

Wednesday, 8 August·14:00-15:30  
Room 3

**AI01: Routing and Network Traffic design**

**Chair: Liang Jiao (Shandong University, China)**

**PeTeXCP: TeXCP-based Online Traffic Engineering with Penalty Envelop**

Zenghua Zhao, Hao Li and Lianfang Zhang  
(Tianjin University, China)

**MRS: A Click-based Multipath Routing Simulator**

Liang Jiao (Shandong University, China),  
Donghong Qin, Jiahai Yang (Tsinghua  
University, China), Liansheng Ge and Fenglin  
Qin (Shandong University, China)

**Bandwidth Configuration for Fractional  
Brownian Motion Traffic**

Xian Liu (University of Arkansas at Little Rock,  
USA), Seung-Ki Ryu, Yoon-Seuk Oh (Korea  
Institute of Construction Technology, Korea)  
and Jung H. Kim (University of Arkansas at  
Little Rock, USA)

**Play Patterns for Path Prediction in  
Multiplayer Online Games**

Jacob Agar, Jean-Pierre Corriveau and Wei Shi  
(Carleton University, Canada)

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Thursday, 9 August·14:00-15:30  
Room 3

**AI02: Internet Networking**

**Chair: Jiankang Yao (Chinese Academy of  
Sciences, China)**

**Parallelizing Sequential Network  
Applications with Customized Lock-Free  
Data Structures**

Junchang Wang, Kai Zhang and Bei Hua  
(University of Science and Technology of China,  
China)

**On the Feasibility of Common-Friend  
Measurements for the Distributed Online  
Social Networks**

Yongquan Fu and Yijie Wang (National  
University of Defense Technology, China)

**A Method for DNS Names Identical  
Resolution**

Jiankang Yao and Wei Mao (Chinese Academy  
of Sciences, China)

**Availability Analysis of DNSSEC Resolution  
and Validation Service**

Yong Wang, Xiaochun Yun, Yao Yao and Gang  
Xiong (Institute of Computing Technology,  
Chinese Academy of Sciences, China)

Wednesday, 8 August · 14:00-15:30  
Room 4

**FC01: Advances in Wireless Networks I (Joint Session with Multimedia Communications)**

**Chair: Yanzhao Hou (Beijing University of Posts and Telecommunications, China)**

**Adaptive Bayesian Compressed Sensing Based Localization in Wireless Networks**

Yuan Zhang, Zhifeng Zhao and Honggang Zhang (Zhejiang University, China)

**GPP-based Soft Base Station Designing and Optimization**

Xiaofeng Tao, Yanzhao Hou, Haiyang He, Kaidong Wang and Yingyue Xu (Beijing University of Posts and Telecommunications, China)

**Survey of Large Scale MIMO and Key Technologies**

Xin Su (Tsinghua University, China), Liping Rong (University of Electronic Science and Technology of China, China), Jie Zeng (Tsinghua University, China) and Yujun Kuang (University of Electronic Science and Technology of China, China)

**Invited Paper: A radio over fiber link for the wireless distribution of 3-Gb/s uncompressed HD video**

Shilong Pan and Zhenzhou Tang (Nanjing University of Aeronautics and Astronautics, China)

**PNN-Based QoE Measuring Model for Video Applications over LTE System**

Yuan He, Chao Wang, Hang Long and Kan Zheng (Beijing University of Posts and Telecommunications, China)

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Thursday, 9 August · 14:00-15:30  
Room 4

**FC02: Relay Networks**

**Chair: Hong Xing (King's College London, UK)**

**Invited Paper: Secure Resource Allocation for OFDMA Two-Way Relay Networks via Cooperative Jamming**

Hong Xing (King's College London, UK), Haijun Zhang (Beijing University of Posts and Telecommunications, China), Zhiguo Ding (Newcastle University, UK), Xiaoli Chu (the University of Sheffield, UK) and Arumugam Nallanathan (King's College London, UK)

**Detection Algorithms for Physical Network Coding**

Chengkang Pan, Jianjun Liu and Zhenping Hu (China Mobile Research Institute, China)

**Detection on two-way relay MIMO channels**

Xindang Lin, Runde Xu and Guoguang Hu (Aeronautical Military Representatives Office of Navy, China)

**SOPC-Based Cooperative Awareness Nodes in Smart Multimedia Sensor Networks**

Yi Zhou, Huiping Li, Chunlin Wang, Zhentao Hu and Yong Jin (Henan University, China)

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Thursday, 9 August · 16:00-17:30  
Room 4

**FC03: Smart Grid**

**Chair: Jie Du (Information Center, Yunnan Power Grid Company, China)**

**Research and application on LTE technology in smart grids**

Jie Du (Information Center, Yunnan Power Grid Company, China) and Manli Qian (Institute of Computing Technology, Chinese Academy of Sciences, China)

**On Constructing a LTE-based Experimental Network in Power Distribution Systems**

Wei Wu, Yu Gong and Kunli Yang (Information Center, Yunnan Power Grid Company, China)

**The Research of Time Unified System In Smart Grid**

Yao Lv (Information Center, Yunnan Power Grid Company, China), Jianjuan Wang and Yunlong Luo (Kunming Power Supply Bureau, China)

**Optimal Exploitation of Renewable Energy for Residential Smart Grid with Supply-Demand Model**

Yuan Wu (Zhejiang University of Technology, China), Vincent K.N. Lau (Hong Kong University of Science and Technology, Hong Kong), Liping Qian and Limin Meng (Zhejiang University of Technology, China)

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Friday, 10 August·8:30-10:00  
Room 2

**FC04: Cognitive Radio**

**Chair: Lingyang Song (Peking University, China)**

**Invited Paper: Cooperative Interference Mitigation for Indoor Dense Femtocell Networks**

Joyce Y. Wu (King's College London, UK), Jimin Liu, Jiming Chen (Ranplan Wireless Network Design Ltd., UK) and Xiaoli Chu (King's College London, UK)

**Joint Spectrum Sensing and Channel Access for Collaborative Data Dissemination in Cognitive VANETs**

Tianyu Wang, Lingyang Song (Peking University, China), Zhu Han (University of Houston, USA) and Li Zhang (University of Leeds, UK)

**Downlink Subchannel Power Allocation for Multicell WRANs Considering Inter-Cell Interference**

Yingting Liu, Chenxi Li (Gansu Electric Power Corporation, China), Xiaofeng Lu, Hailin Zhang and Yachuan Bao (Xidian University, China)

**A Hybrid Overlay/Underlay Waveform for**

**Cognitive Radio Associated With Fractional Fourier Transform**

Xiaocheng Song, Jun Shi and Xuejun Sha (Harbin Institute of Technology, China)

**Optimal Channel Selection for Cooperative Spectrum Sensing Using Coordination Game**

Yuhua Xu, Zhan Gao and Wei Tian (Institute of Communications Engineering, China)

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Friday, 10 August·16:00-17:30  
Room 4

**FC05: Advances in Wireless Networks II**

**Chair: Juan Han (Institute of Computing Technology, Chinese Academy of Sciences, China)**

**Invited Paper: Intelligent Decision Strategy for Adaptive Resource Management in Wireless Cognitive Network**

Zhenbang Wang and Zhenyong Wang (Harbin Institute of Technology, China)

**Invited Paper: A modified Pilot Assisted Orthogonal Matching Pursuit Algorithm Based on Channel Sparsity for OFDM**

Yuxing Peng, Guangwei Li, Wenbo Wang and Xin Kang (Beijing University of Posts and Telecommunications, China)

**A Simplified MMSE PSIC MIMO Detector for Turbo Receivers**

Juan Han, Qiuju Wang, Wei Ren, Shan Tang and Jinglin Shi (Institute of Computing Technology, Chinese Academy of Sciences, China)

**Stochastic Delay Analysis for 802.11 Protocols with Self-similar Traffic**

Jie Zhang, Li Yu, Lie Jiang and Jingjing Luo (Huazhong University of Science and Technology, China)

**Design and Implementation of a Low-cost Fault-Tolerant On-Board Computer for Micro-Satellite**

TECHNICAL SESSIONS  
Frontiers on Communications Symposium

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Shiqiang Tian, Zuobia Yin, Jian Yan and  
Xuming Liu (Tsinghua University, China)

Wednesday, 8 August·16:00-17:30  
Room: 5

**ICT01: Network Coding and Modulation**

**Chair: Zesong Fei (Beijing Institute of Technology, China)**

**An Efficient Joint Network Coding Modulation Scheme**

Fan Yang, Zhanji Wu, and Xiang Gao (Beijing University of Posts & Telecommunications, China)

**On the Performance of Two-way Relaying with Dirty Paper Coding**

Bingquan Li, Shuo Li, Xiang Ji, Jiqing Ni, Chengwen Xing and Zesong Fei (Beijing Institute of Technology, China)

**Physical-layer Network Coding in OFDM System: Analysis and Performance**

Xun Wang, Ying Xu and Zhiyong Feng (Beijing University of Posts & Telecommunications, China)

**Message Delivery Probability of Two-Hop Relay with Erasure Coding in MANETs**

Jiajia Liu (Tohoku University, Japan), Xiaohong Jiang (Future University Hakodate, Japan), Hiroki Nishiyama, and Nei Kato (Tohoku University, Japan)

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Thursday, 9 August·16:00-17:30  
Room 5

**ICT02: Channel Coding and Capacity (Joint Session with Network and Information Security)**

**Chair: Shoujun Huang (Institute of Computing Technology, Chinese Academy of Sciences, China)**

**Study on AR4JA Code in Deep Space Fading Channel**

Hui Li (Harbin Institute of Technology, China), Jianan Gao (Jiangsu University of Science and

Technology, China), Mingchuan Yang, Gu Lv, Ming Li and Qing Guo (Harbin Institute of Technology, China)

**Capacity and Loading Analysis of Digital Channelized SATCOM System**

Chunli Liu, Jian Yan, Xiang Chen and Shunliang Mei (Tsinghua University, China)

**Improving Flash Memory Reliability with Dynamic Thresholds: Signal Processing and Coding Schemes**

Wang Kang, Youguang Zhang, Mingbang Wang, and Guoyan Li (Beihang University, China)

**Secrecy Capacity of Wireless Links Subject to Log-Normal Fading**

Xian Liu (University of Arkansas at Little Rock, USA)

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Friday, 10 August·8:30-10:00  
Room 3

**ICT03: Cellular Networks**

**Chair: Jeffrey Zheng (Yunnan University, China)**

**Show Difference: Symmetric Distribution of Cellular Automata Under Variant Logical Framework**

Jie Wan and Jeffrey Z.J. Zheng (Yunnan University, China)

**Global Classifications of Cellular Automata Functions on Variant Logic Framework**

Jie Wan and Jeffrey Z.J. Zheng (Yunnan University, China)

**New Bounds on the Sum-of-squares Indicator**

Yu Zhou, Xinfeng Dong, Wenzheng Zhang and Bing Zeng (Science and Technology on Communication Security Laboratory, China)

**Distributed Cooperative Spectrum Sensing Strategy Based on the Joint Use of Network Coding and Transform-Domain Processing**

Xuan-li Wu, Ming-xin Luo, Lai-wei Jiang and

TECHNICAL SESSIONS  
Information and Coding Theory Symposium

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Lu-kuan Sun (Harbin Institute of Technology,  
China)

Wednesday, 8 August·14:00-15:30  
Room 5

**MC01: Advances in Multimedia Communications**

**Chair: Bing Zeng (The Hong Kong University of Science and Technology, Hong Kong)**

**Improved Perceptual Video Encryption Using Multiple 8x8 Transforms in MPEG-4**

Siu-Kei Au Yeung and Bing Zeng (The Hong Kong University of Science and Technology, Hong Kong)

**Visual Quality Control for Perceptual Video Encryption with Multiple Transforms**

Siu-Kei Au Yeung and Bing Zeng (The Hong Kong University of Science and Technology, Hong Kong)

**An Individual-Indicator QoE Model with Test Samples and Methods for Mobile Streaming Services on Smaller Size Handheld Devices**

Jiaqi Xu, Fang Wei (Beijing University of Posts and Telecommunications, China), Xi Liu, Tao Wen and Hongyan Yan (China Mobile Research, China)

**An AM-Compatible Hybrid Modulation for Broadcasting**

Wei Wang, Lenan Wu and Bingcheng Zhu (Southeast University, China)

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Wednesday, 8 August·14:00-15:30  
Room 4

**FC01: Advances in Wireless Networks I (Joint Session with Multimedia Communications)**

**Chair: Yanzhao Hou (Beijing University of Posts and Telecommunications, China)**

**Adaptive Bayesian Compressed Sensing Based Localization in Wireless Networks**

Yuan Zhang, Zhifeng Zhao and Honggang

Zhang (Zhejiang University, China)

**GPP-based Soft Base Station Designing and Optimization**

Xiaofeng Tao, Yanzhao Hou, Haiyang He, Kaidong Wang and Yingyue Xu (Beijing University of Posts and Telecommunications, China)

**Survey of Large Scale MIMO and Key Technologies**

Xin Su (Tsinghua University, China), Liping Rong (University of Electronic Science and Technology of China, China), Jie Zeng (Tsinghua University, China) and Yujun Kuang (University of Electronic Science and Technology of China, China)

**Invited Paper: A radio over fiber link for the wireless distribution of 3-Gb/s uncompressed HD video**

Shilong Pan and Zhenzhou Tang (Nanjing University of Aeronautics and Astronautics, China)

**PNN-Based QoE Measuring Model for Video Applications over LTE System**

Yuan He, Chao Wang, Hang Long and Kan Zheng (Beijing University of Posts and Telecommunications, China)

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Friday, 10 August·14:00-15:30  
Room 2

**WCN12: Wireless Networks III (Joint Session with Multimedia Communications)**

**Chair: Heung-Gyoon Ryu (Chungbuk National University, Korea)**

**Adaptive NLMS Pre-distorter of HPA with Memory Effect**

Junyeong Bok, Dong Geon An (Chungbuk National University, Korea), Byung Gak, Gwang Hoon (Agency for Defense Development, Korea) and Heung-Gyoon Ryu (Chungbuk National University, Korea)

**Performance Analysis and Comparison of a  
Priority-based Polling Model**

Zhuguan Liang, Dongfeng Zhao, Hongwei Ding, Qianlin Liu and Yifan Zhao (Yunan University, China)

**A Contention Window Adaptive MAC  
Protocol for Wireless Sensor Networks**

Weixia Zou, Erfei Wang, Zheng Zhou, Weihua Li (Wireless Network Lab, Beijing University of Posts and Telecommunications) and Yabin Ye (European Research Center, Huawei Technologies Duesseldorf GmbH, Germany)

**An Improvement of Soft-Cast Decoding  
Algorithm**

Qing Li, Yu Liu, Bin Li and Lin Zhang (Beijing University of Posts and Telecommunications, China)



Wednesday, 8 August·16:00-17:30  
Room 4

**NIS01: Advances in NIS I**

**Chair: Jiang Li (Old Dominion University, USA)**

**PRNG Based on the Variant Logic**

Weizhong Yang and Zhijie Zheng (Yunnan University, China)

**Hierarchical Activeness State Evaluation Model for BBS Network Community**

Xiuzhen Chen, Jianhua Li, Shenghong Li and Yanan Wang (Shanghai Jiaotong University, China)

**BCE: a Privacy-preserving Common-friend Estimation Method for Distributed Online Social Networks without Cryptography**

Yongquan Fu and Yijie Wang (National University of Defense Technology, China)

**Feature Selection for RFID Tag Identification**

Debrup Banerjee, Jiang Li (Old Dominion University, USA), Jia Di and Dale R. Thompson (University of Arkansas, USA)

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Thursday, 9 August·14:00-15:30  
Room 5

**NIS02: Advances in NIS II**

**Chair: Tao Li (Southeast University, China)**

**Multi-Process Privacy Theft Malware Detection with Privacy Petri Net**

Lejun Fan, Yuanzhuo Wang, Xueqi Cheng, Jinming Li and Shuyuan Jin (Institute of Computing Technology, Chinese Academy of Sciences, China)

**A Private-data Protection Mechanism for Trusted Mobile Platform**

Tao Li and Aiqun Hu (Southeast University, China)

**An Empirical Study of Morphing on Network**

**Traffic Classification**

Buyun Qu (Institute of Information Engineering, Chinese Academy of Sciences, China), Zhibin Zhang, Le Guo (Institute of Computing Technology, Chinese Academy of Sciences, China), Xingquan Zhu (University of Technology, Sydney, Australia), Li Guo and Dan Meng, (Institute of Information Engineering, Chinese Academy of Sciences, China)

**Efficient Transitive Trust Model for Mobile Terminal**

Li Tao and Aiqun Hu (Southeast University, China)

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Friday, 10 August·8:30-10:00  
Room 4

**NIS03: Advances in NIS III**

**Chair: Lejun Fan (Chinese Academy of Sciences, China)**

**Finding Community Structure in Complex Network Based on Latent Variables**

Lin Li, Songnian Lu, Shenghong Li and Zhengmin Xia (Shanghai Jiaotong University, China)

**A Research on Vulnerability Discovering for Router Protocols Based on Fuzzing**

Zhiqiang Wang (Xidian University, China), Yuqing Zhang and Qixu Liu (Graduate University of the Chinese Academy of Sciences, China)

**Accelerating Regular Expression Matching: Efficient Sparse Matrix Storage on FPGAs**

Lei Jiang (Institute of Information Engineering, Chinese Academy of Sciences, China), Qiu Tang (Capital Normal University, China) and Jianlong Tan (Institute of Information Engineering, Chinese Academy of Sciences, China)

**Trojan Behavior Analysis and Detection Based on Colored Petri Nets**

Yuanzhuo Wang, Li Wang, Lejun Fan, Xueqi

Cheng and Jinming Li (Institute of Computing Technology, Chinese Academy of Sciences, China)

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Thursday, 9 August 16:00-17:30  
Room 5

**ICT02: Channel Coding and Capacity  
(Joint Session with Network and  
Information Security)**

**Chair: Shoujun Huang (Institute of  
Computing Technology, Chinese Academy of  
Sciences, China)**

**Study on AR4JA Code in Deep Space Fading  
Channel**

Hui Li (Harbin Institute of Technology, China),  
Jianan Gao (Jiangsu University of Science and  
Technology, China), Mingchuan Yang, Gu Lv,  
Ming Li and Qing Guo (Harbin Institute of  
Technology, China)

**Capacity and Loading Analysis of Digital  
Channelized SATCOM System**

Chunli Liu, Jian Yan, Xiang Chen and  
Shunliang Mei (Tsinghua University, China)

**Improving Flash Memory Reliability with  
Dynamic Thresholds: Signal Processing and  
Coding Schemes**

Wang Kang, Youguang Zhang, Mingbang Wang,  
and Guoyan Li (Beihang University, China)

**Secrecy Capacity of Wireless Links Subject  
to Log-Normal Fading**

Xian Liu (University of Arkansas at Little Rock,  
USA)

Wednesday, 8 August 14:00-15:30  
Room 2

**OCN01: Flexible Optical Networks**  
**Chair: Jie Zhang (Beijing University of Posts and Telecommunications, China)**

**Invited Talk: Dynamic Routing and Spectrum Assignment Algorithms in Flexible Optical Networks: An Overview**

Nan Hua, Yang Liu, Xin Wan, Xiaoping Zheng (Tsinghua University, China), and Zhigang Liu (Institute of China Electronic Equipment System Engineering Company, China)

**Invited Talk: Efficient Planning and Provisioning of Flexible-Grid Optical Networks with Adaptive Genetic Algorithms**

Zuqing Zhu, Xiang Zhou, Wei Lu and Long Gong (University of Science and Technology of China, China)

**Shared Path Protection based on Spectrum Reserved Matrix Model in Bandwidth-Variable Optical Networks**

Congyuan Yang, Nan Hua and Xiaoping Zheng (Tsinghua University, China)

**Consecutiveness Loss-Aware Routing and Spectrum Assignment Algorithm in Flexible Bandwidth Optical Networks**

Xinbo Wang, Yongli Zhao, Jiawei Zhang, Xiaosong Yu and Jie Zhang (Beijing University of Posts and Telecommunications, China)

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Thursday, 9 August 14:00-15:30  
Room 2

**OCN02: Optical Networking I**  
**Chair: Xiaoping Zheng (Tsinghua University, China)**

**Invited Talk: Cost-effective Survivable Optical Access Network Planning in FTTx**

Wei Guo, Zhicheng Zhang and Weisheng Hu (Shanghai Jiao Tong University, China)

**Invited Talk: Experimental Demonstration of Content Sharing on Service-Oriented Optical Internet**

Hui Li, Lipeng Wang and Yufeng Ji (Beijing University of Posts and Telecommunications, China)

**Load Balancing Algorithm based Virtual Machine Dynamic Migration Scheme for Datacenter Application with Optical Networks**

Xinyu Zhang, Yongli Zhao, Xin Su, Ruiying He, Weiwei Wang and Jie Zhang (Beijing University of Posts and Telecommunications, China)

**A Novel Service-Aware Routing Algorithm in Flexible Bandwidth Optical Networks**

Xiaohan Liu, Lin Wang, Yongli Zhao, Xiaosong Yu, Shanguo Huang and Jie Zhang (Beijing University of Posts and Telecommunications, China)

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Friday, 10 August 10:30-12:00  
Room 3

**OCN03: Optical Networking II**  
**Chair: Wei Guo (Shanghai Jiao Tong University, China)**

**Invited Talk: Pre-configured Polyhedron (p-poly) Based Protection Structure against Multi-link Failures in Optical Networks**

Shanguo Huang, Jie Zhang, Xin Li, Yongli Zhao and Wanyi Gu (Beijing University of Posts and Telecommunications, China)

**Implementation of Segmented Protection and Restoration in PCE-based Multi-domain Heterogeneous Optical Networks**

Wangyang Liu, Qingshan Li, Rui Lu, Xin Wan, Nan Hua, Xiaoping Zheng, Bingkun Zhou (Tsinghua University, China), Xiaohui Chen and Pi Wang (Fiberhome Telecommunication Technologies Co., Ltd, China)

**Analysis of Blocking Probability for OFDM-based Bandwidth-Variable Optical**

### **Networks**

Yongli Zhao, Jie Zhang, Jiawei Zhang and Wanyi Gu (Beijing University of Posts and Telecommunications, China)

#### **A Novel CoS-enabled Path Selection algorithm with Traffic Grooming Function for Multi-Layer Optical Networks**

Xin Chen, Min Zhang, Lei Wang, Lifang Zhang, Hui Ding and Shanguo Huang (Beijing University of Posts and Telecommunications, China)

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Friday, 10 August · 14:00-15:30  
Room 3

#### **OCN04: Optical Transmission Technology**

**Chair: Fan Zhang (Peking University, China)**

#### **Invited Talk: Optical Performance Monitoring in High-speed Reconfigurable Optical Fiber Communication Networks**

Changyuan Yu (1. National University of Singapore, Singapore; 2. A\*STAR Institute for Infocomm Research (I2R), Singapore)

#### **Invited Talk: Experimentally Demonstration of subband Add-drop, Switching and Power Equalization functionalities on Optical Superchannel**

Juhao Li, Yuanxiang Chen, Chunxu Zhao, Yongqi He, and Zhangyuan Chen (Peking University, China)

#### **Approximate Performance Study of Non-line-of-sight Ultraviolet Communication Links in Noncoplanar Geometry**

Yong Zuo, Houfei Xiao, Wenbo Zhang, Haoran Xu and Jian Wu (Beijing University of Posts and Telecommunications, China)

#### **Receiver Design for Underwater Wireless Optical Communication Link based on APD**

Shijian Tang, Yuhan Dong and Xuedan Zhang (Tsinghua University, China)

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Friday, 10 August · 16:00-17:30  
Room 3

#### **OCN05: Coherent & Wireless Optical Communications**

**Chair: Changyuan Yu (National University of Singapore, Singapore)**

#### **Invited Talk: Terabit Coherent Optical Transmission with Frequency Domain Equalization**

Fan Zhang, Zhangyuan Chen, Chunxu Zhao, Xi Fang and Chuanchuan Yang (Peking University, China)

#### **An OOK Based Visible Light Communication System for Short Distance**

Ning Hao, Minglun Zhang and Yang'an Zhang (Beijing University of Posts and Telecommunications, China)

Wednesday, 8 August·16:00-17:30  
Room 3

**SPC01: Array Signal Processing I**

**Chair: Lei Zhang (Huawei Technologies Corp., China)**

**Invited Paper: QoS Constrained Robust MIMO Transceiver Design Under Unknown Interference**

Xin He, Jianwu Chen and Yik-Chung Wu (The University of Hong Kong, Hong Kong)

**PAPR Reduction Scheme Based on Nonlinear Companding Transform in OFDM Systems**

Y. Wang, J.H. Ge, L.H. Wang, J. Li (Xidian University, China) and B. Ai (Beijing Jiaotong University, China)

**Differential Detection for OFDM-Based Transform Domain Communication Systems**

Jun Wang, Biao Huang and Shaoqian Li (University of Electronic Science and Technology of China, China)

**Mapping QR Decomposition Algorithm for MIMO Detection**

Xining Xie (Beijing University of Posts and Telecommunications, China), Xinglin Wang, Minqiang Tan, Feng Zhang, (Nokia Siemens Networks Technology Beijing, China) and Zhiqiang He (Beijing University of Posts and Telecommunications, China)

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Thursday, 9 August·16:00-17:30  
Room 3

**SPC02: Spectrum Sensing**

**Chair: Chengwen Xing (Beijing Institute of Technology, China)**

**Multiantenna Based Spectrum Sensing via Friedman Test for Cognitive Radio**

Ming Jin, Youming Li, Gang Wang and Jiehui Chen (Ningbo University, China)

**Joint Optimization of Sensing Time and**

**Cooperative User in Cognitive Radio**

Liu Xin, Qingzhong Li and Xuezhi Tan (Harbin Institute of Technology, China)

**A High-resolution Weak Signal Detection Method Based on Stochastic Resonance and Superhet Technology**

Wanyi Yin, Shuo Shi , Mingchuan Yang (Harbin Institute of Technology, China) and Mingjie He (University of Science and Technology of China, China)

**Measurement Based Study of Improved Spectrum Sensing Algorithm Using Sample Covariance Matrices**

Ming Jin, Jiongtao Wang, Youming Li, Gang Wang and Yang Gao (Ningbo University, China)

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Friday, 10 August·10:30-12:00  
Room 4

**SPC03: Array Signal Processing II**

**Chair: Lei Zhang (Huawei Technologies Corp., China)**

**Invited Paper: A Reference Signal Based Beamforming Scheme for Relay Networks with Local Channel State Information**

Lei Zhang (Huawei Technologies Corp.) and Wei Liu (University of Sheffield, UK)

**Invited Paper: Robust Two-Way Amplify-and-Forward MIMO Relay Beamforming with Non-reciprocal and Reciprocal CSI**

Shuo Li, Chengwen Xing, Zesong Fei, Jingming Kuang (Beijing Institute of Technology, China)

**A Decorrelation Algorithm Based on Virtual Array Extension**

Hongliang Duan, Dengshan Huang, Liyang Zhou (Northwestern Polytechnical University, China), Haihua Chen and Jinglin Shi (Chinese Academy of Sciences, China)

**Robust Beamforming for Coherent Signals In the Presence of Steering Vector and**

### **Correlation Matrix Errors**

Lei Zhang (Huawei Technologies Corp., China)  
and Wei Liu (University of Sheffield, UK)

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Friday, 10 August 14:00-15:30

Room 4

### **SPC04: Wireless Systems**

**Chair: Pavel Loskot (Swansea University, UK)**

#### **Invited Paper: Outage Analysis of Opportunistic Cooperative Ad Hoc Networks with Randomly Located Nodes**

Haichuan Ding (Beijing Institute of Technology),  
Jianwu Chen (University of Hong Kong),  
Shaodan Ma (University of Macau), Chengwen  
Xing, Zesong Fei (Beijing Institute of  
Technology) and Guanghua Yang (University of  
Hong Kong)

#### **A Generalized FSK-Based PHY Layer Design for Wireless Sensor Networks**

Pavel Loskot (Swansea University, UK)

#### **Performance Evaluation of LPI Communication System: a Novel Index System**

Baoguo Li, Jing Lei, Shilian Wang and  
Xiongkun Lai (National University of Defense  
Technology, China)

#### **Reduced-complexity Sequential Particle Belief Propagation over Correlated Fading Channels**

Linlin Duan, Zhongyong Wang, Xiangchuan  
Gao and Yan Xiao (Zhengzhou University,  
China)

#### **Interference Management in Heterogeneous Network**

Qiubin Gao, Wenhong Chen, Bin Guo and  
Shaohui Sun (State Key Laboratory of Wireless  
Mobile Communications (CATT), China)

Wednesday, 8 August 14:00-15:30  
Room 1

### **WCN01: Channel Estimation and Synchronization**

**Chair: Shoujun Huang (Institute of Computing Technology, Chinese Academy of Sciences, China)**

#### **Robust H-inf Channel Estimation based on EM/SAGE for MIMO-OFDM systems**

Peng Xu, Jinkuan Wang (Northeastern University at Qinhuangdao, China), Feng Qi (RIKEN, Japan) and Yinghua Han (Northeastern University at Qinhuangdao, China)

#### **Joint Synchronization and Channel Estimation for the Uplink Coordinated Multi-Point Systems**

Lian Chang, Jianhua Zhang, Xiaofan Li, Baoling Liu and Kai Sun (Beijing University of Posts and Telecommunications, China)

#### **An Enhanced Echo MIMO Channel Estimation Method**

Shuo Li, Bingquan Li, Yantao Han, Chengwen Xing, Zesong Fei and Jingming Kuang (Beijing Institute of Technology, China)

#### **Joint Time and Frequency Offset Estimation in LTE Downlink**

Shoujun Huang, Yongtao Su, Ying He and Shan Tang (Institute of Computing Technology, Chinese Academy of Sciences, China)

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Wednesday, 8 August 16:00-17:30  
Room 1

### **WCN02: MIMO and Multiple-Antenna Technology**

**Chair: Shoujun Huang (Institute of Computing Technology, Chinese Academy of Sciences, China)**

#### **Delay Characterization of Multihop Wireless Networks with Selection Region Based Routing Protocol**

Di Li (Texas A&M University, USA), Changchuan Yin and Changhai Chen (Beijing University of Posts and Telecommunications, China)

#### **Adaptive Downlink Multi-User MISO Transmission Systems Exploiting Statistical Channel State Information**

Xiao Li, Liulei Zhou, Jue Wang, Shi Jin and Xiqi Gao (Southeast University, China)

#### **An Ordered Decision Feedback Scheme for Lattice Reduction Aided MIMO Detection**

Yun Li, Zhiqiang Yi and Mingyu Gao (Hangzhou Dianzi University)

#### **MIMO System Capacity with Imperfect Feedback Channel**

Wen Zhou (Shantou University), Caihong Kai (Hefei University of Technology) and Xutao Li (Shantou University)

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Wednesday, 8 August 16:00-17:30  
Room 2

### **WCN03: LTE Systems I**

**Chair: Bin Fan (China Unicom, China)**

#### **A Centralized Simulated Annealing Approach for Self-optimization of Coverage and Capacity in LTE Networks**

Jinyu Li, Wei Luo, Xin Su and Jie Zeng (Tsinghua University, China)

#### **Average Effective SNR Mapping in LTE-A Uplink**

Fan Jiang, Yun Xue, Bin Jiang and Shi Jin (Southeast University, China)

#### **A Method of PRACH Detection Threshold Setting in LTE TDD Femtocell System**

Yanchao Hu, Juan Han, Shan Tang, Huajie Gao, Yongtao Su and Jinlin Shi (Institute of Computing Technology, Chinese Academy of Sciences, China)

#### **Study on LTE MIMO Schemes for Indoor**

### **Scenarios**

Zhabiao Lv, Jianquan Wang (China Unicom Research Institute, China), Changling Wang, Qingyu Cai, Xinzhong Li, Jun Yang, Youxiang Wang, Bin Fan and Yu Cheng (China Unicom, China)

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Thursday, 9 August 14:00-15:30  
Room 1

### **WCN04: LTE Systems II**

**Chair: Pavel Loskot (Swansea University, UK)**

#### **Implementation Trade-offs of Fountain Codes in LTE and LTE-A**

Hassan Hamdoun, Pavel Loskot (Swansea University, UK), Timoth O'Farrell (University of Sheffield, UK)

#### **An Efficient VLIW ASIP for TD-LTE Baseband Signal Processing**

Zhiguo Liu, Ziyuan Zhu, Shan Tang, Shiqiang Li and Jinling Shi (Institute of Computing Technology, Chinese Academy Sciences, China)

#### **QoS Guaranteed Resource Block Allocation Algorithm in LTE Downlink**

Liqun Zhao, Yang Qin (Harbin Institute of Technology, China), Maode Ma (Nanyang Technological University, Singapore), Xiaoxiong Zhong and Li Li (Harbin Institute of Technology, China)

#### **Fast Fourier Transform based IP Traffic Classification System for SIPTO at H(e)NB**

Lin Han, Liusheng Huang (University of Science and Technology of China, China), Qian Hu, Xue Han and Jinglin Shi (Institute of Computing Technology, Chinese Academy of Sciences, China)

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Thursday, 9 August 16:00-17:30  
Room 1

### **WCN05: Cooperative and Relay**

### **Communications**

**Chair: Juan Han (Institute of Computing Technology, Chinese Academy of Sciences, China)**

#### **Cooperative Group Localization Based on Weighted Factor Graphs**

Qimei Cui, Yulong Shi, Xuefei Zhang, and Xiaoxuan Zhu (Beijing University of Posts and Telecommunications, China)

#### **Resource Allocation for Decode-and-Forward Relay-Assisted SC-FDMA Systems**

Mengying Zhang and Yu Zhu (Fudan University, China)

#### **Power Efficiency Maximization Based on Cognitive Relay Transmission**

Yaolian Song, Guangzeng Feng (Nanjing University of Posts and Telecommunications, China) and Jingmin Tang (Kunming University of Science and Technology, China)

#### **Joint Multi-User Precoding in Multi-Relay Systems**

Hang Long (Beijing University of Posts & Telecommunications, China), Wei Xiang (University of Southern Queensland, Australia), Yueying Zhang, Jing Wang and Wenbo Wang (Beijing University of Posts & Telecommunications, China)

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Thursday, 9 August 16:00-17:30  
Room 2

### **WCN06: Wireless Sensor Networks and Ad hoc Networks**

**Chair: Yi Huang (Institute of Computing Technology, Chinese Academy of Sciences, China)**

#### **ONUs Placement for Reduced Sensors' Energy Consumption in PON-WSN Hybrid Networks**

Li Yu, Hailin Liu, Shiting Hu and Yang Zhang (Huazhong University of Science and Technology, China)



**Smart Home Design based on ZigBee  
Wireless Sensor Network**

Chunlong Zhang, Min Zhang, Yongsheng Su  
and Weilian Wang (Yunnan University, China)

**A Routing Protocol with Integrated Routing  
Metric for Multi-channel Wireless Sensor  
Networks**

Yang Yang, Xutao Yu and Min Tan (Southeast  
University, China)

**A Distributed Routing and Time-slot  
Assignment Algorithm for Cognitive Radio  
Ad Hoc Networks with Primary-User  
Protection**

Chen Hao, Pingyi Ren, Li Sun and Qinghe Du  
(Xi'an Jiaotong University, China)

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Friday, 10 August·8:30-10:00  
Room 1

**WCN07: Vehicular Networks and  
Sensor Networks**

**Chair: Yi Zhou (Henan University, China)**

**A Fault-Tolerant Broadcast Protocol for  
Reliable Alert Message Delivery in Vehicular  
Wireless Networks**

Tsan-Pin Wang and Yu-Chi Chang (National  
Taichung University)

**An Improved Cross-Layer RSU/Mobile Relay  
Selection Scheme in VANET**

Hongling Li, Rong Chai, Haijun Hu and  
Qainbin Chen (Chongqing University of Posts  
and Telecommunications, China)

**An Energy-Efficiency Optimized LEACH-C  
for Wireless Sensor Networks**

Shuo Shi, Xinning Liu and Xuemai Gu (Harbin  
Institute of Technology, China)

**A Smart Context-Aware-Oriented Vehicle  
Terminal System in Logistics Transportation**

Huiping Li, Yi Zhou and Chunlin Wan (Henan  
University, China)

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Friday, 10 August·10:30-12:00  
Room 1

**WCN08: Wireless Communications  
Systems I**

**Chair: Wei Peng (Tohoku University, Japan)**

**Investigation on Frequency Diversity Effects  
for Various Transmission Schemes Using  
Frequency Domain Equalizer in  
DFT-Precoded OFDMA**

Lianjun Deng (Tokyo City University, Japan),  
Teruo Kawamura (NTT DOCOMO, Japan),  
Hidekazu Taoka (DOCOMO Communications  
Laboratories Europe GmbH, Germany) and  
Mamoru Sawahashi (Tokyo City University,  
Japan)

**The Effect of Antenna Separation Distance  
on the Frequency Domain Adaptive Antenna  
Array**

Wei Peng and Fumiyuki Adachi (Tohoku  
University, Japan)

**Performance Comparison of Turbo  
Equalization Using Convolutional and Turbo  
code**

Do-Hoon Kim (Chungbuk National University,  
Korea), Byung Gak Jo, Gwang Hoon (Agency  
for Defense Development, Korea) and  
Heugn-Gyoon Ryu (Chungbuk National  
University, Korea)

**A Novel Interference Cancellation Receiver  
in DS-CDMA-MIMO System**

Xingliang Yin, Hang Long, Hua Zhu, Hui Zhao  
and Kan Zheng (Beijing University of Posts &  
Telecommunications, China)

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Friday, 10 August·14:00-15:30  
Room 1

**WCN09: Wireless Communications  
Systems II**

**Chair: Yi Huang (Institute of Computing**

**Technology, Chinese Academy of Sciences, China)**

**Retransmission Scheme for Multicast Transmission Based on Network Coding and Link Adaptation**

Gaishi Huang, Zesong Fei, Yuan Zhou, Dai Jia (Beijing Institute of Technology, China) and Congzhe Cao (University of Science and Technology Beijing, China)

**A Queue-Aware Scheduling Scheme for Multi-cell Coordination Systems**

Kai Sun, Yi Xiao, Meiting Wang, Sachula Meng, Ke Wang (Inner Mongolia University, China) and Lian Chang (Beijing University of Posts and Telecommunications, China)

**An Energy-efficient Macro-micro Hierarchical Structure with Resource Allocation in OFDMA Cellular Systems**

Xin Chen, Zhiyong Feng and Dong Yang (Beijing University of Posts and Telecommunications, China)

**A Pseudo-Random Subchannel Selection Scheme for Downlink Interference Mitigation in Two-tier Cellular Networks**

Wei Wang, Yiqing Zhou, Yi Huang and Jinglin Shi (Institute of Computing Technology, Chinese Academy of Sciences, China)

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Friday, 10 August·16:00-17:30  
Room 1

**WCN10: Wireless Networks I**  
**Chair: Jie Zeng (Tsinghua University, China)**

**BRadio: A Novel Broadband Wireless Access System**

Xin Su, Jie Zeng and Jingyu Li (Tsinghua University)

**A MAC Protocol based on Dynamic Time Adjusting in Wireless MIMO Networks**

Yang Qin, Xiaoxiong Zhong, Zhenhua Su, Xuebing Li and Li Li (Harbin Institute of

Technology)

**SAPCMP: Self Adaptive Power Control MAC Protocol Using RTS/CTS**

Wenhui Sheng, Yao Shen, Feilong Tang and Minyi Guo ( Shanghai Jiao Tong University)

**An Effective Interference Management Framework to Achieve Energy-Efficient Communications for Heterogeneous Network through Cognitive Sensing**

Shibo Hou, Xing Zhang, Huanyang Zheng, Long Zhao and Wei Fang (Beijing University of Posts and Telecommunications)

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Friday, 10 August·10:30-12:00  
Room 2

**WCN11: Wireless Networks II**  
**Chair: Zhongli Lan (Southwest University of Science and Technology, China)**

**Optimization of Interference Coordination Schemes in Device-to-Device (D2D) Communication**

Si Wen, Xiaoyue Zhu, Zhesheng Lin, Xin Zhang and Dacheng Yang (Beijing University of Posts and Telecommunications, China)

**A Shortest-path Routing Algorithm of Fully-Redundant Graph Route and the Update Mechanism**

Kui Dang, Jizhong Shen and Lida Dong (Zhejiang University, China)

**Decentralized Cognitive MAC Protocol Design Based on POMDP and Q-Learning**

Zhongli Lan, Hong Jiang (Southwest University of Science and Technology, China) and Xiaoli Wu (China Academy of Engineering Physics, China)

**PMIPv6-Based Mobility Management in WLAN**

Jianming Zhou, Rong Chai and Qianbin Chen (Chongqing University of Posts and Telecommunications)

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Friday, 10 August· 14:00-15:30  
Room 2

**WCN12: Wireless Networks III (Joint Session with Multimedia Communications)**

**Chair: Heung-Gyoon Ryu (Chungbuk National University, Korea)**

**Adaptive NLMS Pre-distorter of HPA with Memory Effect**

Junyeong Bok, Dong Geon An (Chungbuk National University, Korea), Byung Gak, Gwang Hoon (Agency for Defense Development, Korea) and Heung-Gyoon Ryu (Chungbuk National University, Korea)

**Performance Analysis and Comparison of a Priority-based Polling Model**

Zhuguan Liang, Dongfeng Zhao, Hongwei Ding, Qianlin Liu and Yifan Zhao (Yunan University, China)

**A Contention Window Adaptive MAC Protocol for Wireless Sensor Networks**

Weixia Zou, Erfei Wang, Zheng Zhou, Weihua Li (Wireless Network Lab, Beijing University of Posts and Telecommunications) and Yabin Ye (European Research Center, Huawei Technologies Duesseldorf GmbH, Germany)

**An Improvement of Soft-Cast Decoding Algorithm**

Qing Li, Yu Liu, Bin Li and Lin Zhang (Beijing University of Posts and Telecommunications, China)

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Friday, 10 August· 16:00-17:30  
Room 2

**WCN13: Transceiver Design and Implementation**

**Chair: Jhin-Fang Huang (National Taiwan University of Science and Technology)**

**Chip Design of a 5.8 GHz Low Voltage Receiver Front-End for Dedicated Short Range Communication**

Jhin-Fang Huang (National Taiwan University of Science and Technology), Kuo-Lung Chen (National Communications Commission) and Yong-Jhen Jiangn (National Taiwan University of Science and Technology)

**Design of Compact Dual Polarized Patch Antennas for Small Base Station**

Yang Lu Sengjun Luo, Bo Pan and Shuai Yuan (MOBI Antenna Technologies, China)

**Chip Design of a Low Voltage 5.8 GHz CMOS Transceiver Front-End for DSRC Application**

Jhin-Fang Huang (National Taiwan University of Science and Technology), Jiun-Yu Wen (National Communications Commission) and , Yong-Jhen Jiangn (National Taiwan University of Science and Technology)

**Design and Realization of an Autonomous Software-defined Radio**

Wang Shilian and Zhou Ziwei (National University of Defence Technology, China)

# SON 2012 & RAHMCC 2012

Tuesday, 7 August 8:30-17:30  
Room 1

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## Session 1 08:30-10:00

Chair: Mugen Peng, Beijing University of Posts and Telecommunications

### A Co-satisfaction Factor Based Dynamic Adjusting Algorithm for Load Balancing and Handover Coordination Optimization in LTE SON

Wenyu Li, Xiaoyu Duan, Shucong Jia, Lin Zhang, Yu Liu and Jiaru Lin (Key Lab of Universal Wireless Communications, Ministry of Education, Beijing University of Posts and Telecommunications, China)

### A Physical Cell Identity Self-Organization Algorithm in LTE-Advanced Systems

Jingjie Yu, Mugen Peng and Yue Li (Beijing University of Posts and Telecommunications, China)

### Relay Self-Selection for Secure Cooperative in Amplify-and-Forward Networks

Shi Yan, Mugen Peng, Wenbo Wang, Manzoor Ahmed and Dong Liang (Beijing University of Posts and Telecommunications, China)

### A Gradient Projection Based Self-Optimizing Algorithm for Inter-cell Interference Coordination in Downlink OFDMA Networks

Xuena Li, Hao Jin, Jiamo Jiang, Shibo Hou, Mugen Peng (Beijing University of Posts and Telecommunications, China), and Gongpu Wang (Beijing Jiaotong University, China)

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## Session 2 10:30-12:00

Chair: Mugen Peng, Beijing University of Posts and Telecommunications

### NS-2 Based Wireless Vehicular Network Performance Study with High Speed Urban Mobile Relays

Donghoon Kang, Wei Wang, Byung Eon Park, Lin Xing and Sung Shin (Department of Electrical Engineering and Computer Science, South Dakota State University, USA)

### An Adaptive Energy Saving Mechanism in LTE-Advanced Relay Systems

Yue Li, Mugen Peng, Jiamo Jiang and Dong Liang (Beijing University of Posts and Telecommunications, China)

### Automated Handover Optimization Mechanism for LTE Femtocells

Yongliang Wang, Wenjing Li, Peng Yu and Xuesong Qiu (State Key Laboratory of Networking and Switching Technology, Beijing University of Posts and Telecommunications, China)

### Handover Self-optimization Mechanism based on Velocity for Cellular Networks

Yang Yang, Peng Yu and Wenjing Li (State Key Laboratory of Networking and Switching Technology, Beijing University of Posts and Telecommunications)

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## Session 3 14:00-15:30

Chair: Han Zhang, South China Normal University

### PAPR Analysis in OFDM-based Amplify-and-Forward Relaying Networks with Superimposed Pilot

Ge Bai, Zhangdui Zhong, Gongpu Wang, Rongtao Xu, and Jianfei Cao (Beijing Jiaotong University, Beijing, China)

### Optimal Next Hop Selection for VANET Routing

Yen-Wen Lin (Department of Computer and Information Science, National Taichung University of Education Taichung, Taiwan), and Guo-Tang Huang (Department of Computer and Information Science National Taichung University of Education Taichung, Taiwan)

### Outage Probability and SER of Two-Hop

**MIMO Relaying Systems with a Fixed-Gain Relay and Antenna Selection**

Guangping Li (School of Electronics and Information Engineering, South China University of Technology, China), Guangchi Zhang (Information engineering Guangdong University of Technology, China) and Jiuchao Feng (School of Electronics and Information Engineering, South China University of Technology, China)

**A Mathematical Model for Joint Optimization of Coverage and Capacity in Self-Organizing Network in Centralized Manner**

Wei Luo, Jie Zeng, Xin Su, Jingyu Li and Limin Xiao (Tsinghua National Laboratory for Information Science and Technology, China)

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**Session 4 16:00-17:30**

**Chair: Han Zhang , South China Normal University**

**A Hybrid Clustering Approach in Coordinated Multi-Point Transmission System**

Cui Zeng, Pinyi Ren, Chao Zhang and Gangming Lv (School of Electronic and Information Engineering, Xi'an Jiaotong University, China)

**Embedded Intelligent Video Surveillance and Cooperative Tracking System**

Fei Zhang, Pinyi Ren, Hao Chen and Guobing Li (School of Electronic and Information Engineering, Xi'an Jiaotong University, China)

# IWIMCC 2012

Tuesday, 7 August · 10:30-15:30

Room 2

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## Session 1 10:30-12:00

**Chair: Jia-Chyi Wu (National Taiwan Ocean University, Taiwan)**

### **Laplacian-Based H.264 Intra-Prediction Mode Decision**

Chi-Chou Kao (Department of Computer Science and Information Engineering, National University of Tainan, Taiwan), Yen-Tai Lai and Chao-Feng Tseng (Department of Electrical Engineering, National Cheng Kung University, Taiwan)

### **Design and Implementation of Streaming Scalable H.264/AVC Videos with Loopback-MDC on Peer-to-Peer Networks**

Chow-Sing Lin and Rong-Hua Chang (Dept. of Computer Science and Information Engineering, National University of Tainan, Taiwan)

### **A Joint Consideration of Channel Assignment and Multicast Routing in MCMR WMNs**

Wen-Lin Yang (Dept. of Computer Science and Information Engineering, National University of Tainan, Taiwan) and Wan-Ting Hong (Dept. of Computer Science and Information Engineering, National University of Tainan, Taiwan)

### **Adaptive Digital Video Transmission with STBC over Rayleigh Fading Channels**

Jia-Chyi Wu (Dept. of Communications, Navigation, and Control Engr, National Taiwan Ocean University, Taiwan), Chi-Min Li and Kuo-Hsean Chen (Dept. of Communications, Navigation, and Control Engr., National Taiwan Ocean University, Taiwan)

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## Session 2 14:00-15:30

**Chair: Zong-Xian Yin (Southern Taiwan University, Taiwan)**

### **The Development of a Skin Inspection Imaging System on an Android Device**

Ding-Horng Chen, Tsai-Rong Chang and Ren-Jie Cao (Department of Computer Science and Information Engineering, Southern Taiwan University, Taiwan)

### **Multi-Modality Registration using Mutual Information with Particle Swarm Optimization (PSO)**

Shu-Yi Huang, Jay Chen, Yung-Nien Sun (Department of Computer Science and Information Engineering, National Cheng-Kung University, Taiwan) and Ming-Huwi Horng (Department of Computer Science and Information Engineering, National Pingtung Institute of Commerce Pingtung City, Taiwan)

### **Utilizing Visualization Technology in Medical Education**

Zong-Xian Yin and Sin-Yan Li (Department of Computer Science and Information Engineering, Southern Taiwan University, Taiwan)

### **Cloud-based H.264-SVC Transcoder Design for Video Conferencing System**

Chang-Ming Lee, Bo-Yao Huang, Kang-Chih Chang, and Chia-Ying Lee (Department of Communications Engineering, National Chung Cheng University Chiayi, Taiwan)

### **Rock Classification via a Mobile Device**

Chia-Hsiang Wu (Department of Biomedical Engineering, I-Shou University Kaohsiung, Taiwan), Jiann-Shu Lee, Shie Chin-Yin and Shie Chin-Yin (Department of Information and Learning Technology, National University of Tainan, Taiwan)

# IWAAT 2012

Tuesday, 7 August · 8:30-15:30  
Room 3

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## Session 1 08:30-10:00

**Chair: Zhaobiao Lv, China Unicom Research Institute, China**

Keynote Speech I

### **Smaller Antenna Leads to Industrial Revolution**

Speaker: Bin Feng, Shenzhen Grentech CO. Ltd., China

### **Performance Analysis of Transmit Antenna Selection and Relay Selection in Two-Hop Multiple MIMO Relaying**

Lei Cao (Telecommunication Planning Research Institute of MIIT P.R. China) and Xinyan Zhao (School of Internet of Things Engineering, Jiangnan University, China)

### **Remote control of base station antenna systems based on two-dimensional electrically adjustable technology**

Xi-Wang Dai (National Key Laboratory of Antenna and Microwave Technology, Xidian University; Dongguan Huisu Antenna Technologies Co., LTD, China), Cheng-bin Zhang and Hui Chen (Dongguan Huisu Antenna Technologies Co., LTD, China)

### **Analysis of RF requirements for Active Antenna System**

Rong Zhou (Department of Wireless Research Huawei Technology Beijing, China) and Wu Rong Zhang (Department of Wireless Research, Huawei Technology Beijing, China)

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## Session 2 10:30-12:00

**Chair: Lei Sun, China Unicom Research Institute, China**

Keynote Speech II

### **Quality Control Analysis of Base Station**

### **Antenna**

Carol Ye, Comba Telecom Systems (China) Ltd., China

### **Ultra-Broad-Band Technology**

Ernst Lautner and Sarah Güngör (Sales – Engineering (MVVT)KATHREIN-Werke KG Rosenheim – Germany)

### **Performance evaluation of different transmission modes with increase of UE velocity in downlink LTE/LTE-A system**

Lilei Wang Peter Skov and Huiyu Yuan (Nokia Siemens Networks Beijing, China)

### **Study on the Evaluate Methods of Head and Hand Influence on Mobile Antenna Radiation Performance**

Xinzhong Li, Jun Yang, Bin Fan and Jianquan Wang (Department of wireless research, China Unicom Research Institute, China)

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## Session 3 14:00-15:30

**Chair: Tingting Zhao, China Unicom Research Institute, China**

### **High Capacity Wireless Network Optimisation with Optimum Control of Elevation Pattern Performances**

Stéphane Dauguet (Base Station Antenna Chief Engineer Radio Frequency Systems Lannion, France)

### **SG128 Multi-Probe Spherical Near-Field Antenna Test Range and Novel Antenna Measurements**

Guohua Li, Jinhu Chen and Hai Chen (Xi'an Sunnada Haitian Antenna Co., Ltd., China)

### **Integration Dual-Polarized T-matched Dipoles**

Jianhong Zuo, Peiqiu Liu, Qingxin Chu and Xuejun Wang (Guangzhou Sunrise Communication Equipment Co., Ltd., China)

### **Test Methodologies for Active Antenna System**

Gang Liu, Xiang Wu, Zhe Chen (China

Telecommunication Technology Labs, China  
Academy of Telecommunication Research of  
MIIT, China)

**Coverage analysis and validation of a novel  
Sharing indoor distributional antenna**

Jianquan Wang, Weicheng Yan, Jun Yang,  
Xinzhong Li (Network Technology Research  
Center, China Unicom Research Institute,  
China), Xinming Chen (Department of Network  
Construction, China Unicom Group Co., Ltd,  
China), Xiaoming Huang and Qiang Fu (China  
Unicom Guangdong Branch Guangzhou, China)



# C3HetNet2012

**Tuesday, 7 August 8:30-12:00**  
**Room 4**

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## **Session 1 08:30-10:00**

**Chair: Dr. Yue Gao, Queen Mary University of London**

### **Sum-Capacity of D2D and Cellular Hybrid Networks over Cooperation and Non-cooperation**

Ziyang Liu, Tao Peng, Bo Peng, Wenbo Wang (Wireless Signal Processing and Network Lab, Key laboratory of Universal Wireless Communication Ministry of Education, Beijing University of Posts & Telecommunications, China)

### **Distributed Cooperative Admission and Power Control for Device-to-Device Links with QoS Protection in Cognitive Heterogeneous Network**

Pei Liu, Chunjing Hu, Tao Peng, Wenbo Wang (Wireless Signal Processing and Network Lab, Key laboratory of Universal Wireless Communication Ministry of Education, Beijing University of Posts & Telecommunications, China)

### **Performance Analysis of Cooperative Mode Selection in Hybrid D2D and IMT-Advanced Network**

Shangwen Xiang, Qingyi Quan, Tao Peng, Wenbo Wang (Wireless Signal Processing and Network Lab, Key laboratory of Universal Wireless Communication Ministry of Education, Beijing University of Posts & Telecommunications, China)

### **Improved Joint Network-Channel Coding for the Multiple-Access Relay Channel**

Fang Wei, Sun Zhuo, Hu ChunJing and Shibo Hou (Wireless Signal Processing and Network Lab Key Laboratory of Universal Wireless Communications, Ministry of Education Beijing University of Posts & Telecommunications,

China)

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## **Session 2 10:30-12:00**

**Chair: Prof. Xing Zhang, Beijing University of Posts and Telecommunications**

### **Reviews on Cognitive Access to TV White Space**

Fei Peng, Yue Gao, Laurie Cuthbert (School of Electronic Engineering and Computer Science Queen Mary University of London, UK)

### **Performance Evaluation of Power Control Algorithm for TV White Space Resource in UK**

Nan Wang, Yue Gao, Yue Chen, Eliane Bodanese, Laurie Cuthbert (School of Electronic Engineering and Computer Science Queen Mary, University of London, UK)

### **Cognitive Cooperative Traffic Offloading Scheme over Heterogeneous Networks**

Dantong Liu, Yue Chen, Kok Keong Chai, Laurie Cuthbert (School of Electronic Engineering and Computer Science Queen Mary University of London, UK) and Tiankui Zhang (School of Information and Telecommunication Engineering Beijing University of Posts and Telecommunications, China)

### **Adaptive Energy-Harvesting Aware Clustering Routing Protocol for Wireless Sensor Networks**

Jian Meng, Xuandan Zhang, Yuhua Dong, and Xiaokang Lin (Department of Electronic Engineering, Tsinghua University, China)

## **C-RAN 2012**

**Tuesday, 7 August 8:30-17:30**  
**Business Club**

### **Keynote Session I (8:30-10:00)**

**Chair: Dr. Chih-Lin I, China Mobile Research Institute**

Welcome and keynote speech 1 (8:30-9:00)

**Title: TBD**

Speaker: Prof. Jing Wang, Tsinghua University, China

Keynote speech 2 (9:00-9:30)

**C-RAN: Road towards Green Radio Access Network**

Speaker: Mr. Kuilin Chen, China Mobile Research Institute, China

Keynote speech 3 (9:30-10:00)

**Thinking of the future development of mobile communication networks**

Speaker: Prof. Jinglin Shi, Institute of Computing Technology, CAS, China

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### **Keynote Session II (10:30-11:30)**

**Chair: Dr. Chih-Lin I, China Mobile Research Institute**

Keynote speech 4 (10:30-11:00)

**Wireless Network Cloud based on IT Platform: Challenges and Opportunities**

Speaker: Ms. Yonghua Lin, IBM Research Labs, China

Keynote speech 5 (11:00-11:30)

**Single Cloud Network: Solution to the Next Generation Wireless Network**

Speaker: Dr. Jianjun Wu, Huawei Corporate Research Department, China

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### **Session 1 11:30-12:00 (Oral)**

**Chair: Prof. Ming Zhao, Tsinghua University**

**Transmission Solutions and Architectures for**

### **Heterogenous Networks Built as C-RANs**

Zere Ghebretensaé, Kim Laraqui and Stefan Dahlfort (Ericsson Research Ericsson AB Stockholm, Sweden), Filippo Ponzini, Luca Giorgi and Stefano Stracca (Ericsson Research Ericsson Telecomunicazioni SPA Pisa, Italy), Jingjing Chen, Yinggang Li and Jonas Hansryd (Ericsson Research Ericsson AB Mölndal, Sweden), Andrew R. Pratt (Regional Portfolio Management Ericsson (China) Communications Co. Ltd, China)

### **Field Test of Uplink CoMP Joint Processing with C-RAN Testbed**

Lei Li, Jinhua Liu, Kaihang Xiong and Peter Butovitsch (Ericsson (China) Communications Co. Ltd, Beijing, China)

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### **Session 2 14:00-15:30 (Oral)**

**Chair: Mr. Kuilin Chen, China Mobile Research Institute**

### **Software-Defined Radio Based On Cortex-A9**

Xin Wei, Zhiyuan Shi, Lianfen Huang (School of Information Science & Technology, Xiamen University, China), Xin Qi and Limin Xiao (State Key Laboratory on Microwave and Digital Communications Tsinghua National Laboratory for Information Science and Technology, Tsinghua University, China)

### **BBU-RRH Switching Schemes for Centralized RAN**

Shinobu Namba, Takayuki Warabino and Shoji Kaneko (KDDI R&D Laboratories Inc, Japan)

### **CPU-MPU partitioning for C-RAN applications**

Tal Kaitz and Gaby Guri (ASOCS Ltd. Tel Aviv, Israel)

### **A Time Synchronization Mechanism Based on Software Defined Radio of General-Purpose Processor**

Hongliang Duan (Institute of Computing Technology, Chinese Academy of Sciences & Northwestern Polytechnical University, China),

Dengshan Huang (Northwestern Polytechnical University, China), Yi Huang, Yiqing Zhou and Jinglin Shi (Institute of Computing Technology, Chinese Academy of Sciences, China)

**Performance assessment of C-RAN: methodology, analysis and preliminary results**

Yajuan Luo, Xiaona Zhang, Feng Yang, Lin Huang, Zhenning Shi, Daqing Gu (Wireless Communication Network Group, Orange Labs, China) and Alan Stidwell (Orange Labs Networks & Carriers, New Radio Technology, Bristol UK)

**Performance Evaluation of Coordinated Multipoint Reception in CRAN Under LTE-Advanced Uplink**

Huiyu Yuan, Naizheng Zheng, Yuyu Yan and Peter Skov (China Industrial Environment, Chief Technology Office, Nokia Siemens Networks, China)

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**Session 3 14:00-15:30 (Poster)**

**Performance Analysis of Dynamic Point Selection in System Level Simulation**

Chunye Wang, Peter Skov and Zhang Li (Industrial Environment, Nokia Siemens Network, China)

**Performance Evaluation of Layer Adaptive Multi-User Scheduling in LTE-A Downlink**

Li Zhang, Skov Peter and Chunye Wang (China Industrial Environment, Chief Technology Office, Nokia Siemens Network, China)

**Analysis for signal processing development with general purpose processor**

Zhiqiang He, Jianxing Sun (Key Laboratory of Universal Wireless Communications, Ministry of Education, Beijing University of Posts and Telecommunications, China), Yue Chen and Ran Duan (China Mobile Research institute, China)

**Major Optimization Methods for TD-LTE**

**Signal Processing based on General Purpose Processor**

Weipeng Jiang, Zhiqiang He (Key Laboratory of Universal Wireless Communications, Ministry of Education, Beijing University of Posts and Telecommunications, China), Ran Duan and Jinri Huang (China Mobile Research institute, China)

**GPP-based Random Access Preamble Detection in TD-LTE**

Fangliao Yang, Zhiqiang He (Key Laboratory of Universal Wireless Communications, Ministry of Education Beijing University of Posts and Telecommunications, China), Xinglin Wang and Jinri Huang (China Mobile Research institute, China)

**An Implementation of MIMO Detection in TD-LTE based on General Purpose Processor**

Zhou Li, Zhiqiang He (Key Laboratory of Universal Wireless Communications Ministry of Education Beijing University of Posts and Telecommunications, China), Ran Duan and Lifeng He (China Mobile Research institute, China)

**New Method of Implementation for Channel Estimation in LTE System based on GPP**

Ri Li, Kai Niu (Key Laboratory of Universal Wireless Communications Ministry of Education Beijing University of Posts and Telecommunications, China), Chen Kuilin and Lifeng He (China Mobile Research institute, China)

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**Session 4 16:00-17:30 (Oral)**

**Chair: Dr. Yan Zhang (Tsinghua University, China)**

**Evaluation of Energy Efficiency for C-RAN Architecture with Centralized BBUs**

Chih-Hsuan Tang, Chi-En Wu, and Chen-Yin Liao (Chunghwa Telecom Laboratories, Taiwan), Clark Chen and Jinri Huang (China Mobile Research institute, China)

**High Throughput Turbo Decoder Design for GPP Platform**

Suiping Zhang, Rongrong Qian, Tao Peng (School of Information and Communication Engineering Beijing University of Posts and Telecommunications, China), Ran Duan and Kuilin Chen (Wireless Technology Research China Mobile Research Institute Beijing, China)

**TD-LTE eNodeB prototype using general purpose processor**

Kai Niu, Jianxing Sun (Key Laboratory of Universal Wireless Communications Ministry of Education Beijing University of Posts and Telecommunications, China), Kuilin Chen (China Mobile Research institute, China) and Kok Keong Chai (School of Electronic Engineering and Computer Science Queen Mary University of London, UK)

**A Method of Optimizing the De-rate Matching and Demodulation in LTE based on GPP**

Guanghai Zhao, Kai Niu (Key Laboratory of Universal Wireless Communications Ministry of Education Beijing University of Posts and Telecommunications, China), Lifeng He and Jinri Huang (China Mobile Research institute, China)

**A Theoretical Analysis of I/Q Data Compression in Distributed Antenna Systems**

Haibin Yang, Chunhui Zhou, Ming Zhao, Jing Wang (State Key Laboratory on Microwave and Digital Communications, Tsinghua National Laboratory for Information Science and Technology Research Institute of Information Technology, Tsinghua University, China)

**Investigation on USB 2.0 in Software-Defined Radio**

Jing Zhou, Xin Qi, Xin Su and Haibin Yang (State Key Laboratory on Microwave and Digital Communications, Tsinghua National Laboratory for Information Science and Technology, Research Institute of Information Technology, Tsinghua University, China)

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**Session 5 16:00-17:30 (Poster)**

**A Novel GPP-based Software-Defined Radio Architecture**

Peng Guo, Xin Qi, Limin Xiao and Shidong Zhou (State Key Laboratory on Microwave and Digital Communications, Tsinghua National Laboratory for Information Science and Technology Department of Electronic Engineering, Tsinghua University, China)

**Field Test of Downlink Fast RRM with C-RAN Testbed**

Lei Li, Kaihang Xiong, Peter Butovitsch (Ericsson (China) Communications Co. Ltd, China) and Erik Eriksson (Ericsson AB Linköping, Sweden)

**Research on Coordinated Multi-Point Adaptation Prototype Based on Vector Projection**

Yanwen Wang, Shijun Chen, Liu Jun Hu, Tao Jin, Ye Liu and Wenhao Liu (ZTE CORPORATION, Xi'an, China)

**CPRI compression transport for LTE and LTE-A signal in C-RAN**

Bin Guo, Wei Cao, An Tao, Bijun Zhang (Alcatel-Lucent Shanghai Bell Company Limited Shanghai, China) and Dragan Samardzija (Alcatel-Lucent Bell Laboratories Holmdel, USA)

**Analysis of Handover Performance Improvement in Cloud-RAN Architecture**

Liang Liu, Feng Yang, Richard Wang, Zhenning Shi, Daqing Gu (Wireless Communication Network Group, Orange Labs Beijing, China) and Alan Stidwell (New Radio Technology, Orange Labs Networks & Carriers, Bristol UK)

**Low Complexity LMMSE Channel Estimation on GPP**

Wei Shi, Tao Peng, Rongrong Qian (School of Information and Communication Engineering,

Beijing University of Posts & Telecommunications, China), Ran Duan and Kuilin Chen (Division of Wireless Technology, China Mobile Research Institute, China)

**GPP-based Design of Soft MMSE MIMO Detection**

Jiang Zhou, Tao Peng (School of Information and Communication Engineering Beijing University of Posts and Telecommunications Beijing, China), Ran Duan and Kuilin Chen (Wireless Technology Research, China Mobile Research Institute, China)