

**Preliminary Program of the 3<sup>rd</sup> Workshop on the Internet,  
Telecommunications and Signal Processing, WITSP'04**

**Adelaide, 20-22 December 2004**

**Monday, 20 December 2004**

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| 8:30 a.m. – 9:30 a.m.   | <b>Registration</b>   |
| 9:30 a.m. – 10:30 a.m.  | <b>Official Opening</b> – Assoc. Prof. T. Wysocki<br><b>Keynote Address</b> – Prof. M. Miller |
| 10:30 a.m. – 11:00 a.m. | <b>Coffee Break</b>   |
| 11:00 a.m. – 12:30 p.m. | <b>Signal Processing 1</b>  |
| 12:30 p.m. – 1:30 p.m.  | <b>Lunch</b>  |
| 1:30 p.m. – 3:00 p.m.   | <b>Communication Systems 1</b>  |
| 3:00 p.m. – 3:30 p.m.   | <b>Coffee Break</b>   |
| 3:30 p.m. – 5:00 p.m.   | <b>Networking 1</b>   |
| 6:30 p.m. – 8:30 p.m.   | <b>Cocktail Reception</b>   |

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**Tuesday, 21 December 2004**

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| 9:00 a.m. – 10:30 a.m.  | <b>Networking 2</b>  |
| 10:30 a.m. – 11:00 a.m. | <b>Coffee Break</b>  |
| 11:00 a.m. – 12:30 p.m. | <b>Communication Systems 2</b>   |
| 12:30 p.m. – 1:30 p.m.  | <b>Lunch</b>   |
| 1:30 p.m. – 2:30 p.m.   | <b>Poster Session 1</b> ( <i>Networking</i> )                                  |
| 2:30 p.m. – 3:00 p.m.   | <b>Coffee Break</b>  |
| 3:00 p.m. – 4:00 p.m.   | <b>Poster Session 2</b> ( <i>Signal Processing and Communication Systems</i> ) |
| 7:00 p.m. – 11:30 p.m.  | <b>Banquet</b>   |

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## Wednesday, 22 December 2004

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| 9:00 a.m. – 10:30 a.m.  | <b>Signal Processing 2</b>                |
| 10:30 a.m. – 11.00 a.m. | <b>Coffee Break</b>                       |
| 11:00 a.m. – 12:30 p.m. | <b>Communication Systems 3</b>            |
| 12:30 p.m. – 1:30 p.m.  | <b>Lunch</b>                              |
| 1:30 p.m. – 3:00 p.m.   | <b>Networking 3</b>                       |
| 3:00 p.m. – 3:30 p.m.   | <b>Coffee Break / End of the Workshop</b> |

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## Sessions

### Signal Processing 1

G.A.D Punchihewa, D. G. Bailey, and R. M. Hodgson: *Objective Quality Assessment of Coded Images: The development of New Quality Metrics*, Massey University, New Zealand

R. Hammi, N. Chihab, A. Zergainoh, K. Chen, and J.-P. Astruc: *Improvement of the video quality based on dynamic rate control and frames reconstruction postprocessing*, Université Paris 13, France

S. Lowther, C. McCool, V. Chandran, and S. Sridharan: *Improving Face Localisation using Claimed Identity for Face Verification*, Queensland University of Technology, Australia

A. Nguyen, V. Chandran, and S. Sridharan: *GAZEJ2K: A Gaze-Influenced JPEG 2000 Image Coder*, Queensland University of Technology, Australia

J. Cook, J. Baker, V. Chandran and S. Sridharan: *3D Face Acquisition, Modelling and Recognition*, Queensland University of Technology, Australia

### Signal Processing 2

J. Tsui, and S. Reisenfeld: *A Highly Accurate DFT-based Complex Exponential Phase Estimator*, University of Technology, Sydney, Australia

S. Sirianunpiboon, J. Tsimbinos: *Optimum Decision Feedback Equalisation of Nonlinear Channels By Symbol Substitution and MAP Estimators*, Defence Science and Technology Organisation, Australia

I. Russell, J. Xi, and A. Mertins: *Global Optimization of Uninitialized Convolutional Blind Signal Separation Problems in the Time Domain*, University of Wollongong, Australia, University of Oldenburg, Germany

K. Raju, and B. P. Sudheer: *Blind Source Separation for Interference Cancellation - A Comparison of several spatial and temporal statistics based techniques*, Helsinki Univ. of Technology, Finland

J. Jusak and Z. M. Hussain: *Evaluation of A Sinusoidally-Distributed Dithering for Signed-Error Constant Modulus Algorithm: Performance Comparison with Uniformly-Distributed Dithering*, RMIT University, Australia

Qi Cheng: *Constrained CRB for Blind Identification of MIMO FIR Systems*, University of Western Sydney, Australia

## Networking 1

M. P. Morrison, G. A. D. Punchihewa, L. De Silva, and F. M. Al-Ali: *Aggregating Packets to Improve 802.11 Wireless Network Performance*, Massey University, New Zealand

L. B. White, and B. A. Chiera: *LQG Congestion Control for TCP*, The University of Adelaide, Australia

G. Daley, Y. A. Sekercioglu, and G. K. Egan: *Minimizing Authorization Delegation Discovery Delays in Secured IPv6 Router Discovery*, Monash University, Australia

M.-M. Tromparent: *Setup Delay Optimization for IP Telephony Calls within the Resource Management Architecture*, Munich University of Technology (TUM), Germany

I. Akiyoshi, T. Yagyu, and H. Dempo, A. Iwasaki, and T. Okagawa: *Scalability Evaluation of IP-based IMT Network Platform*, NEC Corporation and NTT DoCoMo, Inc., Japan

J. Tovirac, and W. Zhang: *Enhancement Schemes to P Mul Multicasting Protocol*, University of South Australia, Defence Science and Technology Organisation, Australia

## Networking 2

S. Jayasinghe: *A Performance Comparison of Ad-hoc Routing Protocols in the Presence of Different Mobility Models*, Defence Science and Technology Organisation, Australia

Z. Liu, M. Kwiatkowska, and C. Constantinou: *A Biologically Inspired Optimisation to AODV Routing Protocol*, The University of Birmingham, UK

C. Y. Ng, Y. Mu, and W. Susilo: *A Secure Identity-based Mobile Ad-Hoc Protocol*, University of Wollongong, Australia

G. Srivastava, P. Boustead: *Achieving a Minimum Node Degree in Ad-hoc Networks*, University of Wollongong, Australia

S. Ding, A. Dadej, and S. Gordon: *Internet Integrated MANETs using Mobile IP*, University of South Australia, Australia

M. Abolhasan, J. Lipman, and T. Wysocki: *Load-Balanced Route Discovery for Mobile Ad hoc Networks*, University of Wollongong, Australia

### **Networking 3**

M. Blanc, L. Oudot, P. Clemente, P. Courtieu, C. Toinard, S. Franche, and L. Vessiller: *Hardening large-scale networks security through a meta-policy framework*, CEA, LIFO, ENSI-Bourges, France

T. T.T. Nguyen, and G. J. Armitage: *Quantitative Assessment of IP Service Quality in 802.11b Networks*, Swinburne University of Technology, Australia

A. Kotwal, and Z. Chaczko: *Secure Network Application Proxy*, University of Technology, Sydney, Australia

Z. Chaczko, T. Gulrez, R. Alhmouz, and R. Braun: *Modelling a Holonic Network System using Cellular Automata for Detecting Traffic Congestion*, University of Technology, Sydney, Australia

B. Landfeldt, and N. Kolodziej: *A Dynamic Location Management Scheme based on individual metrics and coordinates*, University of Sydney, Australia

P. Pourbeik, D. Perisa, and A. Allwright: *OSPF as a Service Recovery Mechanism in Military Networks: a Comparative Study of Test-bed and Simulated Results*, Defence Science and Technology Organisation, Australia

### **Communication Systems 1**

T. A. Lamahewa, M. K. Simon, T. D. Abhayapalay, and R. A. Kennedy: *Exact Pairwise Error Probability Analysis of Space-Time Codes in Realistic Propagation Environments*, The Australian National University, Australia, and California Institute of Technology, USA

C. Teekapakvisit, V.D. Pham, and B. Vucetic: *An Adaptive Iterative Receiver for Space-Time Coding MIMO Systems*, The University of Sydney, Australia

F. Choy, J. Homer: *Performance Analysis of Multiple Input Multiple Output OFDM based Mobile Computer Systems*, Queensland University of Technology, and The University of Queensland, Australia

P. Conder, and T. A. Wysocki: *Extending Asterism decoding to QAM and its complexity in Rician fading MIMO systems*, University of Wollongong, Australia

T. Wada, K. Ohuchi, H. Okada, A. Jamalipour, M. Saito: *A Study on Effect of Turbo Codes with Unequal Power Allocation on Multi-hop Networks*, Shizuoka University, Nagoya University, Japan, The University of Sydney, Australia, and Nara Institute of Science and Technology, Japan

M. Qiu, Q. Shao: *Multi-tent map for UWB Impulse Radio Based on Pseudo-Chaotic Time Hopping*, Fudan University, PRC

## Communication Systems 2

A.V. Kelarev: *Minimum distances and information rates for matrix extensions of BCH codes*, University of Tasmania, Australia

B. Flores-Centurion, P. B. Rapajic, and S. J. Johnson: *LDPC Performance over Channels with ISI*, The University of New South Wales, and The University of Newcastle, Australia

F. Vanhaverbeke, and M. Moeneclaey: *An Extension of Total Squared Asynchronous Correlation to the Chip-unaligned Case*, Ghent University, Belgium

D. Carey, B. Senadji, and D. Roviras: *Statistical Modeling of Multiple Access Interference Power: A Nakagami-M Random Variable*, Queensland University of Technology, Australia, and INPT/ENSEEIH-IRIT, France

W.Y.Leong, and J.Homer: *Implementing Blind Multiuser Detector in CDMA Wireless System*, The University of Queensland, Australia

P. H. Tan, and L. K. Rasmussen: *Multiuser Detection Based on Gaussian Approximation*, Chalmers University of Technology, Sweden, and The University of South Australia, Australia

## Communication Systems 3

A. Smokvarski, and B.Popovski: *Combination of a Transmitter and Receiver Diversity Scheme with Channel Estimation*, COSMOFON, MTS-Mobile Telecommunications Services, and The University St.Kiril & Metodija, Republic of Macedonia

Y.-S. Lau, and Z. M. Hussain: *Chaotic-based OFDM-CDMA for Secure Digital Communications: Performance Comparison with PN-based OFDM-CDMA*, RMIT University, Australia

K. H. Lin, and Z. M. Hussain: *Adaptive Bit and Power Allocation with Sub-Channel Grouping for OFDM Systems*, RMIT University, Australia

H. M. Jones, S. Xu, and K. Blackmore: *Link Ratio for Ad Hoc Networks in a Rayleigh Fading Channel*, Australian National University, Australia

M. Williamson, and M. Faulkner: *Improved Adaptation Scheme for an Adaptive Wideband Duplexer*, Victoria University, Australia

M. Hedef, and S.Weiss: *A Semi-Blind Channel Equalisation Strategy for the UMTS-TDD Downlink*, University of Southampton, UK

## Poster Session 1 (Networking)

S. T. Obenofunde, B. M. Ali, S. Khatun, and M. B. Ismail: *Effects of User Authentication in Mobile IPv6*, Universiti Putra, Malaysia, and Universiti Kebangsaan, Malaysia

H. Zhou, J. Leis, D. Hoang, and P. Nhan: *Throughput and Fairness of Multiple TCP Connections in Wireless Networks*, University of Southern Queensland, and University of Technology, Sydney, Australia

N. Sharma, D. Chadha, and V. Chandra: *Generalized Algorithm for Finding all Connections in an Optical WDM Network*, Indian Institute of Technology, India

C.-C. Ooi, and N. Fisal: *Implementation and Real World Testing of Geocast-enhanced AODV-bis Routing Protocol*, Universiti Teknologi Malaysia, Malaysia

M. K. Sinclair, G. A. Punchihewa, F. M. Al-Ali, and L. De Silva: *A Novel Implementation of the AODV Routing Protocol without Hello Messages*, Massey University, New Zealand

G. P. Navarrete, S. I. Sandvik, J. I. Agbinya: *Architectures of Moving Wireless Networks*, University of Technology Sydney, Australia

K. Sandrasegaran, K. Pillay, and P. Tsang: *Forecasting the growth of GSM networks in Australia using Regression Analysis*, University of Technology Sydney, Australia

T. Kubo, H. Yokota, A. Idoue: *A Mobile IP Fast Data Forwarding Method by Cooperating with ARP*, KDDI R&D Laboratories, Inc., Japan

G. Armitage, P. Branch, and L. Stewart: *Mathematical and Experimental Analysis of Limitations in Creating Artificial Jitter for Networked Usability Trials*, Swinburne University of Technology, Australia

J. Foo, N. Mani, and A. Sekercioglu: *Restoration Methods for Bandwidth Guaranteed Paths in MPLS Network*, Monash University, Australia

A. Belhouli, A. Sekercioglu, and N. Mani: *Survey of QoS Provisioning Mechanisms in Wireless All-IP Networks*, Monash University, Australia

J. Huang, W. Susilo, and J. Seberry: *Observations on the Message Integrity Code in IEEE802.11 Wireless LANs*, University of Wollongong, Australia

B.-L. Su, R. Y.-M. Huang, and F. Lee: *A Spanning Tree Path Finding Approach for Ad Hoc Networks*, National Cheng Kung University, Taiwan, and National Center for High-Performance Computing, Taiwan

J. C. McEachen, J. M. Zachary, J. Wang, and K. W. Cheng: *Conversation Exchange Dynamics: A New Signal Primitive for Computer Network Intrusion Detection*, Naval Postgraduate School, USA, and University of South Carolina, USA

Y. K. Rana, S. Jha, and L. Libman: *FEC for TCP Congestion Control over Lossy Links*, University of New South Wales, Australia, and National ICT Australia

## Poster Session 2 (Signal Processing and Communication Systems)

I. S. Raad, P. Vial and T. Wysocki: *A study of UMTS Turbo Codes across Space Time Spreading Channel with the Case of  $m = 1$  and  $m = 2$* , University of Wollongong, Australia

M. Aljada: *Simulation Study of Emerging High Performance Fiber Distributed Data Network*, Curtin University of Technology, Malaysia

K.D.R. Jagath-Kumara: *Evaluation of BCH Codes for Hybrid-ARQ Using Theoretical Analysis and Computer Simulations*, Massey University, New Zealand

A. C. Thompson, and Z. M. Hussain: *A Single-bit Resonator*, RMIT University, Australia

A. C. Thompson, and Z. M. Hussain: *Performance of a Single-Bit Digital Non-Coherent Baseband BFSK Demodulator*, RMIT University, Australia

J. I. Agbinya: *Hand Pose Biometrics Models*, University of Technology, Sydney, Australia

Q. Cheng, H. Zhang: *Fast Algorithms for Carrier Frequency Offset Estimation in OFDM Wireless LAN Systems*, University of Western Sydney, Australia, and Zhengzhou Railway Industrial College, China

W.Y. Leong, J.Homer: *Investigating Nonlinearities in Blind Source Separation*, The University of Queensland, Australia

C.Fookes, F.Lin, V.Chandran, and S.Sridharan: *Super-Resolved Face Images Using Robust Optical Flow*, Queensland University of Technology, Australia

A. Gopalakrishnan, S. S.Mahmoud, and Z. M. Hussain: *An Elliptical Power-Limit Hyperbolic Channel Model for Macrocell Mobile Environment*, RMIT University, Australia

F. A. Sohel, L. S Dooley, and G. C Karmakar: *A Modified Distortion Measurement Algorithm for Shape Coding*, Monash University, Australia

W.Y. Leong, and J.Homer: *Introducing Blind MIMO Identification Systems*, The University of Queensland, Australia

S. Denman, D. Butler, V. Chandran, and S. Sridharan: *Infra-Red Pupil Detection for use in a Face Recognition System*, Queensland University of Technology, Australia

A. C. Thompson, and Z. M. Hussain: *All Digital Adaptive Sigma-Delta Modulator*, RMIT University, Australia