

2012 International Conference on Wireless Communications and Signal Processing

(WCSP 2012)

**Huangshan, China
25 - 27 October 2012**

Pages 1-628



**IEEE Catalog Number: CFP1270H-PRT
ISBN: 978-1-4673-5830-9**

WCSP 2012 Technical Program

Communication Theory Symposium

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Wireless Communications Symposium

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Date: Oct. 25, 2012

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Room: Baisong Hall

Chair: Tiffany Jing Li, Lehigh University, USA

1. **Soft Message Relaying Through Chaotic Analog Coding** 600

Xuanxuan Lu, Tiffany Jing Li, Yang Liu (Lehigh University, USA); Xingkai Bao (Alcatel-Lucent, USA)

2. **The Application of Network Coding and Cooperative Diversity in Asymmetric Two-Way Relay Channel** 606

Xinsheng Chi, Baoyu Zheng (Nanjing University of Posts and Telecommunications, P.R. China)

3. **Wireless Space Network Coding for Cooperative Communications** 612

Dapeng Li, Haitao Zhao, Bo Huang, Nanjie Liu (Nanjing University of Posts and Telecommunications, P.R. China)

4. **On Forward Error Correction with Hamming Code for Multi-path Communications** 618

Junfeng Xu, Tao Zhang (China Information Technology Security Evaluation Center, P.R. China); Zhongding Dong (Beijing Jiaotong University, P.R. China)

5. **Non-Coded Rateless Multiple Access** 623

Zhaoyang Zhang, Shaolei Chen, Kedi Wu (Zhejiang University, P.R. China)

WCS-08: LTE and LTE-Advanced

Date: Oct. 26, 2012

Time: 16:00pm – 17:30pm

Room: Cuisong Hall

Chair: Shaodan Ma, University of Macau, P.R. China

1. **System-Level Performance of Coordinated Multi-Point Transmission for Heterogeneous Networks in LTE-Advanced Systems** 629

Xiaohan Lin, Shi Jin, Xiao Li, Xiqi Gao (Southeast University, P.R. China)

2. **A Novel Cell Selection Strategy with Load Balancing for Both Idle and RRC-Connected Users in 3GPP LTE Network** 634

Cen Qian, Sihai Zhang, Wuyang Zhou (University of Science and Technology of China, P.R. China)

3. **A Novel Dynamic Soft Frequency Reuse Combined with Power Re-allocation in LTE Uplinks** 640

Shui Xincui, Zhao Ming (University of Science and Technology of China, P.R. China); Peng Dong, Jia Kong (China Mobile Research Institute, P.R. China)

4. **A Practical HARQ Scheme with Network Coding for LTE-A Broadcasting System** 646

Zhenxing Lu, Kui Xu, Youyun Xu (PLA University of Science & Technology, P.R. China)

5. **An Efficient Resource Allocation Algorithm with Carrier Aggregation in LTE Advanced Systems** 652

Zanjie Huang, Baohua Zhao (University of Science and Technology of China, P.R. China); Yusheng Ji (National Institute of Informatics, Japan)

6. Cross Entropy Based Component Carrier Allocation in LTE-Advanced Wireless Communication System 658

Wang Ye, Peipei Chen (Harbin Institute of Technology Shenzhen Graduate School, P.R. China); Qinyu Zhang (Shenzhen Graduate School, Harbin Institute of Technology, P.R. China); Xiaodong Lin (University of Ontario Institute of Technology, Canada)

WCS-09: Spectrum Sensing in Cognitive Radio Networks (II)

Date: Oct. 26, 2012

Time: 16:00pm – 17:30pm

Room: Qingsong Hall

Chair: Hang Zhang, PLA University of Science & Technology, P.R. China

1. Double-Threshold Energy Detection of Spectrum Sensing for Cognitive Radio Under Noise Uncertainty Environment 664

Shujing Xie (Southeast University, P.R. China); Lianfeng Shen (National Mobile Communications Research Laboratory, Southeast University, P.R. China)

2. An Efficient Cooperative Spectrum Sensing Algorithm in Time Domain 669

Jun Luo, Jun Wang, Qiang Li, Shaoqian Li (University of Electronic Science and Technology of China, P.R. China)

3. Efficient Cooperative Spectrum Sensing with Minimum Sensing Error in Cognitive Radio Networks 675

Hang Hu, Lianguo Wu, Ning Li, Dongmei Zhang, Youyun Xu (PLA University of Science and Technology, P.R. China)

4. Seeking Justice: Lapsed Reputation-based Cooperative Spectrum Sensing with Lasting Trusted Nodes Assistance 681

Shuo Feng, Xueqiang Zheng, Junnan Yao, Guoru Ding (PLA University of Science and Technology, P.R. China)

5. Secure Enhanced Compressed Wideband Spectrum Sensing 687

Yao Gang, Baoyu Zheng, Junqing Chen (Nanjing University of Posts and Telecommunications, P.R. China)

WCS-10: Relaying and Relay Systems

Date: Oct. 26, 2012

Time: 16:00pm – 17:30pm

Room: Baisong Hall

Chair: Wen Chen, Shanghai Jiao Tong University, P.R. China

1. Fixed Full Duplex Relaying for Wireless Broadband Communication 692

Qingmin Meng, Wei Feng (Nanjing University of Posts and Telecommunications, Nanjing, Belgium); Gan Zheng, Symeon Chatzinotas, Björn Ottersten (University of Luxembourg, Luxembourg)

2. Outage Probability of Two-Way AF Relaying in the Presence of Channel Estimation Error and Co-Channel Interference 697

Zhuo Chen, Cai Yueming, Wang Lei (PLA University of Science and Technology, P.R. China)

3. Performance Analysis of Dual-Hop MIMO-MRC AF Relaying in the Presence of Co-Channel Interference at the Destination 702

Xiaoming Xu, Cai Yueming, Weiwei Yang (PLA University of Science and Technology, P.R. China); Peng Zhang (China Electronic System Engineering Company, P.R. China)

4. Outage Performance Analysis of Transmit Antenna Selection in MIMO Decode-And-Forward Relaying Over Nakagami-m Fading Channels 706

Yang Gao, Jianhua Ge (Xidian University, P.R. China); Ming Jin (Ningbo University, P.R. China)

5. Outage Probability Analysis of Asymmetrical Bi-Directional Multi-Relay Systems with Network Coding 711

Hua Tian, Wenwen Liang, Youyun Xu, Kui Xu, Lianguo Wu (PLA University of Science and Technology, P.R. China)

6. Asymptotic Energy Efficiency Analysis for Noisy Relay Systems with Interference-Limited Destination 716

Yuning Wang, Jianhua Zhang, Ping Zhang (Beijing University of Posts and Telecommunications, P.R. China)

WCS-11: MIMO and Multiple Antennas

Date: Oct. 27, 2012

Time: 8:45am – 10:15am

Room: Cuisong Hall

Chair: Gang Wu, University of Electronic Science and Technology of China, P.R. China

1. An Improved LR-aided K-Best Algorithm for MIMO Detection 721

Qi Zhou, Xiaoli Ma (Georgia Institute of Technology, USA)

2. Exploiting Statistical and Outdated CSI in Multiuser Downlink Transmission 726

Shi Jin, Jue Wang, Xiqi Gao (Southeast University, P.R. China); Michail Matthaiou (Chalmers University of Technology, Sweden)

3. The Interference of MIMO Transmission Modes in Downlink LTE Systems 732

Deli Jia, Gang Wu, Shaoqian Li (University of Electronic Science and Technology of China, P.R. China)

4. A Dual-Antenna Based Handover Scheme for GSM-R Networks 736

Pengyuan Du, Lujin Luo, Yongsan Ma, Chengnian Long (Shanghai Jiao Tong University, P.R. China)

5. Joint Iterative Decoding and MMSE-SIC VBLAST Detection of LDPC Coded MIMO Systems 742

Jianrong Bao, Xiaorong Xu, Bing Jiang (Hangzhou Dianzi University, P.R. China)

WCS-12: Collaborative and Cognitive Communications

Date: Oct. 27, 2012

Time: 8:45am – 10:15am

Room: Qingsong Hall

Chair: Lingyang Song, Peking University, P.R. China

1. MIMO Physical Layer Network Coding Based on VBLAST Detection (Invited) 747

Shengli Zhang, Canping Nie, Liya Lu, Qian Gongbin (Shenzhen University, P.R. China); Shengqi Zhang (ZTE Co. Shenzhen, P.R. China)

2. Investigation of Multi-Link Spatial Correlation Properties (Invited) 752

Xiang Cheng, Bingli Jiao (Peking University, P.R. China); Chengxiang Wang (Heriot-Watt University, United Kingdom); Ai Bo (Beijing Jiaotong University, P.R. China); Xuefeng Yin (Tongji University, P.R. China)

3. Energy-Efficient Feedback Communication based on the S-K Scheme in Cognitive Radio Systems (Invited) 759

Xiao Cai, Zhaoyang Zhang, Yu Zhang, Rui Yin, Caijun Zhong (Zhejiang University, P.R. China)

4. Noncoherent Amplify-and-Forward Cooperative OFDM in Block Fading Channels 765

Ye Yang, Jianhua Ge (Xidian University, P.R. China); Tsung-Hui Chang (Taiwan University of Science and Technology, Taiwan); Yin Sun (Tsinghua University, P.R. China)

5. A Novel Data Transmission Scheme for Two-Way Multiantenna AF Relay Systems 770

Jing Yang, Pingzhi Fan (Southwest Jiaotong University, P.R. China); Zhiguo Ding (Newcastle University, United Kingdom)

6. A Cooperative Transmission Scheme for Secondary Users in Cognitive Radio Networks 775

Jianbai Chen, Baoyu Zheng (Nanjing University of Posts and Telecommunications, P.R. China)

WCS-13: OFDM and OFDM Systems

Date: Oct. 27, 2012

Time: 8:45am – 10:15am

Room: Baisong Hall

Chair: Pengcheng Zhu, Southeast University, P.R. China

1. Physical Layer Signaling Transmission Using Walsh Sequences for OFDM Systems 780

Bo Hao, Jun Wang, Zhaocheng Wang (Tsinghua University, P.R. China)

2. A Modified SLM Scheme with Low Complexity for Reducing the PAPR of OFDM Systems Without Side Information 785

Jinwei Ji, Guangliang Ren (Xidian University, P.R. China)

3. Scalable Video Broadcast Over Multiuser OFDM Systems 791

Lan Tang, Xinggan Zhang, Yechao Bai (Nanjing University, P.R. China); Pengcheng Zhu (Southeast University, P.R. China)

4. Design and Implementation of OFDMA-based WLAN Prototype Systems 796

Damin Wu, Nan Bao, Weiwei Xia, Lianfeng Shen (Southeast University, P.R. China)

5. Fast Optimal Resource Allocation Algorithm for Multicast OFDM Systems 802

Zanjie Huang, Xiaoming Zhao, Chenguang He, Hao Zhou, Baohua Zhao (University of Science and Technology of China, P.R. China); Yu Gu (National Institute of Informatics, Japan)

WCS-14: Cooperative Communication and Jamming

Date: Oct. 27, 2012

Time: 10:45am – 12:15am

Room: Cuisong Hall

Chair: Shi Jin, Southeast University, P.R. China

1. Coded Cooperation in Asymmetric Two-Way Relay Networks 807

Qin Yuan, Sihai Zhang, Zhao Ming, Wuyang Zhou (University of Science and Technology of China, P.R. China)

2. Performance of Cooperative Amplify-and-Forward Protocols in Vehicular Ad-Hoc Networks 813

Zeinab Tirkan, Mehrdad Shirkhani, Abbas Taherpour (Imam Khomeini International University, Iran); Murat Uysal (Ozyegin University, Turkey)

3. Fairness Study on Two-Hop Selection Cooperation in Wireless Networks 819

Qian Zhang, Yuhua Dong, Xuedan Zhang, Sheng Zhang, Xiaokang Lin (Tsinghua University, P.R. China)

4. **Performance Analysis and Optimization of Two-Way Cooperative Communications in Inter-Vehicular Networks** 824

Mehrdad Shirkhani, Zeinab Tirkan, Abbas Taherpour (Imam Khomeini International University, Iran)

5. **Optimal Resource Allocation for OFDM Wiretap Channels with Cooperative Jammer** 830

Zhang-Ju Yu, Bao-Yun Wang, Yayan Ma, Junxi Zhao (Nanjing University of Posts and Telecommunications, P.R. China)

6. **Friendly Cooperation Jamming for Secrecy in LOS Channels** 834

Bin Yang, Wang Wenjie, Jiancun Fan, Qinye Yin (Xi'an Jiaotong University, P.R. China)

WCS-15: Channel Characterization and Capacity Analysis

Date: Oct. 27, 2012

Time: 10:45am – 12:15am

Room: Qingsong Hall

Chair: Xuefeng Yin, Tongji University, P.R. China

1. **MIMO-OFDM Wireless Channel Prediction by Exploiting Spatial Correlation** 838

Lihong Liu, Hui Feng, Bo Hu, Jianqiu Zhang (Fudan University, P.R. China)

2. **A Time-Variant MIMO Channel Model Based on the IMT-Advanced Channel Model** 844

Zhiyong Zhu, Yutao Zhu, Tiankui Zhang, Zhimin Zeng (Beijing University of Posts and Telecommunications, P.R. China)

3. **A Method for WSN Channel Modeling via Stochastic Differential Equations and Its Applications** 849

Luoquan Hu (Nanjing University of Posts and Telecommunications, P.R. China); Yiming Wang, Jia Hou, Shuqi Liu, Liulei Zhou (Soochow University, P.R. China)

4. **Capacity Analysis of Cognitive MISO Multicast Networks** 855

Jianbo Ji, Wen Chen (Shanghai Jiao Tong University, P.R. China); Renhua Ge (Guilin University of Aerospace Technology, P.R. China)

5. **Ergodic Capacity Region for the Uplink OFDMA Networks** 860

Zelang Wang, Huifang Chen, Lei Xie (Zhejiang University, P.R. China)

WCS-16: Resource Allocation and Scheduling

Date: Oct. 27, 2012

Time: 10:45am – 12:15am

Room: Baisong Hall

Chair: Xiang Cheng, Peking University, P.R. China

1. **User-Centric Compensation Framework with Universal Pricing for Hybrid Femtocell Networks** 866

Fei Shen, Eduard Jorswieck (Dresden University of Technology, Germany)

2. **Utility-Based Bandwidth Allocation Algorithm for Heterogeneous Wireless Networks** 872

Rong Chai, Xiujuan Wang, Qian-bin Chen (Chongqing university of Posts and telecommunications, P.R. China)

3. **Low-Complexity Energy-Efficient Resource Allocation in OFDMA Networks** 878

Qiaoling Yu, Gang Wu, Qian Tang, Shaoqian Li (University of Electronic Science and Technology of China, P.R. China)

4. **Enhanced Multiuser Scheduling Using Modified SLNR Metric with Outdated Partial CSI** 883

Ruichi Yu, Wei Xu (Southeast University, P.R. China); Binbin Dai (University of Toronto, Canada)

5. **Optimal Energy-Efficient Scheduling over Fading Channels with Non-ideal Circuit Power** 889

Yinghao Jin (University of Science and Technology of China, P.R. China); Jie Xu (National University of Singapore, Singapore); Ling Qiu (PCN&SS Lab, P.R. China)

6. **A Downlink User Speed Based Scheduling Algorithm for Mobile Systems with Time Multiplexing Pilot** 894

Yuzhuang Miao, Meng Ma, Xiang Cheng, Bingli Jiao (Peking University, P.R. China)

WCS-17: Detection and Channel Estimation

Date: Oct. 27, 2012

Time: 14:00pm – 15:30pm

Room: Baisong Hall

Chair: Xuefeng Yin, Tongji University, P.R. China

1. **A Low-Complexity Symbol-Level Differential Detection Scheme for IEEE 802.15.4 O-QPSK Signals** 900

Cong Wang, Yongpan Liu, Rong Luo, Huazhong Yang (Tsinghua University, P.R. China)

2. **Performance of Star 16QAM Using Iterative Decision-Directed Channel Estimation for DFT-Precoded OFDMA** 906

Chihiro Mori, Mamoru Sawahashi (Tokyo City University, Japan); Teruo Kawamura, Nobuhiko Miki (NTT DOCOMO, INC., Japan)

3. **Adaptive Doppler Frequency Shift Estimation for OFDM Systems** 912

Qinghua Tian, Qi Zhang, Xiangjun Xin, Dahsiung Hsu (Beijing University of Posts and Telecommunications, P.R. China)

4. **A Low-Complexity Time-Domain Channel Estimator for ZP-OFDM Systems** 917

Jiong Shi, Liping Jin, Zhaoxi Fang, Jungan Chen (Zhejiang Wanli University, P.R. China)

5. **On-Line and Dynamic Estimation of Rician Fading Channels in GSM-R Networks** 922

Yongsen Ma, Pengyuan Du, Xiaofeng Mao, Chengnian Long (Shanghai Jiao Tong University, P.R. China)

6. **Dynamic Range Selection for Antenna-Array Gains in High-Resolution Channel Parameter Estimation** 928

Xuefeng Yin, Yuandong Hu (Tongji University China, P.R. China); Zhimeng Zhong (Huawei Technology Company, P.R. China)

WCS-18: Wireless Green Communications

Date: Oct. 27, 2012

Time: 16:00pm – 17:30pm

Room: Baisong Hall

Chair: Xiaoli Ma, Georgia Institute of Technology, USA

1. **Energy-Efficiency of Very Large Multi-User MIMO Systems** 934

Hu Ying, Baofeng Ji, Yongming Huang, Luxi Yang (Southeast University, P.R. China)

2. **Dynamic User Association for Energy Minimization in Macro-Relay Networks** 939

Li Xin, Hao Wang, Nan Liu, Xiaohu You (Southeast University, P.R. China)

3. **Energy Efficiency Driven Random Access in WLAN Systems** 944

Shiyang Chen, Xiaoying Gan, He Li (Shanghai Jiao Tong University, P.R. China)

4. **Semi-Dynamic Switch on/off Algorithm over Multi-Pico Stations in Heterogeneous Networks** 950

You Fu, Zesong Fei, Chengwen Xing, Jingming Kuang (Beijing Institute of Technology, P.R. China); Wan Lei (Huawei Technology Ltd, P.R. China)

5. **Energy Savings Using an Adaptive Base Station to Relay Station Switching Paradigm** 955

ATM Shafiul Alam, Laurence S Dooley, Adrian Poulton (Open University, United Kingdom); Yusheng Ji (National Institute of Informatics, Japan)

6. **Decentralized Energy Management System for Charging and Discharging of Plug-in Electric Vehicles** 961

Chao-Kai Wen, Jen-Hao Teng (Sun Yat-Sen University, Taiwan); Jung-Chieh Chen (Kaohsiung Normal University, Taiwan); Pangan Ting (Tsing Hua University, Taiwan)

1. **A Lightweight Key Management Scheme for 60 GHz WPAN** 967

Ruixue Sun, Zhiguo Shi (Zhejiang University, P.R. China); Rongxing Lu, Jian Qiao, Sherman Shen (University of Waterloo, Canada)

2. **Distributed Coalition Formation for Selfish Relays and Eavesdroppers in Wireless Networks: A Job-Hopping Game** 973

Yang Cao, Jiaolong Wei (Huazhong University of Science and Technology, P.R. China)

3. **Experimental Study on Particle Filter Based Synchronization of Chaotic Colpitts Circuits with Application to Secure Communications** 979

Songjie Bi, Zhiguo Shi (Zhejiang University, P.R. China); Hongtao Zhang, Sherman Shen (University of Waterloo, Canada)

4. **Performance Analysis of Synchronization Based on One-Bit Quantization in Low SNR Multipath Regime** 985

Jin Zhu (Tsinghua University, P.R. China)

5. **HCVP: A Hybrid Cognitive Validation Platform for WBANs** 990

Junchao Han, Jing Liu, Hui Yu (Shanghai Jiao Tong University, P.R. China); Chen Chen, Shen Zhichun (China Samsung Telecom R&D Center, P.R. China)

6. **On the Secrecy Mutual Information of Spatial Modulation with Finite Alphabet** 996

Xinrong Guan, Cai Yueming, Weiwei Yang (PLA University of Science and Technology, P.R. China)

WCS-19: Miscellaneous Topics in Wireless Communications

Date: Oct. 27, 2012

Time: 16:00pm – 17:30pm

Room: Xuesong Hall

Chair: Zhiguo Shi, Zhejiang University, P.R. China

Wireless Networking Symposium

WNS-01: Medium Access Control

Date: Oct. 25, 2012

Time: 14:00pm – 15:30pm

Room: Baisong Hall

Chair: Xiaodong Lin, University of Ontario
Institute of Technology, Canada

1. **An Interference Tolerance Aware Multiple Access Protocol for Wireless Networks 1000**

Haiying Zhang, Jilong Liu, Mingwu Yao (Xidian University, P.R. China)

2. **A Distributed TDMA-Based MAC Protocol for Ad Hoc Networks with Directional Antennas 1006**

Dong Hao, Dan Pu Liu (Beijing University of Posts and Telecommunications, P.R. China)

3. **An Adaptive Collision-Free MAC Protocol Based on TDMA for Inter-Vehicular Communication 1012**

Weijie Guo, Liusheng Huang, Long Chen, Hongli Xu, Jietao Xie (University of Science & Technology of China, P.R. China)

4. **A Novel Hybrid Random Access Policy Based on Spectrum Occupation 1018**

Tong Zhang, Xiaorong Zhu, Shixiang Shao (Nanjing University of Posts and Telecommunications, P.R. China)

5. **Design of QSPM-MAC: Quasi-Synchronous Priority Multi-Channel MAC Access Protocol 1024**

Jingye Li, Jing Gao, Tao Luo, Guangxin Yue (Beijing University of Posts and Telecommunications, P.R. China)

WNS-02: Routing

Date: Oct. 25, 2012

Time: 14:00pm – 15:30pm

Room: Chisong Hall

Chair: Hangguan Shan, Zhejiang University,
P.R. China

1. **An Efficient Trust-Based Opportunistic Routing for Ad Hoc Networks 1030**

Wang Bo (Wuhan University, P.R. China)

2. **A Novel Spectrum-Aware Routing Protocol for Multi-hop Cognitive Radio Ad Hoc Networks 1037**

Sun Baoming Sun, Jianfeng Zhang, Wei Xie, Ning Li, Youyun Xu (PLA University of Science & Technology, P.R. China)

3. **A Vehicle Density and Load Aware Routing Protocol for VANETs in City Scenarios 1042**

Chunchun Zhao (Xidian University, P.R. China);
Changle Li (National Institute of Information and Communications Technology, Japan)

4. **Joint Routing and Channel Assignment with Switching Interval Maximization for Cognitive Radio Networks 1048**

Liren Lai, Jian Wang, Aiping Huang, Hangguan Shan (Zhejiang University, P.R. China)

5. **A Utility Based Relay Vehicle Selection Algorithm for VANET 1053**

Qian-bin Chen, Hongling Li, Bin Yang, Rong Chai (Chongqing University of Posts and Telecommunications, P.R. China)

WNS-03: Data Aggregation and Prediction

Date: Oct. 25, 2012

Time: 16:00pm – 17:30pm

Room: Baisong Hall

Chair: Changle Li, Xidian University, P.R. China

1. **On Real-Time Data Gathering in Next Generation Satellite-Routed Sensor System (SRSS) 1059**

Yuichi Kawamoto, Hiroki Nishiyama, Nei Kato (Tohoku University, Japan); Shinichi Yamamoto, Naoko Yoshimura, Naoto Kadowaki (National Institute of Information and Communications Technology, Japan)

2. **LPDA: A Lightweight Privacy-Preserving Data Aggregation Scheme for Smart Grid 1064**

Khalid Alharbi (Northern Borders University, Saudi Arabia); Xiaodong Lin (University of Ontario Institute of Technology, Canada)

3. **A New Data Gathering Scheme for Trajectory Constrained Mobile Sink in WSN 1070**

Zhongyu Zhang, Zunwen He, Jianguang Jia, Cunxiang Chen (Beijing Institute of Technology, P.R. China)

4. **A New Approach for Multi-Source Data Prediction in Wireless Sensor Networks: Collaborative Filtering 1076**

Mahdieh Inanloo, Majid Ashouri, Sanaz Gheibi, Ali Mohammad Afshin Hemmatyar (Sharif University of Technology, Iran)

WNS-04: Resource Allocation in Wireless Networks (I)

Date: Oct. 25, 2012

Time: 16:00pm – 17:30pm

Room: Chisong Hall

Chair: Lianfeng Shen, Southeast University,
P.R. China

1. **Dynamic Bandwidth Allocation in Mobile Hotspots 1082**

Younghyun Kim, Sangheon Pack (Korea University, Korea); Sherman Shen (University of Waterloo, Canada)

2. **A Dynamic Bandwidth Allocation Algorithm Based on Transmission Rate Adaptation in Heterogeneous Wireless Networks** 1088

Geng Chen, Jing Hu, Weiwei Xia, Lianfeng Shen (Southeast University, P.R. China)

3. **Energy-Efficient Radio Resource and Power Allocation for Device-to-Device Communication Underlying Cellular Networks** 1094

Feiran Wang, Chen Xu, Lingyang Song (Peking University, P.R. China); Zhu Han (University of Houston, USA); Baoxian Zhang (Graduate University of the Chinese Academy of Sciences, P.R. China)

4. **Joint Resource Allocation Method in Heterogeneous Wireless Networks Based on Genetic Algorithm** 1100

Li He (University of Electronic Science and Technology of China, Chengdu, P.R. China); Xin Su, Jie Zeng (Tsinghua University, P.R. China); Yujun Kuang (University of Electronic Science and Technology of China, P.R. China)

5. **Resource Allocation Scheme for Device-to-Device Communication Underlying LTE Downlink Network** 1105

Ran An, Jun Sun, Su Zhao, Shixiang Shao (Nanjing University of Posts and Telecommunications, P.R. China)

WNS-05: Resource Allocation in Wireless Networks (II)

Date: Oct. 26, 2012

Time: 14:00pm – 15:30pm

Room: Chisong Hall

Chair: Changle Li, Xidian University, P.R. China

1. **A Rate Allocation Scheme with Inter-Session Network Coding in Wireless Networks** 1110

Jiaqi Wang, Lei Xie, Huifang Chen, Kuang Wang (Zhejiang University, P.R. China)

2. **SuperSA: Superframe Design Based Slot Allocation in Wireless Body Area Networks for Healthcare Systems** 1115

Haoran Li, Cailian Chen, Wenbin Yu, Bo Yang, Xiping Guan (Shanghai Jiao Tong University, P.R. China)

3. **Low-Complexity Channel Reservation Design Scheme in Cognitive Radio Networks** 1121

Jian Wang, Aiping Huang (Zhejiang University, P.R. China)

4. **Virtual Cell-Breathing Based Load Balancing in Downlink LTE-A Self-Optimizing Networks** 1126

Shaojie Yang, Wei Zhang, Xinsheng Zhao (Southeast University, P.R. China)

5. **Adaptive Frame Size Control Based on Resource Allocation for Machine-to-Machine Services in LTE Wireless Networks** 1132

Ming He, Sha Luo, Xinsheng Zhao (Southeast University, P.R. China)

WNS-06: Miscellaneous Topics in Wireless Networks

Date: Oct. 26, 2012

Time: 16:00pm – 17:30pm

Room: Chisong Hall

Chair: Hangguan Shan, Zhejiang University, P.R. China

1. **Multi-Hop Network Localization in Multi-Radius Unit Disk Graph Model** 1137

Phisan Kaewprapha, Tiffany Jing Li, Nattakan Puttarak (Lehigh University, USA)

2. **RSS-Based Efficient Grid-Scan Localization Algorithm in Wireless Sensor Networks** 1143

Xinming Zhang, Zhigang Duan, Zhenzhong Dong (University of Science and Technology of China, P.R. China)

3. **Two-Phase Demand Response Based on Privacy-Preserving Billing for Smart Grid** 1149

Ying Bi, Abbas Jamalipour (University of Sydney, Australia)

4. **An Anti-Blocking Scheme with Spatial Reuse for mmWave Wireless Networks** 1155

Guangcan Yan, Dan Pu Liu (Beijing University of Posts and Telecommunications, P.R. China)

5. **Pre-Synchronization of AVS Audio-Video Based on Real-Time Transport Protocols** 1161

Lei Wang, Weiqiang Wu, Changjian Zhang, Qinyu Zhang (Harbin Institute of Technology Shenzhen Graduate School, P.R. China)

6. **Designing and Implementing of Multimode Wireless Gateway for VANETs** 1168

Yunchuan Mao, Weiwei Xia, Lianfeng Shen (Southeast University, P.R. China); Yi Wu (Fujian normal university, P.R. China)

WNS-07: Network and User Selection

Date: Oct. 27, 2012

Time: 8:45am – 10:15am

Room: Chisong Hall

Chair: Cheng Li, Memorial University of Newfoundland, Canada

1. **Network Selection Strategy for Cognitive Radios with Heterogeneous Primary Networks** 1173

Zeng Anmin, Wang Ye, Qinyu Zhang, Bin Cao (Harbin Institute of Technology Shenzhen Graduate School, P.R. China); Rongxing Lu (University of Waterloo, Canada)

2. **Network Selection in Heterogeneous Wireless Networks Using Learning Automata** 1179

Peng Han, Hua Tian, Wei Xie, Wei Zhong, Ning Li
(PLA University of Science and Technology, P.R. China)

3. **Risk-Sensitive Learners in Network Selection Games** 1185

Manzoor Ahmed Khan (TU Berlin, Germany);
Hamidou Tembine (Supelec, France)

4. **Relay Vehicle Based Access Network Selection Scheme for Vehicular Ad Hoc Network** 1191

Qiong Huang, Yibo Yang, Rong Chai, Qianbin Chen
(Chongqing university of Posts and telecommunications, P.R. China)

5. **A New Handover Mechanism for Femtocell-to-Femtocell** 1197

Yidan Zhuang, Su Zhao, Xiaorong Zhu (Nanjing University of Posts and Telecommunications, P.R. China)

6. **On User Selection in Cognitive Broadcast Channels** 1201

Caijun Zhong (Zhejiang University, P.R. China);
Tharmalingam Ratnarajah (The University of Edinburgh, United Kingdom)

WNS-08: QoS and Performance Optimization

Date: Oct. 27, 2012

Time: 10:45am – 12:15pm

Room: Chisong Hall

Chair: Cailian Chen, Shanghai Jiao Tong University, P.R. China

1. **A Scheme for End-to-End QoS Provisioning in Wireless Networks** 1206

Zai-Jian Wang, Yuning Dong, Haitao Zhao, Fang Shuguang (Nanjing University of Posts and Telecommunications, P.R. China)

2. **Lifetime Optimization for Wireless Multihop Networks with Network Coding** 1211

Lianghui Ding (Shanghai Jiao Tong University, P.R. China); Ping Wu (Uppsala University, Sweden);
Zhiwen Pan, Xiaohu You (Southeast University, P.R. China)

3. **VoD Streaming Service Scheduling to Minimize the Distortion** 1217

SooYoung Jang, Chae Y. Lee (KAIST, Korea)

4. **Physical Link Optimization in Programmable Mobile Ad Hoc Networks with the Aids of Agent Mobility** 1222

Zhenqiang Mi, Yang Yang, Zhang Tao (University of Science and Technology Beijing, P.R. China)

5. **Fault-Tolerant Dispersion of Mobile Agents Based on Mobile Ad Hoc Networks** 1228

Zhenqiang Mi, Yang Yang, Hao Ding (University of Science and Technology Beijing, P.R. China)

6. **On Improved MANET Network Utilization** 1233

Zhijiang Chang, Georgi Gaydadjiev (Delft University of Technology, The Netherlands)

WNS-09: Interference Coordination and Mitigation

Date: Oct. 27, 2012

Time: 14:00pm – 15:30pm

Room: Chisong Hall

Chair: Zhiwen Pan, Southeast University, P.R. China

1. **A Decentralized Interference Coordination Method for OFDMA Femtocell Networks** 1239

Shujun Wang, Yuan Zhang, Guangguo Bi (Southeast University, P.R. China)

2. **A Cluster-based TDMA Interference Mitigation Scheme for Heterogeneous Network Convergence** 1244

Can Zhao, Yang Du (Zhejiang University, P.R. China); Zhi Yuan (Shanghai Research Center for Wireless Communications, P.R. China)

3. **Interference Mitigation in Two-Tier OFDMA Femtocell Networks: A Potential Game Approach** 1250

Hao Wu, Hailun Xia, Chunyan Feng, Sainan Li (Beijing University of Posts and Telecommunications, P.R. China)

4. **Iterative Receiver with Interference Suppression for LTE Systems** 1255

Jiancun Fan, Xinmin Luo, Ying Zhang (Xi'an Jiaotong University, P.R. China)

5. **Interference Coordination Mechanism for Device-to-Device Communication in Uplink Period Underlying Cellular Networks** 1261

Di Zhang, Liao Xuewen, Jianguo Deng (Xi'an Jiaotong University, P.R. China); Wei Wang (South Dakota State University, USA)

WNS-10: Modeling and Performance Analysis

Date: Oct. 27, 2012

Time: 16:00pm – 17:30pm

Room: Chisong Hall

Chair: Zaichen Zhang, Southeast University, P.R. China

1. **Modeling for Spectrum Handoff Based on Secondary Users with Different Priorities in Cognitive Radio Networks** 1266

Lei Zhang, Tiecheng Song, Min Wu, Jie Guo, Dafei Sun, Bin Gu (Southeast University, P.R. China)

2. **An Enhanced Cell Reselection Mechanism and Network Analysis Model in 3G/LTE Heterogeneous System** 1272

Xinran Zhang, Hao Jin, Xiaodong Ji, Yuwei Jia, Wenbo Wang, Mugen Peng (Beijing University of posts and Telecommunications, P.R. China)

3. **Fairness and Capacity Analysis of Opportunistic Feedback Protocol with Proportional Fair or Maximum Throughput Scheduling 1278**

*Hang Li, Qinghua Guo, Licai Fang, Defeng Huang
(University of Western Australia, Australia)*

4. **Packet Spreading without Relaying in Mobile Wireless Networks 1283**

Huazi Zhang, Zhaoyang Zhang, Shaolei Chen

(Zhejiang University, P.R. China); Huaiyu Dai (NC State University, USA)

5. **Connectivity of Mobile Cognitive Radio Networks with Random Waypoint Movement 1289**

Shuqi Liu, Yiming Wang, Cuimei Cui, Liulei Zhou, Rong Chen (Soochow University, P.R. China)