

2012 35th IEEE Sarnoff Symposium

(SARNOFF 2012)

**Newark, New Jersey, USA
21 – 22 May 2012**



IEEE Catalog Number: CFP12PSS-PRT
ISBN: 978-1-4673-1465-7

TABLE OF CONTENTS

Detecting Covert Channels Within VoIP	1
<i>H. Zhao, N. Ansari</i>	
Metrics For Performance Evaluation Of Self-Positioning Autonomous MANET Nodes	7
<i>J. Kusyk, J. Zou, S. Gundry, C. Sahin, M. Uyar</i>	
Introducing Soft Verification as an Improvement of Hard Verification of Cryptographic Check Values	12
<i>N. Zivic</i>	
A Framework for Evaluating Network Optimization Techniques	18
<i>O. Younis, A. Ghetie, S. Eswaran, N. Goldberg, S. Samtani, M. Varshney, M. Patel</i>	
Capacity of Communications Channels with 1-Bit Quantization and Oversampling at the Receiver	23
<i>S. Krone, G. Fettweis</i>	
On the Delay Performance of Block Codes for Discrete Memoryless Channels with Feedback	30
<i>R. Lubben, M. Fidler</i>	
Capacity-Interference Investigation in Cognitive Radio Networks with Beacon	36
<i>F. Shayegh, M. Soleymani</i>	
Resource Allocation for Throughput Enhancement in Cellular Shared Relay Networks	42
<i>M. Fadel, A. Hindy, A. El-Keyi, M. Nafie, O. Koyluoglu, A. Tulino</i>	
A Simple Slicer For Soft Detection In Gray-Coded QAM-Modulated MIMO OFDM Systems	48
<i>C. Yeung, J. Lee, S. Kim</i>	
Analysis and New Implementations of Periodogram-based Spectrum Sensing	53
<i>O. Olabiyi, A. Annamalai</i>	
Parallel Multi-channel Detection: A Practical Solution to Energy Detection of Heterogeneous Wideband Spectrum	58
<i>O. Olabiyi, A. Annamalai</i>	
On the Pareto Optimum of Long-Term Max-Min Beamforming with General Power Constraints	63
<i>G. Dartmann, X. Gong, G. Ascheid</i>	
Utility Ethernet Network Architecture Networked Electrical eXchange Topology-NEXT	68
<i>T. Janca</i>	
Outage Performance of MIMO Two-Way AF Relaying with End-to-End Antenna Selection	74
<i>P. Upadhyay, S. Prakriya</i>	
Particle Swarm Optimization based Topology Control Mechanism for Holonomic Unmanned Vehicles Operating in Three-dimensional Space	79
<i>J. Zou, S. Gundry, J. Kusyk, C. Sahin, M. Uyar</i>	
Wide-band Spectrum Sensing Using Neighbor Orthogonal Matching Pursuit	84
<i>L. Zhou, H. Man</i>	
HyScaleII: A High Performance Hybrid Optical Network Architecture for Data Centers	89
<i>S. Saha, J. Deogun, L. Xu</i>	
Performance of Discrete Wavelet Transform-Based Deconvolution Applied to Multipath Channel Estimation	94
<i>C. Vaz, D. Daut</i>	
A Cluster-based Hybrid Access Protocol for Wireless Sensor Networks	99
<i>M. Zhang, A. Babaei, P. Agrawal</i>	
Rate Adaptation for Interference Cancellation Receivers in Slowly Time-Variant MIMO Channels	104
<i>E. Ohlmer, G. Fettweis</i>	
Markov Chain Model for Differential Evolution Based Topology Control in MANETs	109
<i>S. Gundry, J. Zou, J. Kusyk, C. Sahin, M. Uyar</i>	
Impact of Network Structure on Latency in Complex Networks	114
<i>Z. Hu, P. Verma</i>	
Identity Based Partial Aggregate Signature Scheme Without Pairing	120
<i>S. Selvi, S. Vivek, J. Shriram, C. Rangan</i>	
MCS: Buffered Clos-Network Switch with In-Sequence Packet Forwarding	126
<i>Z. Dong, R. Rojas-Cessa</i>	
Evaluation of Switching Performance of a Virtual Software Router	132
<i>R. Rojas-Cessa, K. Salehin, K. Egoh</i>	
Location-constrained Survivable Network Virtualization	137
<i>Q. Hu, Y. Wang, X. Cao</i>	

Flexible and Robust Video Delivery Based on Self-Contained Multimedia Segments	142
<i>R. Haimi-Cohen, J. Hearn, M. Scheutzow, E. Levy, L. Wu, D. Livescu, P. Wilford</i>	
Combining LT Codes And XOR Network Coding For Reliable And Energy Efficient Transmissions In Wireless Sensor Networks	147
<i>A. Apavatjirut, K. Jaffres-Runser, C. Goursand, J. Gorce</i>	
Attack Detection in Water Supply Systems using Kalman Filter Estimator	153
<i>K. Manandhar, X. Cao, F. Hu</i>	
Low Complexity Fair Queueing Driven Wireless Multiuser Scheduler	159
<i>W. Pu, C. Chen</i>	
Digital Pre-distortion of Power Amplifier Impairments in Spectrally Agile Transmissions	165
<i>Z. Fu, L. Anttila, M. Valkama, A. Wyglinski</i>	
Energy-Conscious Prototype for Enabling Multi-Protocol Wireless Communications	171
<i>T. Collins, P. Desantis, D. Vecchiarelli, A. Wyglinski, S. McGrath</i>	
Estimation of Spectrum Occupancy in Heterogeneous Radio Access Environments using Random Spectral Sampling	176
<i>S. Rocke, A. Wyglinski</i>	
Measuring Video Quality Degradation Using Face Detection	182
<i>B. Karacali, A. Krishnakumar</i>	
A QoS Based Cooperative Spectrum Utilization in Cognitive Radio Networks	187
<i>G. Uyanik, S. Oktug</i>	
On Coding Efficiency for Flash Memories	192
<i>X. Ma</i>	
A Cross-Layer MAC/PHY Framework for PER Guarantee in Multiuser Detection Based Ad Hoc Networks	197
<i>P. Kouraogo, Z. Dziong, M. Haidar, F. Gagnon</i>	
Dynamic Frequency Allocation Scheme for a Standalone Wireless Access Point	203
<i>O. Abu-Sharkh, R. Qandah, M. Baba, M. Sabah</i>	
Performance Comparison of Dual-Cell HSDPA and Long Term Evolution in Macro Cellular Network	208
<i>M. Sheikh, J. Lempainen</i>	
Instantaneous Rate Based Cooperative MAC Protocol for Wireless Ad hoc Networks	213
<i>M. Khalid, Y. Wang, I. Ra, R. Sankar</i>	
MoCCA: A Mobile Cellular Cloud Architecture	218
<i>A. Mishra, G. Masson</i>	
Performance Evaluation of Flexible TDD Switching in 3GPP LTE System	224
<i>Y. Wang, K. Valkealahti, K. Shu, R. Sankar, S. Morgera</i>	
Secure & Trusted Communication in Emergency Situations	228
<i>A. Michalas, M. Bakopoulos, N. Komninos, N. Prasad</i>	
The Impact of Transmission Errors in MAC Schemes for Distributed Wireless Networks	233
<i>A. Furtado, R. Oliveira, M. Lufs, R. Dinis, L. Bernardo, P. Montezuma</i>	
On the Noise Power Estimation in the Presence of the Signal for Energy-Based Sensing	238
<i>S. Sequeira, R. Mahajan, P. Spasojevic</i>	
Location Aided Carrier Frequency Offset Estimation for Uplink OFDMA Systems	243
<i>Y. Nasser, H. Merhe, M. Helard</i>	
Performance of Permutation Trellis Codes in Cognitive Radio Networks	249
<i>R. Bardan, E. Masazade, O. Ozdemir, P. Varshney</i>	
Feedback Information and Energy Efficiency of MIMO Transmission Modes in LTE	255
<i>O. Adigun, C. Politis</i>	
A Low Complexity Scheme for Joint Channel Estimation and PAPR Reduction Technique	260
<i>R. Mounzer, Y. Nasser, J. Helard</i>	
Ask, Don't Search: A Social Help Engine for Online Social Network Mobile Users	266
<i>T. Vu, A. Baid</i>	
Securing the Mobile Enterprise with Network-Based Security and Cloud Computing	271
<i>G. Reyes, S. Macwan, D. Chawla, C. Serban</i>	
Catching the Wily Hacker: A Multilayer Deception System	276
<i>W. Wang, J. Bickford, I. Murynets, R. Subbaraman, A. Forte, G. Singaraju</i>	
Measuring and Quantifying the Silent Majority on the Internet	282
<i>M. Venkataraman, K. Subbalakshmi, R. Chandramouli</i>	
Wireless Multi-hop Network Topology Control Optimization and Trade-off Analysis	287
<i>E. Stai, V. Karyotis, S. Papavassiliou</i>	
Content Delivery in the MobilityFirst Future Internet Architecture	293
<i>F. Zhang, K. Nagaraja, Y. Zhang, D. Raychaudhuri</i>	

An MDP Framework for Centralized Dynamic Spectrum Auction	298
<i>J. Alcaraz, M. Lopez-Martinez, J. Vales-Alonso, J. Garcia-Haro</i>	
Roadside Infrastructure Planning for Vehicle Trajectory Collection	303
<i>T. Yan, G. Wang</i>	
Wireless Access Considerations for the MobilityFirst Future Internet Architecture	308
<i>A. Baid, D. Raychaudhuri</i>	
Active Queue Management With Variable Bottleneck Rate	313
<i>A. Francini</i>	
Energy Harvesting Two-hop Networks: Optimal Policies for the Multi-Energy Arrival Case	319
<i>O. Orhan, E. Erkip</i>	
Author Index	