

## Track 3: Mobile and Wireless Networks

Tuesday 10 March  
11:00 - 12:30

### MWN-01: LTE 1

A User Behavior Based Handover Optimization Algorithm for LTE Networks  
Rana D Hegazy and Omar Nasr (Cairo University, Egypt)

Integrated Small Cell and Wi-Fi Networks

John Tomici (Interdigital Communications, USA); Michael Starsinic (InterDigital, USA); Ahmed S. Ibrahim (InterDigital Communications Inc., USA); Qing Li (InterDigital Inc., USA)

Scheduling for Multi-users Multiplexing Radio Voice Transmission for Enhancing Voice Capacity over LTE in PMR Context  
Manh-Cuong Nguyen (Telecom Sud Paris, France); Hang Nguyen (Institut Telecom, Telecom SudParis, France); Eric Georgeaux (CASSIDIAN (an EADS Company), France); Philippe Mege (Cassidian (EADS), France); Laurent Martinod (Cassidian Systems & Security & Communication Solutions, France); Alina A. Florea (Pierre and Marie Curie University, France)

A Threshold-based Multi-traffic Load Balance Mechanism in LTE-A Networks

Zhangpeng Huang and Jing Liu (Shanghai Jiao Tong University, P.R. China); Qiang Shen (Shanghai JiaoTong University, P.R. China); Jin Wu and Xiaoying Gan (Shanghai Jiao Tong University, P.R. China)

Reinforcement Learning for Licensed-Assisted Access of LTE in the Unlicensed Spectrum

Nadisanka Rupasinghe and Ismail Güvenç (Florida International University, USA)

### MWN-02: Energy Harvesting

Hierarchical, Collaborative Wireless Charging in Sensor Networks

Adelina Madhja, Sotiris E. Nikolettseas and Theofanis P. Raptis (University of Patras and Computer Technology Institute, Greece)

RF Energy Harvesting for WSNs via Dynamic Control of Unmanned Vehicle Charging

Fahira Sangare and Ali Arab (University of Houston, USA); Miao Pan (Texas Southern University, USA); Lijun Qian (Prairie View A&M University, USA); Suresh Khator and Zhu Han (University of Houston, USA)

Minimizing the Number of Mobile Chargers in a Large-Scale Wireless Rechargeable Sensor Network

Cheng Hu (Southeast University, P.R. China); Yun Wang (School of Computer Science and Engineering, Southeast University, P.R. China)

Performance Analysis of Simultaneous Wireless Information and Power Transfer with Ambient RF Energy Harvesting  
Xiao Lu, Ian Flint, Dusit Niyato, Nicolas Privault and Ping Wang (Nanyang Technological University, Singapore)

Robust Queue Management for TCP-Based Large Round Trip Time Networks with Wireless Access Link

Ladan Khoshnevisan, Farzad Salmasi and Vahid Shah-Mansouri (University of Tehran, Iran)

### MWN-03: Wireless LAN

Airborne WiFi Networks through Directional Antennae: An Experimental Study

Yixin Gu, Mi Zhou, Shengli Fu and Yan Wan (University of North Texas, USA)

GPS Tethering for Energy Conservation

Yuepeng Qi (North Carolina State University, USA); Chansu Yu (Cleveland State University, USA); Young-Joo Suh and Si Young Jang (Pohang University of Science and Technology (POSTECH), Korea)

An investigation into the use of the kriging for Wi-Fi RSSI estimation in complex indoor environments

Petrus Jacobus Joubert (North West University, South Africa); Albert Helberg (North-West University, South Africa)

Uplink Traffic Cellular-first Access Scheme in Cellular/WLAN Integrated Networks

Qiang Fan (University of Science and Technology of China, P.R. China); Peilin Hong (Dept. EEIS & USTC, P.R. China); Hancheng Lu and Wei Jiang (University of Science and Technology of China, P.R. China)

A Novel Delayed Wakeup Scheme for Efficient Power Management in Infrastructure-based IEEE 802.11 WLANs  
Yi Li and Xin Zhang (The University of Hong Kong, Hong Kong); Kwan Yeung (University of Hong Kong, Hong Kong)

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#### MWN-04: Wireless Sensor Networks 1

Cellular Automata and Object Monitoring in Mobile Wireless Sensor Networks

Salimur Choudhury (William Paterson University of New Jersey, USA); Kai Salomaa (School of Computing Queen's University Canada, Canada); Selim G. Akl (Queen's University, Canada)

Cooperative MIMO-OFDM Based Multi-Hop 3D Clustered Wireless Camera Sensor Networks

Jingqing Wang (Texas A&M University, USA); Xi Zhang (Texas A&M University, ECE Department, USA)

Fundamental Bounds on RSS-Based Wireless Localization in Passive UHF RFID Systems

Bekir S Çiftler (Florida International University, USA); Abdullah Kadri (Qatar Mobility Innovations Center, Qatar); Ismail Güvenç (Florida International University, USA)

Indoor Localization based on Bi-Phase Measurements for Wireless Sensor Networks

Mathias Pelka (Fachhochschule Lübeck, Germany); Christian Bollmeyer (Lübeck University of Applied Sciences & Graduate School for Computing in Medicine and Life Sciences, Universität zu Lübeck, Germany); Horst Hellbrück (University of Applied Sciences Lübeck & CoSA Center of Excellence, Germany)

Routing and Flow Rate Assignment Using Multi-Objective Optimization in Wireless Sensor Networks

Mohamed Elersy (Memorial University of Newfoundland, Canada); Mohamed Hossam Ahmed (Memorial University, Canada); Abderrazek Abdaoui (Qatar University & College of Engineering, Qatar); Tarek M. Elfouly (Qatar University, Qatar)

#### MWN-05: LTE 2

Improving System Capacity Based upon User-Specific QoS for Heterogeneous Networks

Chao He, Gabriel Arrobo and Richard D. Gitlin (University of South Florida, USA)

Uplink Scheduling for LTE 4G Video Surveillance System

Yen-Kai Liao and Chih-Hang Wang (National Tsing Hua University, Taiwan); De-Nian Yang (Academia Sinica, Taiwan); Wen-Tsuen Chen (National Tsing Hua University, Taiwan)

Effect of Handover on the Performance of Scheduling Algorithms in LTE Networks

Narges Shojaedin and Majid Ghaderi (University of Calgary, Canada); Ashwin Sridharan (AT&T, USA)

Energy Efficient IEEE 802.11 WLAN Discovery For Heterogeneous 3GPP LTE Network

Pravjyot Singh Deogun (Indian Institute of Technology (IIT) Bombay, India); Shashi Ranjan and Punit Ashok Rathod (Indian Institute of Technology Bombay, India); Abhay Karandikar (IIT Bombay, India); Nadeem Akhtar (Centre of Excellence in Wireless Technology, India)

Packet Dropping with Intra-Flow Prioritization for Internet Video Calls in Mobile Networks

Yi Gai (Intel Labs, USA); Jing Zhu and Rath Vannithamby (Intel, USA)

#### MWN-06: Physical Layer Security

Evaluation of Security Robustness Against Information Leakage in Gaussian Polytrees Graphical Models

Ali Moharrer and Shuangqing Wei (Louisiana State University, USA); George T Amariuca (Iowa State University, USA); Jing Deng (University of North Carolina at Greensboro, USA)

Secrecy Analysis for Selection among Transmit Antennas with Unequal Average SNR Performance

Yujia Hu and Xiaofeng Tao (Beijing University of Posts and Telecommunications, P.R. China)

Secure Transmission with Artificial Noise in the Multiuser Downlink: Secrecy Sum-rate and Optimal Power Allocation

Na Li, Xiaofeng Tao, Qimei Cui and Jin Xu (Beijing University of Posts and Telecommunications, P.R. China)

Opportunistic Fair Resource Sharing with Secrecy Considerations in Uplink Wiretap Channels

Xin Ge (The University of British Columbia, Canada); Hu Jin (Hanyang University, Korea); Xiuhua Li (University of British Columbia, Canada); Victor CM Leung (The University of British Columbia, Canada)

Securing Space Communication Systems Against Reactive Cognitive Jammer

Danda B. Rawat (Georgia Southern University, USA); Min Song (Michigan Technological University, USA)

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#### MWN-07: Heterogeneous Networks 1

#### Investigation of Service Success Probability for Downlink Heterogeneous Cellular Networks with Cell Association and User Scheduling

Shanshan Chen (Beijing University of Posts and Telecommunications, P.R. China); Mugen Peng (Beijing University of posts & Telecommunications, P.R. China); Hengzhi Zhang (Beijing University of Posts & Telecommunications, P.R. China); Chonggang Wang (InterDigital Communications, USA)

#### On Adaptive Range Expansion for UL-DL Imbalance Mitigation in HSPA HetNet

Liu Liu (Beijing University of Posts and Telecommunications, P.R. China); Chang Yongyu (Beijing University of Posts & Telecommunications, P.R. China); Sida Song and Dacheng Yang (Beijing University of Posts and Telecommunications, P.R. China)

#### Network State Motivated Traffic Offloading Scheme in Heterogeneous Networks

Yue Zhang (Beijing University of Posts and Telecommunications & Key Laboratory of Universal Wireless Communications, Ministry of Education Wireless Technology Innov, P.R. China); Zhiqing Wei, Zhiyong Feng and Qixun Zhang (Beijing University of Posts and Telecommunications, P.R. China)

#### Optimal Base Station Density in Ultra-densification Heterogeneous Network

Jianyuan Feng, Zhiyong Feng and Zhiqing Wei (Beijing University of Posts and Telecommunications, P.R. China); Wei Li (University of Victoria, Canada); Sumit Roy (University of Washington, USA)

#### High-Resolution Cell Breathing for Improving Energy Efficiency of Ultra-Dense HetNets

Hongjia Li (Chinese Academy of Sciences, P.R. China); Dan Hu (Cisco Systems, Inc., P.R. China); Xin Chen (Chinese Academy of Sciences, P.R. China); Song Ci (University of Nebraska-Lincoln, USA)

### MWN-08: MIMO

#### Impact of BS Antenna Number and Array Geometry on Single-User LTE-A Data Throughputs in Realistic Macro and Pico Cellular Environments

Siming Zhang, Di Kong, Evangelos Mellios, Geoffrey Hilton and Andrew Nix (University of Bristol, United Kingdom); Timothy A. Thomas and Amitava Ghosh (Nokia Networks, USA)

#### Optimal MIMO Beamforming Based Topology Management for Interference Minimization in MIMO Wireless Sensor Networks

Sampath Gembali (IIT Kanpur, India); Aditya K Jagannatham (Indian Institute of Technology Kanpur, India)

#### Transmitter-Receiver Energy Efficiency: A Trade-off in MIMO Wireless Sensor Networks

Hoda Ayatollahi, Cristiano Tapparello and Wendi Heinzelman (University of Rochester, USA)

#### Physical Layer Network Coding Using THP for Bi-directional MIMO Relay Systems

Cao Lengchi and Satoshi Denno (Okayama University, Japan)

#### Pilot Sequences Allocation in TDD Massive MIMO Systems

Xiangyu Yan (University of Science & Technology of China, P.R. China); Huarui Yin and Mengbing Xia (University of Science and Technology of China, P.R. China); Guo Wei (University of Sci. & Tech. of China, P.R. China)

### MWN-09: Wireless Sensor Networks 2

#### Wireless Sensor Networks with RF Energy Harvesting: Energy Models and Analysis

M. Yousof Naderi, Kaushik Chowdhury and Stefano Basagni (Northeastern University, USA)

#### Distributed Self Localization of Sensors with Poisson Deployment using Extended Kalman Filter

Abhishek Kumar Gupta (University of Texas At Austin, USA); Somsubhra Barik and Haris Vikalo (The University of Texas at Austin, USA)

#### Localization from Connectivity: 1-Bit Maximum Likelihood Approach

Sonia Bhaskar (Stanford University, USA)

#### eXtend Collection Tree Protocol

Bruno P. Santos and Marcos A. M. Vieira (Federal University of Minas Gerais, Brazil); Luiz F. M. Vieira (Universidade Federal de Minas Gerais, Brazil)

#### A Novel Local Search Approximation Algorithm for Relay Node Placement in Wireless Sensor Networks

Chaofan Ma (ShenYang Institute of Automation Chinese Academy of Sciences, P.R. China); Wei Liang (Shenyang Institute of Automation, P.R. China); Meng Zheng (Shenyang Institute of Automation, Chinese Academy of Sciences, P.R. China); Hamid Sharif (University of Nebraska-Lincoln, USA)

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### MWN-10: Heterogeneous Networks 2

#### Performance Evaluation and Viability of IFOM in Heterogeneous LTE - WLAN Network

Shubhada Rajesh Gadgil (Indian Institute of Technology Bombay, IIT Bombay, India); Shashi Ranjan (Indian Institute of Technology Bombay, India); Divya Joshi (Broadcom Communications Technologies Private Limited, India); Mahima Mehta (Intel

Mobile Communications Pvt. Ltd., India); Nadeem Akhtar (Centre of Excellence in Wireless Technology, India); Abhay Karandikar (IIT Bombay, India)

Small Cells On/Off Control and Load Balancing for Green Dense Heterogeneous Networks  
Yinghao Jin, Ling Qiu and Xiaowen Liang (University of Science and Technology of China, P.R. China)

Context-Aware Mobility Management in HetNets: A Reinforcement Learning Approach  
Meryem Simsek (Technische Universität Dresden, Germany); Mehdi Bennis (Centre of Wireless Communications, University of Oulu, Finland); Ismail Güvenç (Florida International University, USA)

Joint User Association and Green Energy Allocation in HetNets with Hybrid Energy Sources  
Dantong Liu and Yue Chen (Queen Mary University of London, United Kingdom); Kok Keong (Michael) Chai (Queen Mary, University of London, United Kingdom); Tiankui Zhang (Beijing University of Posts and Telecommunications, P.R. China); Kaifeng Han (Queen Mary University of London, United Kingdom)

Extended User/Control Plane Architectures for Tightly Coupled LTE/WiGig Interworking in Millimeter-wave Heterogeneous Networks  
Hailan Peng (KDDI R&D Laboratories Inc., Japan); Toshiaki Yamamoto (KDDI R&D Laboratories, Japan); Yasuhiro Suegara (KDDI R&D Laboratories Inc., Japan)

### MWN-11: Wireless Sensor Networks 3

Optimized Barrier Location for Barrier Coverage in Mobile Sensor Networks  
Xiaoyun Zhang, Mathew L. Wymore and Daji Qiao (Iowa State University, USA)

EDAD: Energy-Centric Data Collection with AnyCast in Duty-Cycled Wireless Sensor Networks  
Mathew L. Wymore, Yang Peng, Xiaoyun Zhang and Daji Qiao (Iowa State University, USA)

A Hybrid Approach Using Mobile Element and Hierarchical Clustering for Data Collection in WSN  
Ruonan Zhang (Northwestern Polytechnical University, P.R. China); Jianping Pan (University of Victoria, Canada); Jiajia Liu (Xidian University, P.R. China); Di Xie (Northwestern Polytechnical University, P.R. China)

Online Model-Driven Data Acquisition for Wireless Sensor Networks  
Yan Chen and Zijian Wang (Institute of Computing Technology, Chinese Academy of Sciences, P.R. China); Ze Zhao (Institute of Computing Technology, Chinese Academy of Science, P.R. China); Dong Li and Li Cui (Institute of Computing Technology, Chinese Academy of Sciences, P.R. China)

Exploiting frame length of 802.15.4g signals for wake-up control in sensor networks  
Suhua Tang (The University of Electro-Communications, Japan); Hiroyuki Yomo (Kansai University & Aalborg University, Japan); Shinji Yamaguchi and Akio Hasegawa (ATR Adaptive Communications Research Lab., Japan); Sadao Obana (The University of Electro-Communications, Japan)

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### MWN-12: Wireless Network Routing

Efficient Scheduling for Multicasting Multimedia Data with Adaptive Random Liner Network Coding in Relay-aided Network  
Bin Li (Northwestern Polytechnical University, P.R. China); Dengke Ban and Ruonan Zhang (Northwestern Polytechnical University, P.R. China)

An On-demand Scatternet Formation and Multi-hop Routing Protocol for BLE-based wireless Sensor Networks  
Zonglin Guo (University of California Irvine, USA); Ian Harris (UC Irvine, USA); Lih-feng Tsaur and Xianbo Chen (Broadcom Corporation, USA)

Game Theoretic Energy Balancing Routing in Three Dimensional Wireless Sensor Networks  
Mehmmood Abd (University of Windsor, Canada); Sarab Al Rubeaai (University Of Windsor, Canada); Kemal Tepe (University of Windsor, Canada); Rachid Benlamri (Lakehead University, Canada)

A Theoretical Framework of Resilience: Biased Random Walk Routing Against Insider Attacks  
Ochirkhand Erdene-Ochir (Texas A&M University at Qatar, Qatar); Mohamed M. Abdallah (Texas A&M University at Qatar & Cairo University at Cairo, Qatar); Khalid A. Qaraqe (Texas A&M University at Qatar, USA); Marine Minier (Insa de Lyon, France); Fabrice Valois (INSA Lyon, France)

M2C2: A Mobility Management System for Mobile Cloud Computing  
Karan Mitra and Saguna Saguna (Luleå University of Technology, Sweden); Christer Åhlund (Lulea University of Technology, Sweden); Daniel Granlund (Luleå University of Technology, Sweden)

### MWN-13: Cellular Networks

Stochastic Geometry based Energy-Efficient Base Station Density Optimization in Cellular Networks



Lu An, Tiankui Zhang and Chunyan Feng (Beijing University of Posts and Telecommunications, P.R. China)

Optimal Power Consumption Based on New Power Spectral Efficiency Metric for Wireless cellular Networks  
Aymen Omri and Mazen Omar Hasna (Qatar University, Qatar)

Measuring the Resiliency of Cellular Base Station Deployments  
David Griffith (NIST, USA); Richard Rouil (National Institute of Standards and Technology, USA); Antonio Izquierdo and Nada Golmie (NIST, USA)

Resource Management in Device-to-Device Underlying Cellular Network  
Yuchi Zhang (Beijing University of Posts and Telecommunications, P.R. China); Ying Xu (The State Radio Monitoring Center, P.R. China); Mingfei Gao and Qixun Zhang (Beijing University of Posts and Telecommunications, P.R. China); Huidi Li (China Mobile, P.R. China); Ishtiaq Ahmad (University of Lahore, Pakistan); Zhiyong Feng (Beijing University of Posts and Telecommunications, P.R. China)

User Association in Backhaul Constrained Small Cell Networks  
Tao Han (New Jersey Institute of Tech, USA); Nirwan Ansari (NJIT, USA)

#### MWN-14: Compressive Sensing

Full-duplex and Compressed Sensing based Neighbor Discovery for Wireless Ad-hoc Network  
Xianjun Yang (Fujitsu Research & Development Center, P.R. China); Wang Xin (Fujitsu Research and Development Center, Beijing, P.R. China); Yang Rui (Fujitsu R&D Center, P.R. China); Jian Zhang (Fujitsu R&D Center China, Japan)

Sparse Precoding Design for Cloud-RANs Sum-Rate Maximization  
Vu Nguyen Ha (INRS, University of Quebec, Canada); Duy H. N. Nguyen (McGill University, Canada); Long Bao Le (INRS, University of Quebec, Canada)

An Adaptive Solution for Data Dissemination under Diverse Road Traffic Conditions in Urban Scenarios  
Ademar Takeo Akabane (University of Campinas, Brazil); Leandro Aparecido Villas (UNICAMP, Brazil); Edmundo Madeira (State University of Campinas, Brazil)

Exact Recoverability Analysis for Joint Sparse Optimization with Missing Measurements  
Shan Jin (Texas A&M University, College Station, USA); Xi Zhang (Texas A&M University, ECE Department, USA)

DeepFi: Deep Learning for Indoor Fingerprinting Using Channel State Information  
Xuyu Wang, Lingjun Gao and Shiwen Mao (Auburn University, USA); Santosh Pandey (Cisco Systems Inc, USA)

#### MWN-P01: Mobile Wireless Networks P1

Energy Efficient Pricing Scheme for Multi-homing in Heterogeneous Wireless Access Networks: A Game Theoretic Model and Its Analysis  
Seonghwa Yun (Korea Advanced Institute of Science and Technology, Korea); JooHyung Lee (Samsung Electronics, Korea); Shah Hasan Shah Newaz (Korea Advanced Institute of Science and Technology (KAIST), Daejeon, South Korea, Korea); Jun Kyun Choi (KAIST, Korea)

AIMD-PQ: A Path Quality based TCP-Friendly AIMD Algorithm for Multipath Congestion Control in Heterogeneous Wireless Networks  
Jia Zhao (Beijing Jiaotong University, P.R. China); Changqiao Xu and Jianfeng Guan (Beijing University of Posts and Telecommunications, P.R. China); Hongke Zhang (Beijing Jiaotong University, P.R. China)

A Game-Theoretic Approach for Bandwidth Allocation and Pricing in Heterogeneous Wireless Networks  
Bin Fu, Zhiqing Wei, Xiao Yan, Kezhong Zhang, Zhiyong Feng and Qixun Zhang (Beijing University of Posts and Telecommunications, P.R. China)

Power Control Schemes for Energy Efficiency of Cellular and Device-and-Device Communications  
Yuri Melo, Rodrigo Lopes Batista, Carlos Filipe Moreira e Silva and Tarcisio F. Maciel (Federal University of Ceará, Brazil); Jose Mairton Barros da Silva, Jr. (Federal University of Ceara & Wireless Telecom Research Group, Brazil); Francisco R. P. Cavalcanti (Federal University of Ceará & GTel - Wireless Telecom Research Group, Brazil)

Unified Framework for Spectral Efficiency Analysis of AF Relay System  
Azwan Mahmud (Telekom Malaysia, Malaysia); Khairi A. Hamdi (University of Manchester, United Kingdom)

#### MWN-P02: Mobile Wireless Networks P2

Dynamic Secret Key Generation Exploiting Ultra-Wideband Wireless Channel Characteristics  
Jing Huang (Beijing University of Posts and Telecommunications, P.R. China); Ting Jiang (Beijing University of Posts & Telecommunications, P.R. China)

Performance Analysis of Distributed Method for Full-Duplex Relaying Cooperative Systems

Tarla Abadi and Khairi A. Hamdi (University of Manchester, United Kingdom)

Biconnected Tree for Robust Data Collection in Advanced Metering Infrastructure

Joseph Kamto and Lijun Qian (Prairie View A&M University, USA); Wei Li (Texas Southern University, USA); Zhu Han (University of Houston, USA)

Topology and Irregularity in Cellular Networks

David González Gand Jyri Hämäläinen (Aalto University, Finland)

Optimization of Energy Efficient Relay Position for Galvanic Coupled Intra-body Communication

Meenupriya Swaminathan (Northeastern University, USA); Gunar Schirmer (ECE Northeastern University, USA); Kaushik Chowdhury (Northeastern University, USA)

Soft Frequency Reuse for Intercell Interference Mitigation in Two-tier Underwater Multicell OFDM Wireless Networks

Ping Wang (Texas A&M University, USA); Xi Zhang (Texas A&M University, ECE Department, USA)

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#### MWN-15: Cognitive Radio Networks 1

Sensing Capacity of Cognitive Radio Mobile Ad Hoc Networks

Luis Irio and Rodolfo Oliveira (Nova University of Lisbon, Portugal)

Stable Throughput Tradeoffs in Cognitive Radio Networks With Cooperating Rechargeable Nodes

Kedar Prakash Kulkarni (Indian Institute of Technology Kanpur, India); Adrish Banerjee (Indian Institute of Technology, Kanpur, India)

A Distributed ADMM Approach for Mobile Data Offloading in Software Defined Network

Lanchao Liu (University of Houston, USA); Xianfu Chen (VTT Technical Research Centre of Finland, Finland); Mehdi Bennis (Centre of Wireless Communications, University of Oulu, Finland); Guoliang Xue (Arizona State University, USA); Zhu Han (University of Houston, USA)

Development of Software-Defined Acoustic Communication Platform and its Evaluations

Ryo Kato (Waseda University, Japan); Jiro Katto (Waseda University, Japan)

Resource Allocation for Heterogeneous Cognitive Radio Networks

Babatunde Awoyemi and Bodhaswar TJ Maharaj (University of Pretoria, South Africa); Attahiru Alfa (University of Manitoba, Canada)

#### MWN-16: Wireless Networks 1

Radio Resource Management for the Uplink OFDMA System with Imperfect CSI

Lihan Liu (Beijing University of Posts and Telecommunications, P.R. China); Zhuwei Wang (Beijing University of Technology, P.R. China); Xin Zhang and Hong Wu (Beijing University of Posts and Telecommunications, P.R. China)

Congestion & Power Control of Wireless Multihop Networks over Stochastic LTF Channels

Eleni G Stai, Michail Loulakis and Symeon Papavassiliou (National Technical University of Athens, Greece)

Nonparametric Belief Propagation based Cooperative Localization: A Minimum Spanning Tree Approach

Xiaopeng Li, Hui Gao, Hong Cai and Tiejun Lv (Beijing University of Posts and Telecommunications, P.R. China)

Resource Allocation for On-Demand Multimedia Services in High-Speed Railway Wireless Networks

Yan Lei (The State Key Laboratory of Rail Traffic Control and Safety, Beijing Jiaotong University; The State K, P.R. China); Gang Zhu (The State Key Laboratory of Rail Traffic Control and Safety, Beijing Jiaotong University, P.R. China); Chao Shen (The State Key Laboratory of Rail Traffic Control and Safety, Beijing Jiaotong University; The State K, P.R. China); Shengfeng Xu, Ning Zhang and Zhangdui Zhong (The State Key Laboratory of Rail Traffic Control and Safety, Beijing Jiaotong University, P.R. China)

#### MWN-17: Next Generation Networks

Efficient Flow Processing-aware Controller Placement in Future Wireless Networks

Sébastien Auroux and Holger Karl (University of Paderborn, Germany)

Mobility Enhancement and Performance Evaluation for 5G Ultra Dense Networks

Jiaxin Zhang and Jian Feng (Beijing University of Posts and Telecommunications, P.R. China); Chang Liu and Xuefen Hong (BUPT, P.R. China); Xing Zhang and Wenbo Wang (Beijing University of Posts and Telecommunications, P.R. China)

Empirical Characterization of mm-wave Communication Links in Realistic Indoor Scenarios

Junaid Ansari, Nikos Perpinias, Alexander Nähring, Petri Mähönen and Marina Petrova (RWTH Aachen University, Germany)

Resource Allocation for Femtocell Networks by Using Chance-Constrained Optimization

Yujie Zhang and Shaowei Wang (Nanjing University, P.R. China)

Lightweight Virtualized Evolved Packet Core Architecture for Future Mobile Communication  
Hiroki Baba, Minoru Matsumoto and Katsunori Noritake (NTT, Japan)

#### MWN-P03: Mobile Wireless Networks P3

IMLours: Indoor Mapping and Localization Using Time-stamped WLAN Received Signal Strength

Mu Zhou (Chongqing University of Posts and Telecommunications & Chongqing Key Lab of Mobile Communications Technology, P.R. China); Qiao Zhang and Zengshan Tian (Chongqing University of Posts and Telecommunications, P.R. China); Kunjie Xu (Ericsson R&D, Silicon Valley, USA); Feng Qiu (Chongqing University of Posts and Telecommunications, P.R. China); Haibo Wu (Computer Network Information Center, Chinese Academy of Sciences, P.R. China)

Performance Analysis of Delay-Constrained Wireless Energy Harvesting Communication Networks under Jamming Attacks  
Dusit Niyato and Ping Wang (Nanyang Technological University, Singapore); Dong In Kim (Sungkyunkwan University (SKKU), Korea); Zhu Han (University of Houston, USA); Lu Xiao (Nanyang Technological University, Singapore)

Radar Inband and Out-of-Band Interference into LTE Macro and Small Cell Uplinks in the 3.5 GHz Band

Mo Ghorbanzadeh (Virginia Tech & The Hume Center for National Security and Technology, USA); Eugene Visotsky (Nokia Siemens Networks, USA); Prakash Moorut (NSN, USA); Weidong Yang (Nokia Solutions and Networks, USA); T. Charles Clancy (Virginia Tech, USA)

Strong Authentication Countermeasures Using Dynamic Keying for Sinkhole and Distance Spoofing Attacks in Smart Grid Networks

Clark Taylor and Thienne Johnson (University of Arizona, USA)

Delay-constrained Efficient Broadcasting in Duty-unaware Asynchronous Wireless Sensor Networks

Xinming Zhang, Xiaoxue Jia and Jiuping Jin (University of Science and Technology of China, P.R. China); Dan Keun Sung (Korea Advanced Institute of Science and Technology, Korea)

#### MWN-P04: Mobile Wireless Networks P4

Location-aware Opportunistic Forwarding in Mobile Ad hoc Networks

Jun Tao, Yifan Xu and Chengwei Tan (Southeast University, P.R. China); Xiaoxiao Wang (Southeast-university, P.R. China)

Mobility Aware Link Lifetime Analysis for Vehicular Networks

Miao Hu, Zhangdui Zhong, Minming Ni, Ruifeng Chen and Hao Wu (Beijing Jiaotong University, P.R. China); Chih-Yung Chang (Tamkang University, Taiwan)

Effects of Mobility on Latency in a WSN that Accommodates Mobile Nodes

Qian Dong (Sun Yat-sen University, P.R. China); Waltenegus Dargie (Technische Universität Dresden, Germany); Mi Lu (Texas A&M, USA)

Measurement and Analysis on QoS of Wireless LAN Densely Deployed with Transmission Rate Control

Mitomo Isomura (Ochanomizu University, Japan); Kazunori Miyoshi (NEC Corporation, Japan); Tutomu Murase (NEC Corporation & Tokyo Institute of Technology, Japan); Masato Oguchi (Ochanomizu University, Japan); Shweta Sagari, Akash Baid and Ivan Seskar (WINLAB, Rutgers University, USA); Dipankar Raychaudhuri (Rutgers University, USA)

Simple Receding Horizon Approach to Scheduling Mobile Wireless Clients with Uncertainty

Daniel T Bennett (United States Military Academy & United States Army Signal Corps, USA); Timothy X Brown (University of Colorado, USA)

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#### MWN-18: Cognitive Radio Networks 2

Dynamic Path Switching Routing Protocol for Cognitive Radio Networks

Ming-Hung Tao and Ser Wah Oh (Institute for Infocomm Research, Singapore); Yugang Ma (Institute for Infocomm Research & A\*STAR, Singapore)

A Distributed Cooperative Power Allocation Scheme for Small Cell Networks

Nur Ilyana Anwar Apandi (The University of Sydney & Universiti of Teknikal Malaysia Melaka, Australia); Wibowo Hardjawana (The University of Sydney, Australia); Branka Vucetic (University of Sydney, Australia)

Interference-constrained Access Opportunity Distribution for Secondary Communication in TV White Space

Long Zhang (Beijing University of Posts and Telecommunication, P.R. China); Xianghui Han, Xiao Yan and Zhiyong Feng (Beijing University of Posts and Telecommunications, P.R. China)

Global Optimal Bandwidth Reservation and CAC of Randomly Distributed HCNs Sharing Same Spectra

Bin Fang (University of Science and Technology of China & Wireless Information Network laboratory, P.R. China); Wuyang Zhou

(University of Science and Technology of China, P.R. China)

Duplex Mode Selection and Channel Allocation for Full-Duplex Cognitive Femtocell Networks

Mingjie Feng and Shiwen Mao (Auburn University, USA); Tao Jiang (Huazhong University of Science and Technology, P.R. China)

#### MWN-19: Wireless Sensor Networks 4

Impact of Duty Cycle on End-to-End Performance in a Wireless Sensor Network

Fengyou Sun and Luqun Li (Shanghai Normal University, P.R. China); Yuming Jiang (Norwegian University of Science and Technology (NTNU), Norway)

A Stochastic Geometry Analysis of Inter-user Interference in IEEE 802.15.6 Body Sensor Networks

Wen Sun (National University of Singapore, Singapore); Yu Ge (Institute for Infocomm Research, Singapore); Wai-Choong Wong (National University of Singapore, Singapore)

Protective Dummy-byte Preamble Padding for Improving ZigBee Packet Transmission under Wi-Fi Interference

Tianyu Du, Zhipeng Wang, Dimitrios Makrakis and Hussein Mouftah (University of Ottawa, Canada)

On Scheduling of Real-Time Sensing Tasks in Mobile Crowd Sensing

Yukun Yuan (Shanghai Jiao Tong University, P.R. China); Yanmin Zhu (Shanghai Jiao Tong University, P.R. China)

Guided Tour of Handoff Steering for Bandwidth in Indoor Venues

Sangwook Bak (Pohang University of Science and Technology (POSTECH), Korea); Kyoung-Hak Jung (Agency for Defense Development (ADD), Korea); Chansu Yu (Cleveland State University, USA); Young-Joo Suh (Pohang University of Science and Technology (POSTECH), Korea)

#### MWN-20: Vehicular Networks

Heterogeneous Vehicular Wireless Networking: A Theoretical Perspective

Hongwei Zhang (Wayne State University, USA); Fan Bai (General Motors, USA); Xi Ju (General Motors, Greece)

Cloud-assisted GPS-driven Dynamic Spectrum Access in Cognitive Radio Vehicular Networks for Transportation Cyber Physical Systems

Danda B. Rawat, Swetha Reddy and Nimish Sharma (Georgia Southern University, USA); Bhed Bahadur Bista (Iwate Prefectural University, Japan); Sachin Shetty (Tennessee State University, USA)

Semantic and Self-Decision Geocast Protocol for Data Dissemination over VANET (SAS-GP)

Badr Alsubaihi and Azzedine Boukerche (University of Ottawa, Canada)

Modelling of Multi-Hop Inter-Vehicular Path Formation For Connecting Far Vehicles to RSUs

Ribal Atallah (Concordia University, Canada); Maurice J. Khabbaz (Notre-Dame University, Lebanon); Chadi Assi (Concordia University, Canada)

Secure Traffic Congestion Control Protocol for VANETs (SCOOL)

Maram Bani Younes and Azzedine Boukerche (University of Ottawa, Canada)

Thursday March 12

14:00 - 15:30

#### MWN-21: Heterogeneous Networks 3

Adaptive Video Streaming in Heterogeneous Mobile Networks

Mohammad Reza Zakerinasab and Mea Wang (University of Calgary, Canada)

Topology Adaptation and Interference Management in Dense Heterogeneous Networks

Binnan Zhuang (Northwestern University, USA); Jialing Liu and Weimin Xiao (Huawei, USA)

A Novel Handover Scheme to Support Small-cell Users in a HetNet Environment

Hansung Leem, JaYeong Kim and Dan Keun Sung (Korea Advanced Institute of Science and Technology, Korea); Yunjung Yi and Byoung-Hoon Kim (LG Electronics, Korea)

An Energy-Aware Data Offloading Scheme in Cloud Radio Access Networks

Yuh-Shyan Chen (National Taipei University, Taiwan); Chih-Shun Hsu (Shih Hsin University, Taiwan); Tong-Ying Juang and Hsin-Han Lin (National Taipei University, Taiwan)

A Markov Chain Model for Packet Queueing Delay Analysis of a Mobile User in HetNets

Peng-Yong Kong (Khalifa University of Science, Technology & Research, UAE)

#### MWN-22: Wireless Networks 2

Scalable Video SoftCast Using Magnitude Shift



Xiaocheng Lin, Yu Liu and Lin Zhang (Beijing University of Posts and Telecommunications, P.R. China)

Equilibrium Analysis for Zero-Determinant Strategy in Resource Management of Wireless Network

Huaqing Zhang (University of Houston, USA); Dusit Niyato (Nanyang Technological University, Singapore); Lingyang Song (Peking University, P.R. China); Tao Jiang (Huazhong University of Science and Technology, P.R. China); Zhu Han (University of Houston, USA)

Throughput Maximization over Frequency-Selective Communication Networks

Songtao Lu and Zhengdao Wang (Iowa State University, USA)

Interface Constraint Aware Modeling in Wireless Mesh Networks Using Mixed Hypergraph

Ying-Yu Chen and Chien Chen (National Chiao Tung University, Taiwan)

Joint Resource Provisioning and Admission Control in Wireless Virtualized Networks

Saeedeh Parsaeefard and Vikas Jumba (McGill University, Canada); Mahsa Derakhshani (University of Toronto, Canada); Tho Le-Ngoc (McGill University, Canada)

#### MWN-23: Quality of Service

Theoretical Modelings for Mobile Web Service QoE Assessment

Meng Zhang, Zhongyi Shen and Xin Zhang (Beijing University of Posts and Telecommunications, P.R. China); Longyuan Luan and Qi Ouyang (Huawei Technologies co., Ltd., P.R. China)

A Raptor Enabled Data Carousel for Enhanced File Delivery and QoS in 802.11 Multicast Networks

Berna Bulut, Denys Berkovskyy, Di Kong, Angela Doufexi and Andrew Nix (University of Bristol, United Kingdom)

Enhancement of Wireless Bandwidth Utilization through User's QoE

Harsha Chenji (Ohio University, USA); Zygmunt J. Haas (Cornell University & Wireless Networks Lab, USA)

QoS-distinguished Achievable Rate Region for High Speed Railway Wireless Communications

Tao Li and Pingyi Fan (Tsinghua University, P.R. China); Ke Xiong (Beijing Jiaotong University, P.R. China); Khaled B. Letaief (The Hong Kong University of Science and Technology, Hong Kong)

Distributed Cooperative MAC for Wireless Networks Based on Network Coding

Heng Qin and Ruonan Zhang (Northwestern Polytechnical University, P.R. China); Bin Li (Northwestern Polytechnical University, P.R. China); Lin Cai (University of Victoria, Canada)

Thursday March 12

16:00 - 17:30

#### MWN-24: Device-to-device communications

Hierarchical Cooperation for Operator-Controlled Device-to-Device Communications

Xiao Lu, Ping Wang and Dusit Niyato (Nanyang Technological University, Singapore)

A Novel Resource Allocation Scheme for D2D Communication Underlaying Small Cell Networks

Bin Wang (Beijing University of Posts and Telecommunications, P.R. China); Chang Yongyu (Beijing University of Posts & Telecommunications, P.R. China); Dacheng Yang (Beijing University of Posts and Telecommunications, P.R. China)

The Virtue of Selfishness: Device Perspective on Mobile Data Offloading

Sylvia T. Kouyoumdjieva (KTH, Royal Institute of Technology, Sweden); Gunnar Karlsson (KTH Royal Institute of Technology, Sweden)

Modeling and Characterization of Transmission Energy Consumption in Machine-to-Machine Networks

Mohammad Ghadir Khoshkholgh Dashtaki (UBC, Canada); Yan Zhang (Simula Research Laboratory and University of Oslo, Norway); Kang G. Shin (University of Michigan, USA); Victor CM Leung (The University of British Columbia, Canada); Stein Gjessing (University of Oslo & Simula Research Lab., Norway)

Communication Characteristic-Aware Signaling Traffic Optimization Method for Mobile Networks

Nobuhiro Azuma, Hiroki Baba, Minoru Matsumoto and Katsunori Noritake (NTT, Japan)

#### MWN-25: Wireless Networks 3

Incentive Mechanism in Crowdsourcing with Moral Hazard

Yanru Zhang, Yunan Gu and Lanchao Liu (University of Houston, USA); Miao Pan (Texas Southern University, USA); Zaher Dawy (American University of Beirut, Lebanon); Zhu Han (University of Houston, USA)

Fast Arbitrary Function Computation over a Wireless Network: A Linear Programming Approach

Samta Shukla (Rensselaer Polytechnic Institute & Indian Institute of Science, USA); Pooja Vyavahare (Indian Institute of Technology Bombay, India); Joy Kuri (Indian Institute of Science, India); D. Manjunath (IIT Bombay, India)

Visualization of Large Wireless Network Behavior Using Random Matrix Theory

Joseph Aribido, Terry Guo and Robert Caiming Qiu (Tennessee Tech University, USA)

ERDIA: An Efficient and Robust Data Integrity Algorithm for Mobile and Wireless Networks

Hassan Noura (CEA, France); Soran Hussein (University of Paris Sud 11, France); Steven Martin (Paris-Sud University, France); Lila Boukhatem (University Pars-Sud XI, France); Khaldoun Al Agha (University of Paris XI, France)

Decentralized Iterative Reweighted Algorithm for Recovery of Jointly Sparse Signals

Shan Jin (Texas A&M University, College Station, USA); Xi Zhang (Texas A&M University, ECE Department, USA)

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