# 2012 Wireless Advanced

(WiAd 2012)

London, United Kingdom 25 – 27 June 2012



IEEE Catalog Number: CFP1286J-PRT ISBN: 978-1-4577-2193-9

#### S1: Communications Software, Services and Security

### An AEAD Cryptographic Framework and TinyAEAD Construct for Secure WSN Communication

A Adekunle (University of Greenwich, United Kingdom) pp. 1-5

### Secure Multipath Routing in Wireless Multihop Networks based on Erasure Channel Modeling

Jinho Choi (Swansea University, United Kingdom) pp. 6-10

### Investigating the Impact of Message Size and Broadcast Frequency on Hybrid Data Dissemination Protocol for VANETs

Monika Rathod (Florida Atlantic University, USA); Imad Mahgoub (Florida Atlantic University, USA); Michael J Slavik (Florida Atlantic University, USA) pp. 11-15

#### S2: Ad Hoc and Sensor Networking

#### A General Distributed Consensus Algorithm for Wireless Sensor Networks

Jinho Choi (Swansea University, United Kingdom); Shancang Li (Swansea University, United Kingdom); Xinheng Wang (Swansea University, United Kingdom); Jeongseok Ha (KAIST, Korea)
pp. 16-21

# Efficient Middleware for User-friendly Wireless Sensor Network Integrated Development Environment

Xing Liu (University Blaise Pascal & Wuhan University, France); Kun Mean Hou (LIMOS, France); HongLing Shi (LIMOS Laboratory UMR 6158 CNRS, France); Chengcheng Guo (Wuhan University, P.R. China) pp. 22-28

# Linear Precoding in Coordinated Multicell Systems with Amplify-and-Forward Relaying

Kun Wang (Tsinghua University, P.R. China); Xianda Zhang (Tsinghua University, P.R. China); Weiqiang Xu (Zhejiang Sci-Tech University, P.R. China); Geng Guijie (Datang Mobile Co., Ltd., P.R. China) pp. 29-33

#### S3: Cognitive Radio and Next Generation Protocols

# On OFDM-Based Cognitive Radio Spectrum Sharing Systems with Random Access Sabit Ekin (Texas A&M University, USA); Khalid A. Qaraqe (Texas A&M University at Qatar, USA); Mohamed M. Abdallah (Texas A&M university at Qatar & Cairo University, Qatar); Erchin Serpedin (Texas A&M University, USA) pp. 34-38

# Sensing-Throughput Tradeoff in a Cognitive Radio Under Outage Constraints Over Non-Identical Fast Fading Rayleigh Channels

Youssif Sharkasi (University of Leeds, United Kingdom); Desmond McLernon (The University of Leeds, United Kingdom); Ghogho (University of Leeds, United Kingdom) pp. 39-43

### Multiobjective Cooperative Spectrum Sensing in Cognitive Radio using Cat Swarm Optimization

Pyari Mohan Pradhan (Indian Institute of Technology Bhubaneswar, Orissa, India); Ganapati Panda (Indian Institute of Technology Bhubaneswar, India); Babita Majhi (ITER, SOA University, Bhubaneswar, India) pp. 44-48

#### S4: Ad Hoc and Sensor Networking

### Statistical Analysis of Optimal Distributed Detection Fusion Rule in Wireless Sensor Networks

Sami A Aldalahmeh (University of Leeds & University, United Kingdom); Mounir Ghogho (University of Leeds, United Kingdom) pp. 49-53

#### Optimal Placement in Hybrid VANETs-Sensors Networks

Maher Rebai (University of Technology of Troyes, France); Lyes Khoukhi (University of Technology of Troyes, Canada); Hichem Snoussi (University of Technology of Troyes, France); Faicel Hnaien (ICD/LOSI, University of Technology of Troyes, FRANCE, France)
pp. 54-57

### Scalability Evaluation of Two Network Simulation Tools for Vehicular Ad Hoc Networks

Eric Gamess (Universidad Central de Venezuela, Venezuela); Imad Mahgoub (Florida Atlantic University, USA); Monika Rathod (Florida Atlantic University, USA) pp. 58-63

#### **S5: Wireless Networks & Resource Allocation**

# Modeling and Characterization of Multi-Rate Direct Sequence CDMA System Using Dynamic Resource Allocation Scheme

Manoj Dutta (Birla Institute of Technology & Science, India); Vinay Chamola (Birla Institute of Technology & Sciences, Pilani, India); Ajinkya Rajandekar (Birla Institute of Technology & Sciences, Pilani, India); Vinod Chaubey (BITS Pilani, India) pp. 64-68

# Radio Resource Allocation Schemes for Relay Assisted OFDMA Dynamic Spectrum Allocation Systems

Nader Mokari (Tarbiat Modares University, Iran); Keivan Navaie (University of Leeds, United Kingdom)
pp. 69-73

#### Resource Management Mechanism for Femtocell Enterprise Networks

Kaouthar Sethom (ESTI, France); Aicha Salem (SUPCOM, Tunisia); Fadoua Mhiri (TIME Université & ENIT, Tunisia); Ridha Bouallegue (National Engineering School of Sousse SUP'COM, 6'Tel Laboratory, Tunisia) pp. 74-78

### Distributed Joint Source-Channel Coding for Relay Systems Exploiting Spatial and Temporal Correlations

Xiaobo Zhou (Japan Advanced Institute of Science and Technology, Japan); Meng Cheng (Japan Advanced Institute of Science and Technology, Japan); Khoirul Anwar (Japan Advanced Institute of Science and Technology, Japan); Tad Matsumoto (Japan Advanced Institute of Science and Technology, Japan)
pp. 79-84

#### S6: Communications QoS, Modelling and Selected Areas in Communications

#### Rate and Distortion Modeling for Real-time MGS Coding and Adaptation

Abdul Haseeb (University of Ferrara, Italy); Maria G. Martini (Kingston University, United Kingdom); Sergio Cicalò (University of Ferrara - Italy, Italy); Velio Tralli (University of Ferrara - Italy, Italy) pp. 85-89

# A Combined Scheme of LDPC-STBC for Image Transmission in Asynchronous Cooperative MIMO System

Shan Ding (College of Information Science and Engineering, P.R. China); Rui Li (College of Information Science and Engineering, P.R. China) pp. 90-94

#### Is multicast useful in health care monitoring systems?

Juan G Barros (Institut National Polytechnique de Toulouse, France); Anne Wei (Conservation National des Arts et Metiers, France); André-Luc Beylot (IRIT Toulouse, France)
pp. 95-99

### A Local Enhancement Process to Improve Fairness and Throughput in Femtocell Networks

Beycan Kahraman (Istanbul Technical University, Turkey); Feza Buzluca (Istanbul Technical University, Turkey)
pp. 100-104

#### **S7: Communication Theory**

# Channel Estimation for Transmit Diversity in Time Domain Synchronous OFDM Systems

Geng Guijie (Datang Mobile Co., Ltd., P.R. China) pp. 105-109

### Enhancing MC-CDMA system using rotated Quasi-Orthogonal STBC in wireless channels

Semi El Sharef (Arab Academy for Science and Technology, Ireland); Mohamed Khedr (Arab Academy for Science and Technology, Egypt); Ehab F. Badran (Arab Academy for Science, Technology and Maritime Transport (AAST), Egypt) pp. 110-114

#### Differential Distributed Quasi-orthogonal Space-Time-Frequency Coding

Gbenga Owojaiye (University of Hertfordshire, United Kingdom); Fabien Delestre (University of hertfordshire, United Kingdom); Yichuang Sun (University of Hertfordshire, United Kingdom)
pp. 115-120

#### DSA Impacts On Data Transmission: An Experimental Study

Wahidah Hashim (MIMOS Berhad, Malaysia); Ahmad Fadzil Ismail (International Islamic University Malaysia, Malaysia); Sharifah K. Syed-Yusof (Universiti Teknologi Malaysia, Malaysia); Hilmi Mujahid (Universiti Teknologi Malaysia, Malaysia) pp. 121-126

### Iterative Spatial Demapping for Two Correlated Sources over Fading Multiple Access Channel

Khoirul Anwar (Japan Advanced Institute of Science and Technology, Japan); Tad Matsumoto (Japan Advanced Institute of Science and Technology, Japan) pp. 127-131

### Performance Study of a Preamble based MAC Protocol in Multi-Hop Wireless Networks

Alexander Klein (Technische Universität München, Germany); Lothar Braun (Technische Universität München, Germany) pp. 132-137

### The Use of FEC method for Packet Loss Concealment for CELP Based Coders in Packet Networks

Fatiha Merazka (University of Science & Technology Houari Boumediene, Algeria) pp. 138-142

#### **S8: Communication Theory**

#### A User Mobility Analysis Assistive MRO Algorithm for Handover Parameters Optimization in LTE SON System

Heng Zhang (Nokia Siemens Networks, P.R. China) pp. 143-148

#### Fuzzy Blind Adaptive Minimum Output Energy Multiuser Detector

Farshad Rassaei (Shiraz University, Iran); Mostafa Derakhtian (Shiraz University, Iran); Mohammad Ali Masnadi-Shirazi (Shiraz University, Iran); Vahid Fotoohabadi (KiCL, United Kingdom)

pp. 149-153

#### Energy Efficiency Improvement in Multi-cell Networks with Binary Power Control

Kapuruhamy Badalge Shashika Manosha (Centre for Wireless Communications, Department of Communications Engineering, University of Oulu, Finland); Nandana Rajatheva (University of Oulu, Finland); Matti Latva-aho (UoOulu, Finland) pp. 154-158

#### Channel and Content aware 3D Video Scheduling with Prioritized Queuing

Harsha Appuhami (Kingston University-London, United Kingdom); Maria G. Martini (Kingston University, United Kingdom); Chaminda T. E.R. Hewage (University of Kingston, United Kingdom) pp. 159-163

### Performance Evaluation of Maximum Throughput Based Scheduling of OFDMA LTE Networks

Shyam B Mahato (University of Bedfordshire, United Kingdom); Ben Allen (University of Bedfordshire, United Kingdom); Enjie Liu (University of Bedfordshire, United Kingdom); Jie Zhang (University of Sheffield, Dept. of Electronic and Electrical Engineering, United Kingdom)
pp. 164-169

#### Novel QPSK Modulation for DWDM Free Space Optical Communication System

Bijayananda Patnaik (IIIT Bhubaneswar, India); Prasant Kumar Sahu (IIT Bhubaneswar, India)

pp. 170-175

#### A Low Complexity Decoding Scheme of STFBC MIMO-OFDM system

Bhasker Gupta (Jaypee University of Information Technology, India) pp. 176-180

# Impact of Primary Users Activity on Achievable Average Spectral Efficiency of CDMA-based Cognitive Radio Networks

Mohammad Mirtavoosi Mahyari (King's College London, United Kingdom); Mohammad Shikh-Bahaei (Kings college London, United Kingdom) pp. 181-186