks....2172**
Yan Lei, Beijing Jiaotong University, China; Gang Zhu, Beijing Jiaotong University, China; Chao Shen, Beijing Jiaotong University, China; Xia Chen, Beijing Jiaotong University, China; Jingjing Xu, Beijing Jiaotong University, China; Yanqing Xu, Beijing Jiaotong University, China; and Xiaozhou Zhang, Beijing Jiaotong University, China

11 **Delay-Aware Dynamic Resource Management for High-Speed Railway Wireless Communications....2177**
Shengfeng Xu, Beijing Jiaotong University, China; Gang Zhu, Beijing Jiaotong University, China; Chao Shen, Beijing Jiaotong University, China; Shichao Li, Beijing Jiaotong University, China; and Zhangdui Zhong, Beijing Jiaotong University, China

12 **Doppler Shift Estimation for High-Speed Railway Scenario....2182**
Tianfu Liu, CRRC Industrial Institute Co. Ltd of China, China; Xiaoping Ma, Beijing Jiaotong University, China; Ruhao Zhao, Beijing Jiaotong University, China; Honghui Dong, Beijing Jiaotong University, China; and Limin Jia, Beijing Jiaotong University, China

13 **Local Mean Power Estimation over Fading Channels....2187**
Ting Wang, Beijing Jiaotong University, China; Bo Ai, Beijing Jiaotong University, China; Ruisi He, Beijing Jiaotong University, China; and Zhangdui Zhong, Beijing Jiaotong University, China

14 **Inter-Vehicle Cooperative Channel Estimation for IEEE802.11p Systems....2192**
Yan Yang, Beijing Jiaotong University, China

15 **Wireless Communication for Heavy Haul Railway Tunnels based on Distributed Antenna Systems....2197**
Tianluan Shuo, State Key Laboratory of Rail Traffic Control and Safety, China; Ke Zhao, State Key Laboratory of Rail Traffic Control and Safety, China; and Hao Wu, State Key Laboratory of Rail Traffic Control and Safety, China

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W3: International Workshop on Connecting All Things for Enabling Smart Cities (CONTEST)

1 **A Novel Dimming Scheme for Indoor MIMO Visible Light Communication Based on Antenna Selection....2202**
Zhipei Wang, Beijing University of Posts and Telecommunications, China; Caili Guo, Beijing University of Posts and Telecommunications, China; Yang Yang, Beijing University of Posts and Telecommunications, China; and Qiang Li, Huawei Technologies Co., Ltd, China

2 **A Receiver-based Routing Protocol for Cognitive Radio Enabled AMI Networks....2207**
Zhutian Yang, Harbin Institute of Technology, China; Shuyu Ping, King's College London, United Kingdom; Arumugam Nallanathan, King's College London, United Kingdom; and Lixian Zhang, Harbin Institute of Technology, China

3 **Enable Close Proximity Services for Smart Cities with Information Centric LTE System....2212**
Lijun Dong, Futurewei Technologies Inc, United States; and Guoqiang Wang, Futurewei Technologies Inc, United States

4 **Energy Efficient and Adaptive Design for Wireless Power Transfer in Electric Vehicles....2217**
Xiaolin Mou, Durham University, United Kingdom; Oliver Groling, Durham University, United Kingdom; Andrew Gallant, Durham University, United Kingdom; and Hongjian Sun, Durham University, United Kingdom

5 **Implementation and Evaluation of a Cooperative MAC Protocol for Smart Data Acquisition....2222**
Saad Amin, National University of SciencesTechnology (NUST), Pakistan; Sohaib Ashraf, National University of SciencesTechnology (NUST), Pakistan; Mohammad Shahzeb Faisal, National University of SciencesTechnology (NUST), Pakistan; Muhammad Shahmeer Omar, National University of SciencesTechnology (NUST), Pakistan; Syed Ahsan Raza Naqvi, National University of SciencesTechnology (NUST), Pakistan; Syed Ali Hassan, National University of SciencesTechnology (NUST), Pakistan; and Muhammad Usman Ilyas, National University of Sciences and Technology (NUST), Pakistan

6 **Novel Frequency Domain Cyclic Prefix Autocorrelation based Compressive Spectrum Sensing for Cognitive Radio....2227**
Sener Dikmese, Tampere University of Technology, Finland; Zobia Ilyas, Tampere University of Technology, Finland; Paschalis Sofotasios, Tampere University of Technology, Finland; Markku Renfors, Tampere University of Technology, Finland; and Mikko Valkama, Tampere University of Technology, Finland

7 **Performance Analysis of Cooperative Spectrum Sensing in Cognitive Vehicular Networks with Dense Traffic....2233**
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8 **Performance Assessment of Distributed Communication Architectures in Smart Grid....2239**
JING JIANG, Durham University, United Kingdom; and Hongjian SUN, Durham University, United Kingdom

9 **Rank-constrained Beamforming Design for Underlay Cognitive Radio Network....2244**
Yao Zhang, Jinan University, China; Duoying Zhang, Jinan Unviersity, China; and Huiqin Du, Jinan University, China

10 **Secrecy Outage Probability of Minimum Relay Selection in Multiple Eavesdroppers DF Cognitive Radio Networks....2249**
Jie Ding, Yangzhou University, China; Qiqing Yang, Yangzhou University, China; and Jing Yang, Yangzhou University, China

11 **Transmission Opportunity of Spectrum Sharing with Cellular Uplink Spectrum in Cognitive VANET....2254**
Hang Zhang, Beijing University of Posts and Telecommunications, China; Xinxin He, Beijing University of Posts and Telecommunications, China; Tao Luo, Beijing University of Posts and Telecommunications, China; and Weisen Shi, Beijing University of Posts and Telecommunications, China

12 **Optimal Time Allocation for Wireless Powered Relay Systems with Joint S-D Energy Transfer....2259**
Yawei Chen, Xi'an Jiaotong University, China; and Chao Zhang, Xi'an Jiaotong University, China

Sunday, 15 May 2016 08:30-12:00 VIP

W4: The Second International Workshop on Advances in Industrial Networks and Intelligent Systems (AINIS 2016)

1 **SDN Control Model for Intelligent Task Execution in Wireless Sensor and Actor Networks....2264**
Wenxiang Li, Wuhan University of ScienceTechnology, China; Dongsheng Liu, Wuhan University of ScienceTechnology, China; Bowen Zhu, Wuhan University of Technology, China; Xia Wei, Wuhan University of ScienceTechnology, China; Weidong Xiao, Wuhan University of ScienceTechnology, China; and Liangkang Yang, Wuhan University of Science and Technology, China

2 **Selective AP-sequence Based Indoor Localization without Site Survey....2269**
Ran Liu, Singapore University of Technology and Design, Singapore; Chau Yuen, Singapore University of Technology and Design, Singapore; Jun Zhao, Peking University, China; Jindong Guo, Peking University, China; Ronghong Mo, Singapore University of Technology and Design, Singapore; Vishesh N Pamadi, Vellore Institute of Technology, India; and Xiang Liu, Peking University, China

3 **Optimal Design of Compact Receive Array in Industrial Wireless Sensor Networks....2274**
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4 **Joint Physical Network Coding and Destination Aided Cooperative Jamming for Secure Wireless Sensor Networks....2279**
Li Dehuai, Peking University, China; Shang Yong, Peking University, China; and Zhang Xiguang, Peking University, China

5 **eMAP: Efficient User Selection for Mobile Advertisement Popularization....2284**
Wanru Xu, PLA University of ScienceTechnology, Nanjing, China, China; Ruiqi Liu, PLA University of ScienceTechnology, Nanjing, China, China; Panlong Yang, PLA University of ScienceTechnology, Nanjing, China, China; Xiaoming Chen, PLA University of ScienceTechnology, Nanjing, China, China; Maotian Zhang, PLA University of ScienceTechnology, Nanjing, China, China; Yiwei Xu, PLA University of ScienceTechnology, Nanjing, China, China; and Pengkun Sheng, Xi'an Communications Institute, Xi'an, China, China

6 **Improving Energy Efficiency in Industrial Wireless Sensor Networks Using SDN and NFV....2289**
Shibo Luo, Shanghai Jiao Tong University, China; Hongkai Wang, InformationTelecommunication Branch of State Grid Zhejiang electric power company, China; Jun Wu, Shanghai Jiao Tong University, China; Jianhua Li, Shanghai Jiao Tong University, China; Longhua Guo, Shanghai Jiao Tong University, China; and Bei Pei, Ministry of Public Security, China

7 **How to Defend against Sophisticated Intrusions in Home Networks Using SDN and NFV....2294**
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8 **A Crowd Simulation based UAV Control Architecture for Industrial Disaster Evacuation....2299**
Muzhou Xiong, China University of Geosciences, China; Deze Zeng, China University of Geosciences, China; Hong Yao, China University of Geosciences, China; and Yong Li, China University of Geosciences, China

Sunday, 15 May 2016 13:00-17:30 VIP

W6: FANTASTIC-5G International Workshop on 5G New Air Interface

1 **5G Cellular Networks with Relaxed Synchronization:Waveform Comparison and New Results....2304**
Jean-Baptiste Dore, CEA Leti, France; Rogin Gerzaguet, CEA Leti, France; and Dimitri Ktenas, CEA Leti, France

2 **A Preliminary Study on Waveform Candidates for 5G Mobile Radio Communications Above 6 GHz....2309**
Ali A. Zaidi, Ericsson Research, Sweden; Jian Luo, Huawei Technologies Duesseldorf GmbH, Germany; Robin Gerzaguet, CEA Leti, France; Andreas Wolfgang, Qamcom Research & Technology, Sweden; Richard J. Weiler, Fraunhofer Heinrich Hertz Institute, Germany; Jaakko Vihriälä, Nokia, Finland; Tommy Svensson, Chalmers University of Technology, Sweden; Yinan Qi, Samsung Electronics (UK) Ltd, United Kingdom; Hardy Halbauer, Alcatel-Lucent Deutschland AG, Germany; Zhao Zhao, Huawei Technologies Duesseldorf GmbH, Germany; Per Zetterberg, Qamcom Research & Technology, Sweden; and Honglei Miao, Intel Deutschland GmbH, Germany

3 **Cyclic Prefix Adaptation with Constant Overall Symbol Time for DFT-spread-OFDM and OFDM....2315**
Liangping Ma, InterDigital Communications, Inc., United States; Tao Deng, InterDigital Communications, Inc., United States; and Alpaslan Demir, InterDigital Communications, Inc., United States

4 **Enhancing OFDM by Pulse Shaping for Self-Contained TDD Transmission in 5G....2320**
Qi Wang, Huawei Technologies Duesseldorf GmbH, Germany; Zhao Zhao, Huawei Technologies Duesseldorf GmbH, Germany; Yan Guo, Huawei Technologies Duesseldorf GmbH, Germany; Xitao Gong, Huawei Technologies Duesseldorf GmbH, Germany; Martin Schubert, Huawei Technologies Duesseldorf GmbH, Germany; Malte Schellmann, Huawei Technologies Duesseldorf GmbH, Germany; and Wen Xu, Huawei Technologies Duesseldorf GmbH, Germany

5 **Subcarrier spacing ? how to make use of this degree of freedom....2325**
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