

# **2009 Australian Communications Theory Workshop**

## **(AusCTW)**

**Sydney, Australia  
4 – 7 February 2009**



**IEEE Catalog Number:** CFP09845-PRT  
**ISBN:** 978-1-4244-3356-8

## Table of Contents

|   |    |
|---|----|
| <b>Fixed-Point Fast Decoding of the Silver Code</b><br>Yiyue Wu and Linda Davis . . . . .   | 1  |
| <b>Highly Time Varying Channel Estimation for OFDMA Uplink Transmission in IEEE 802.16e Network</b><br>Mohammad Fazle Rabbi, Shengwei Hou, and C. C. Ko . . . . . | 6  |
| <b>The Effect of Timing Jitter on High-speed OFDM Systems</b><br>Lei Yang, Paul Fitzpatrick, and Jean Armstrong . . . . .   | 12 |
| <b>Performance and Complexity of Adaptive Lattice Reduction in Fading Channels</b><br>Alan T. Murray and Steven R. Weller . . . . .                               | 17 |
| <b>Performance of the Golden Code in the Presence of Polarization Diversity</b><br>Songsri Sirianunpiboon, Linda M. Davis, and Robert Calderbank . . . . .        | 23 |
| <b>An Optimal Asynchronous IDMA Receiver</b><br>Bathiya Senanayake, Mark C. Reed, and Zhenning Shi . . . . .  | 28 |

|  |     |
|--|-----|
| <b>An Improved Upperbound for <math>(n, k, m)</math> Systematic Convolutional Codes in Burst Erasure Channels</b>        | 3 3 |
| Huan Deng, Margreta Kuijper, and Jamie S. Evans . . . . .  |     |
| <b>Channel Estimation and Detection for Single Carrier Systems</b>   | 3 8 |
| Khaled Amleh and Hongbin Li . . . . .  |     |
| <b>Statistical Properties of Amplify and Forward Relay Links with Channel Estimation Errors</b>                          | 4 4 |
| Foroogh S. Tabataba, Parastoo Sadeghi, Tharaka Lamahewa, and Mohammad R. Pakravan . . . . .                              |     |
| <b>Transmit Power Control in MIMO Cellular Systems</b>   | 5 0 |
| Tim W. King and Peter J. Smith . . . . .   |     |
| <b>A Different Approach to the Dimensionality of Wave Fields</b>   | 5 6 |
| Oliver Nagy, Leon Craven, Leif Hanlen . . . . .  |     |
| <b>Performance of Cognitive Radio Systems with Imperfect Radio Environment Map Information</b>                           | 6 1 |
| Muhammad Fainan Hanif, Peter J. Smith, and Mansoor Shafi . . . . .   |     |
| <b>A Residual Frequency Offset Synchronization Scheme Using a Simplified CORDIC Algorithm in OFDM Systems</b>            | 6 7 |
| Jae-Woong Han and Young-Beom Jang . . . . .  |     |
| <b>Performance Analysis of Multi-branch Dual-hop Non-regenerative Fixed Gain Relay Systems in Nakagami-m Channels</b>    | 7 1 |
| Hieu Q. Huynh, Syed Imtiaz Husain, Jinhong Yuan, Hajime Suzuki, and D. S. Taubman . . . . .                              |     |
| <b>Sensor Selection for Distributed Detection via Multiaccess Channels</b>   | 7 7 |
| Feng Li, Mark D. McDonnell, Pierre-Olivier Amblard, and Alex J. Grant . . . . .  |     |
| <b>Mutual Information Distribution of Spatially Correlated MIMO-OFDM Systems in the Low Signal-to-Noise Ratio Regime</b> | 8 3 |
| Nick Letzepis, André Pollok, and William Cowley . . . . .  |     |

|   |       |
|---|-------|
| <b>Filter Optimisation and Timing Drift in High-Rate OFDM Systems</b>                         | 9 0   |
| William. G. Cowley, André Pollok, and Nick Letzepis . . . . .                                 |       |
| <b>Performance Degradation of Shared Spectrum Systems from Interference Misclassification</b> | 9 4   |
| Alan J. Coulson . . . . .   |       |
| <b>Clipping Noise Compensation for OFDMA Systems</b>  | 1 0 0 |
| Ying Chen, Jian (Andrew) Zhang, and Dhammadika Jayalath . . . . .                             |       |
| <b>Energy Efficient Cooperative Communications using Location based Relaying</b>              | 1 0 5 |
| Arvind Chakrapani, Robert Malaney, and Jinhong Yuan . . . . .                                 |       |
| <b>Alpha-Rule Scheduling for MIMO Broadcast Wireless Channels with Linear Receivers</b>       | 1 1 0 |
| M. Arif Khan, Rein Vesilo, Iain B. Collings, and Linda M. Davis . . . . .                     |       |
| <b>Rate-Diversity-Delay Tradeoff for ARQ Systems over MIMO Block-Fading Channels</b>          | 1 1 6 |
| Khoa D. Nguyen, Lars K. Rasmussen, Albert Guillén i Fàbregas, and Nick Letzepis . . . . .     |       |