

**UKIWCWS 2009 – Final Program**

**11 December, 2009**

**9 – 10 Opening Ceremony**

**10.00 – 10.40 – Tea**

**Session – D1.1: 10.40 – 12.40 (6 papers) Cognitive Radio 1 Chair: Prof. Jonathon A Chambers**

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|-------------|---|
| 10.40-11.00 | <i>Cooperative Compressive Spectrum Sensing by Sub-Nyquist Sampling</i><br><b>Hongjian Sun; David I Laurenson; John Thompson</b>                                  |
| 11.00-11.20 | <i>Light Cognitive Radio Enabled Inter Operator Flexible Spectrum Usage for IMT-Advanced</i><br><b>Sanjay Kumar</b>   |
| 11.20-11.40 | <i>Opportunistic Interference Alignment in Cognitive MIMO with Finite Rate Feedback</i><br><b>Sudharsan Ganesan; Mathini Sellathurai; Tharmalingam Ratnarajah</b> |
| 11.40-12.00 | <i>Spectrum Sharing in Multi-Service Cognitive Network Using Reinforcement Learning</i><br><b>Ayoub Alsarhan; Anjali Agarwal</b>                                  |
| 12.00-12.20 | <i>A Hybrid Energy Detection Approach to Spectrum Sensing</i><br><b>Badrinath Srinivasan; Umapathi Reddy</b>  |
| 12.20-12.40 | <i>Sequential Detection based Cooperative Spectrum Algorithms in Cognitive Radio</i><br><b>Vinod Sharma; Arunkumar Jayaprakasam</b>                               |

**12.40 – 14.00 – Lunch – IIT Delhi, Faculty Guest House**

**Session – D1.2: 14.00 – 15.40 (5 papers) Cognitive Radio 2 Chair: Dr John Thompson**

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| 14.00-14.20 | <i>Power Allocation Under Service-Outage Constraints for Spectrum-Sharing Cognitive Radio Networks</i><br><b>Leila Musavian; Sangarapillai Lambotharan</b>           |
| 14.20-14.40 | <i>Collaborative Spectrum Sensing: Optimising the number of collaborating users</i><br><b>Kamran Arshad; Klaus Moessner</b>  |
| 14.40-15.00 | <i>Cooperative Change Detection using Physical Layer Fusion</i><br><b>Mustafa Khandwawala; Nirmal Shende; Chandra R Murthy</b>                                       |
| 15.00-15.20 | <i>On the Mutual Information of Cognitive Relay Assisted Rayleigh Fading MIMO Channel</i><br><b>Md. Zahurul Sarkar; Tharmalingam Ratnarajah; Mathini Sellathurai</b> |
| 15.20-15.40 | <i>Outage Analysis of Causal Cognitive Radio Channel</i><br><b>Faheem Ahmad Khan; Tharmalingam Ratnarajah; Mathini Sellathurai; Shankar Prakriya</b>                 |

**15.40 – 16.00 – Tea**

**Session – D1.3: 16.00 – 17.20 (5 papers) Cognitive Radio 3 Chair: Prof. Ranjan K Mallik**

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| 16.00-16.20 | <i>On the Design of Location-Invariant Sensing Performance for Secondary Users</i><br><b>Srikanth B Pai; Tanumay Datta; Chandra R Murthy</b>     |
| 16.20-16.40 | <i>On hybrid power allocation scheme for OFDM based cognitive radio</i><br><b>Adrish Banerjee; Shakti Malik</b>                                  |
| 16.40-17.00 | <i>Design Issues in Wide Scanning Range Cognitive Radios</i><br><b>Girish V; Anoop Nair; G S Visweswaran</b>                                     |
| 17.00-17.20 | <i>Information Theoretic Analysis of Cooperative Relay in Cognitive Radio</i><br><b>Rozeha A. Rashid; Norazizah Mohd Aripin; Norsheila Fisal</b> |
| 17.20-17.40 | <i>Wireless options for high data-rate indoor users: cognitive access to TV white space</i><br><b>Santosh Kawade; Maziar Nekovee</b>             |

**19.00 – 23.00 – Banquet – Villa Medici, Taj Mahal Hotel, New Delhi**

**12 December, 2009**

**9 – 10 Keynote speech: Professor Vijay K. Bhargava, University of British Columbia, Canada**

**10.00 – 10.30 – Tea**

**Session – D2.1a: 10.30 – 12.50 (7 papers) Cognitive Radio 4 Chair: Prof. Bernie Mulgrew**

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| 10.30-10.50 | <i>Adaptive Subcarrier and Bit Allocation Techniques for MIMO-OFDMA based Uplink Cognitive Radio Networks</i><br><b>Yogachandran Rahulamathavan; K. Cumanan; R. Krishna; Sangarapillai Lambotharan</b> |
| 10.50-11.10 | <i>Dynamic Spectrum Allocation Technique in Cognitive Radio Networks</i><br><b>Shashikala Tapaswi; Prabhakar Sharma</b>  |
| 11.10-11.30 | <i>Collaborative Spectrum Sensing in OFDM-based Cognitive Radio</i><br><b>Kamran Arshad; Ghassan Alnwaimi; Klaus Moessner</b>  |
| 11.30-11.50 | <i>An Efficient Spectrum Mobility Management Strategy in Cognitive Radio Networks</i><br><b>Prabhjot Kaur</b>  |
| 11.50-12.10 | <i>Outage Behavior of MIMO Cognitive Radio Fading Channels: A Causal Approach</i><br><b>Md. Zahurul Sarkar; Tharmalingam Ratnarajah; Mathini Sellathurai</b>   |
| 12.10-12.30 | <i>Cognitive Radio as Common Information Exchange Reference Model for Interoperability between Hetrogeneous Networks</i><br><b>Prabhjot Kaur</b>   |
| 12.30-12.50 | <i>BER Performance of Regenerative Multi-antenna Cooperative Relay network in Rayleigh Fading Channel</i><br><b>Himanshu Katiyar; Ratnajit Bhattacharjee</b>   |

**Session – D2.1b: 10.30 – 12.50 (7 papers) Wireless Comms 1 Chair: Prof. David Parish**

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| 10.30-10.50 | <i>Secure Wireless Multicasting Through Rayleigh Fading Channels-A Secrecy Tradeoff</i><br><b>Md. Zahurul Sarkar; Tharmalingam Ratnarajah; Mathini Sellathurai</b>     |
| 10.50-11.10 | <i>A Diversity Analysis for Block-Fading Amplify-and-Forward Systems</i><br><b>Ioannis Krikidis; John Thompson; Steve McLaughlin</b>                                   |
| 11.10-11.30 | <i>Network coding-based retransmission schemes for 4G multicast/broadcast networks with shared feedback channel</i><br><b>Naveen Arulsevan; Mohammad Shaheer Zaman</b> |
| 11.30-11.50 | <i>Unequal Error Protection based LV Segmented CMR Image Transmission Through Wireless Communication Channels</i><br><b>Sarada Prasad Dakua</b>                        |
| 11.50-12.10 | <i>Robust Orthogonal Space-Time Block Coding Scheme for Use in Asynchronous Cooperative Relay Networks</i><br><b>Faisal Alotaibi; Jonathon A Chambers</b>              |
| 12.10-12.30 | <i>On the Performance of Cooperative DS CDMA System using Distributed Space Time Spreading</i><br><b>Rajeev Gangula; Ratnajit Bhattacharjee</b>                        |
| 12.30-12.50 | <i>SNDT: a genetic algorithm-based Sensor Network Design Tool</i><br><b>David Parish; Jin Fan</b>  |

**12.50 – 14.10 – Lunch – IIT Delhi, Faculty Guest House**

Session – D2.2a: 14.10 – 16.50 (8 papers)

Wireless Comms 2

Chair: Dr. Adrish Banerjee

|             |  |
|-------------|--|
| 14.10-14.30 | <i>A Novel Multiple Access Scheme using MSE-OFDM for Uplink</i><br><b>Poonam Singh; Saswat Chakrabarti</b>   |
| 14.30-14.50 | <i>Outage Performance of MIMO Two-Way DF Relaying with 2X2 OSTBC and PNC</i><br><b>Prabhat Kumar Upadhyay; Shankar Prakriya</b>                      |
| 14.50-15.10 | <i>MIMO Two-Way Relaying in Frequency Selective Environment using OFDM</i><br><b>Tanvi Sharma; Akshay Soni; Mohit Chandwani; Vijay Chakka Kumar</b>  |
| 15.10-15.30 | <i>Combined Phase and Code Optimization for PAPR Reduction in M-ary CI/MC-CDMA System</i><br><b>Santi Prasad Maity; Mithun Mukherjee</b>             |
| 15.30-15.50 | <i>Performance of Concatenated Complete Complementary Code in CDMA Systems</i><br><b>Gnanasundaram Suchitra; Valarmathi L. M</b>                     |
| 15.50-16.10 | <i>Clustered and Leveled Disjoint Multipath Routing Algorithm for Wireless Sensor Networks</i><br><b>Mohammad Shaheer Zaman; Garimella Rammurthy</b> |
| 16.10-16.30 | <i>Preventing Harmful Cognitive Radio Users from Transmission in the Presence of Primary Users</i><br><b>Mona Fathollahi; Majid Soleimanipour</b>    |
| 16.30-16.50 | <i>Minimax Probability Machine Regression For Wireless Traffic Short Term Forecasting</i><br><b>Yu Kong</b>  |

Session – D2.2b: 13.50 – 16.50 (8 papers)

Wireless Comms 3

Chair: Prof. Ravinder David Koilpillai

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|-------------|---|
| 14.10-14.30 | <i>A new degree distribution for LT codes for broadcasting in ad-hoc network using Network coding</i><br><b>Mohammad Shaheer Zaman; Garimella Rammurthy</b>   |
| 14.30-14.50 | <i>Application of distributed MIMO waterfilling algorithm for broadband channels and its performance in the presence of CSI errors</i><br><b>Amod Jai Ganesh Anandkumar; Sangarapillai Lambotharan; Jonathon A Chambers</b> |
| 14.50-15.10 | <i>Performance Analysis of Tree Based Interleaver with Iterative IDMA Receivers using Optimum Power Allocation Algorithm</i><br><b>Manoj Kr Shukla</b>  |
| 15.10-15.30 | <i>End-to-End Delay Analysis of an ESS of Metro Wi-Fi Network over Fading Channel</i><br><b>Mehdi Gorgin Nia</b>  |
| 15.30-15.50 | <i>Multi Hopping Effect of Zigbee Nodes Coexisting with WLAN Nodes in Heterogeneous Network Environment</i><br><b>Tamil Selvan; A. Shanmugam</b>  |
| 15.50-16.10 | <i>Performance Analysis for Cooperative Relay with Power Control Scheme over Fading Channel</i><br><b>Anis Izzati ahmad zamani; Rozeha A. Rashid; Sharifah K. Syed-Yusof; Norsheila Fisal</b>                               |
| 16.10-16.30 | <i>Cooperative Spectrum Sensing Protocols in Cognitive Radio Based on Energy Detection</i><br><b>Stergios Stotas; Nallanathan Arumugam</b>  |
| 16.30-16.50 | <i>Media-engine for Multiparty Conferencing in VoIP</i><br><b>Senthil Kumar Mani; Bala Manikya Prasad Gupta; Kamesh M; Nathan Mani</b>  |

16.30 – 17.30 – High Tea & close