

Preliminary Program

Lunch, Monday 12:30 – 1:30 p.m.

Official Opening, Monday 1:30 – 1:40 p.m. Tadeusz Wysocki

Invited Address, Monday 1:40 – 2:40 p.m. Bahram Honary

1. *Cagri C. Tanriover, Bahram Honary* - Unequal Two-fold Turbo Codes and Digital Image Transmission

Coffee Break, Monday 2:40 – 3:00 p.m.

Session 1, Monday 3:00 – 5:00 p.m.: **Information Theory**

1. *L. H. Charles Lee* - Rate-1/2 180° Phase-Invariant Binary Linear Convolutional Codes and Their Application to Turbo Codes
2. *Henk Wymeersch, Marc Moeneclaey* - ML frame synchronization for turbo and LDPC codes
3. *Ming Sun, Chang-Chun Li, Dong-Feng Yuan* - Performance of Joint Source Channel Decoding of Turbo Codes Using QPSK Modulation
4. *Marcos Antônio da Câmara, Gilberto Arantes Carrijo, and Cícero Carvalho* - Computational methods in the construction of certain binary codes
5. *Xin-Wen Wu, Margreta Kuijper and Parampalli Udaya* - A Lee-Metric Decoding Algorithm for Reed-Solomon Codes over $GF(p)$
6. *Yi Mu and Willy Susilo* - Anonymous Digital-Copyrighted Content Distribution
7. *Hui-Shi Song and Ping Zhang* - Belief-Propagation-Approximated Decoding of Low-Density Parity-Check Codes

Opening Reception, Monday 6:00 – 8:00 p.m.

Session 2, Tuesday 9:00 – 10:30 a.m.: **Space-Time Coding and MIMO Systems**

1. *Van Khanh Nguyen and Langford B. White* - Space-Time Coding in Spatially Correlated Rayleigh Fading Channels

2. *Tony S. Pollock, Thushara D. Abhayapala and Rodney A. Kennedy* - Spatial Limits to MIMO Capacity in General Scattering Environments
3. *Phillip Conder, Tadeusz Wysocki* - Increasing performance of SQRD decoding for LST systems
4. *N.L. Brine, C.C. Lim, A.D. Massie, W. Marwood* - HF Multiple-Input Multiple-Output Capacity Calculation Using Ionosonde Data
5. *Haley M. Jones* - Probability of Multipath Signature Separability

Coffee Break, Tuesday 10:30 – 11:00 a.m.

Session 3, Tuesday 11:00 a.m. – 12:30 p.m.: Multimedia Signal Processing – 1

1. *Tubagus Maulana Kusuma and Hans-Jurgen Zepernick* - On Perceptual Quality Metrics for In-Service Image Quality Assessment
2. *Habibollah Danyali and Alfred Mertins* - Object-Based Image Compression With Simultaneous Spatial and SNR Scalability Support for Multicasting Over Heterogeneous Networks
3. *Mikael Nilsson, Mattias Dahl, and Ingvar Claesson* - HMM-Based Speech Enhancement Applied in Non-Stationary Noise Using Cepstral Features and LOG-Normal Approximation
4. *Golam Sorwar, Manzur Murshed and Laurence Dooley* - Adaptive Centre Distance-dependent Thresholding Search for Fast Motion Estimation
5. *Iain Russell, Jiangtao Xi, Alfred Mertins, and Joe Chicharo* - Blind Separation of Non-Stationary Convolutively Mixed Signals in the Time Domain
6. *Teddy Surya Gunawan, Eliathamby Ambikairajah and Deep Sen* - Comparison of Temporal Masking Models for Speech and Audio Coding Applications

Lunch, Tuesday 12:30 – 1:30 p.m.

Session 4, Tuesday 1:30 – 3:00 p.m.: Wireless Networks – 1

1. *Mehran Abolhasan and Tadeusz A. Wysocki* - Displacement-based Route Update Strategies for Proactive Routing Protocols in Mobile Ad Hoc Networks
2. *Mehran Abolhasan and Tadeusz A. Wysocki* - A Performance study of Dynamic Zone Topology Routing Protocol
3. *Asad Amir Pirzada and Chris McDonald* - A Review of Secure Routing Protocols for Ad hoc Mobile Wireless Networks
4. *Herma van Kranenburg, Ronald van Eijk, Mortaza S. Bargh, Arjan Peddemors, Hans Zandbelt and Jacco Brok* - Federated Service Platform Solutions for Heterogeneous Wireless Networks

5. *Bruno Low, Feng Cai, Marc Andre Armand and Mehul Motani* - Distributed Multi-Code Assignment For DS-CDMA Ad Hoc Network
6. *Aruna Jayasuriya* - Resource Allocation Based on Probability of Handover for 3G Wireless Networks

Coffee Break, Tuesday 3:00 – 3:30 p.m.

Session 5, Tuesday 3:30 – 5:00 p.m.: Implementations – 1

1. *Monthippa Uthansakul, Marek E. Bialkowski* - DOA Estimation by a Smart Antenna with Non-uniform Components operating in a Wide Frequency Band
2. *Mattias Dahl, Ingvar Claesson, Sven Nordebo* - Antenna Array Design using Dual Nested Complex Approximation
3. *Serguei Zagriatski and Marek E. Bialkowski* - Radial Line Slot Array Antenna for IEEE 802.11 b/g Wireless LAN Applications
4. *Piotr Gajewski, Jerzy Lopatka* - Arbitrary Generator for Electromagnetic Compatibility Evaluation Testbed
5. *Yuehe Ge, Karu P. Esselle and Trevor S. Bird* - Antennas for High-Speed Wireless Networks

Session 6, Wednesday 9:00 – 10:30 a.m.: Multimedia Signal Processing 2

1. *Fardin Akhlaghian Tab, Alfred Mertins and Habibollah Danyali* - Multi Resolution Image Segmentation For Scalable Object-Based Wavelet Coding
2. *Jun Kong, D. G. Li and A. C. Watson* - Firearm Identification Using Hierarchical Neural Networks
3. *Anthony Nguyen, Vinod Chandran, Sridha Sridharan and Robert Prandolini* - Guidelines to Using Region of Interest Coding in JPEG 2000
4. *A. V. Trinh and D.T. Nguyen* - Fingerprint Classification based on Extracted Singular Points
5. *W.J. Gillespie and D.T. Nguyen* - Filtering of MPEG Motion Vector Fields for use in Motion-Based Video Indexing and Retrieval
6. *Nils Westerlund, Mattias Dahl, Ingvar Claesson* - Speech Enhancement using an Adaptive Gain Equalizer

Coffee Break, Wednesday 10:30 – 11:00 a.m.

Session 7, Wednesday 11:00 a.m. – 12:30 p.m.: Networking

1. *Qiang Fu and Jadwiga Indulska* - The Effects of Congestion Avoidance on Parallel TCP

2. *S. Suresh, Sylvie Perreau and Aruna Jayasuriya* - Policy Server Architecture for Traffic Congestion Management in IP Networks
3. *Fariza Sabrina, Sanjay Jha* - Fair Resource Allocation in Programmable and Active Networks Using a Composite Scheduler
4. *Julija Tovirac, Weimin Zhang and Sylvie Perreau* - Analysis of Message-Based Reliable Multicast Protocols
5. *Bao Hua Liu, Sanjay Jha, Chun Tung Chou, Pradeep Ray* - Resource Allocation for Networked Application Using Binary Integer Programming

Lunch, Wednesday 12:30 – 1:30 p.m.

Session 8, Wednesday 1:30 – 3:00 p.m.: Signal Processing

1. *Khoa N. Le, Kishor P. Dabke and Gregory K. Egan* - Time-Frequency Signal Processing: Theory and Applications
2. *Rajitha B. Palipana, Kah-Seng Chung* - Application of Polyphase Filters in Terrestrial Digital Video Broadcasting
3. *S. Sirianunpiboon and J. Tsimbinos* - Efficient Root Finding Methods in Decision Feedback Equalisers for Nonlinear Volterra Channels
4. *Mohammad N. Patwary, Predrag Rapajic, Ian Oppermann* - An Adaptive Algorithm for Blind Equalization and Sequence Detection over Time Varying Channel
5. *Dongming Peng, Hamid Sharif, Song Ci* - Unified Retiming Operations on Multidimensional Multirate DSP Systems
6. *Are Hjørungnes, Paulo S. R. Diniz* - Minimum MSE Transmitter and Receiver FIR MIMO Filters Including Decision Feedback and Near-End Crosstalk

Coffee Break, Wednesday 3:00 – 3:30 p.m.

Session 9, Wednesday 3:30 – 5:00 p.m.: Modulation and Channel Access

1. *Yaomin Li, Xiangrong Zhang, Xuetian Zhu, Zheng Zhou*, - Performance Analysis of a Single User TH-SS PPM UWB System with Synchronization Timing Tracking Ability
2. *Peerapong Uthansakul, Marek E. Bialkowski* - Adaptive Subcarrier Technique for Mixed Low and High Data Rate in OFDM-DS-CDMA System
3. *C. R. N. Athaudage, A. D. S. Jayalath* - Enhanced MMSE Channel Estimation Using Symbol Timing Error Statistics for Wireless OFDM Systems
4. *K.L. Brown, M. Darnell* - A Complex Quadrature CCMA Approach for Mobile Networked Systems

5. *Matúš Turcsány, Peter Farkaš* - On Some Properties of Two-dimensional Orthogonal Complete Complementary Codes
6. *K. G. Ng, S. Boussakta and M. Darnell* - Orthogonal Codes for Spread Spectrum Multiple Access Systems Based on 2-D NMNT
7. *Yeong-Jin Seo and Yong-Hwan Lee* - Optimum PSK Signal Mapping for Multi-Phase Binary-CDMA Systems

Banquet, Wednesday 7:00 for 7:30 p.m.

Session 10, Thursday 9:00 – 10:30 a.m.: Wireless Networks – 2

1. *Glenn Platt, Jamil Y. Khan* - QoS Implications of the New GSM/EDGE Flexible Layer One
2. *S. Selvakennedy* - Integrated Performance Analysis of PCF and DCF Schemes over IEEE 802.11a Physical Layer
3. *Ha Duong, Arek Dadej and Steven Gordon* - Transferring Header Compression Context in Mobile IP Networks
4. *Anthony Dang and Bjorn Landfeldt* - Calto: A Self Sufficient Presence System for Autonomous Networks
5. *Justin Lipman, Paul Boustead, Joe Chicharo and John Judge* - Optimised Flooding Algorithms for Ad Hoc Networks
6. *Mieso K. Denko* - A Prediction-Based Mobility Management for Mobile Ad Hoc Networks

Coffee Break, Thursday 10:30 – 11:00 a.m.

Session 11, Thursday 11:00 a.m. – 12:30 p.m.: Implementations – 2

1. *Shyama Kannangara and Michael Faulkner* - Effects of Delay Differences in Double Loop Cancellation on Active Wideband Duplexer
2. *Kevin Harman, Adrian Caldow, Jon Arnold* - A Wideband FPGA-Based Digital Receiver & its Performance as a 50MCPS DSSS Demodulator
3. *Gareth Parker, Kevin Harman, Jon Arnold and Adrian Caldow* - Noncoherent Detection of Unbalanced QPSK Direct Sequence Spread Spectrum Modulation
4. *V. Tunnicliffe, P. D. J. Clark, M. Darnell* - Design Validation and Fading Phenomena of a Wide Area Digital Radio Network
5. *Cindy L. Potter and Gareth Parker* - An FPGA Frequency Domain Filter for DSSS Interference Mitigation

Lunch, Thursday 12:30 – 1:30 p.m.

Poster Session 1, Tuesday 1:30 – 3:30 p.m.

1. *Jan Seruga and Michael Wilkinson* - Investigating the Performance of a Bridge Based Network Intrusion Detection System
2. *S. K. Palit, S. Bickerstaff and C. Langmaid* - Design and analysis of in-building mobile radio network coverage
3. *K D R Jagath-Kumara, Mark Bebbington* - Burst-Error Characteristics of Digital Bit Streams
4. *Sashigaran Sivathasan* - A Dynamic Allocation Scheme for the Dual Priority CDMA Aloha
5. *Ashok Samalam, Sylvie Perreau* - A new time/frequency management scheme and associated routing for sensor networks
6. *Lixiang Xiong, Don Platt* - Scheduling with Relaxed Constraint for Input-Queued Switch/Router with Crossbar Switching Fabric
7. *Li Zheng, Arek Dadej and Steven Gordon* - Fairness of IEEE 802.11 Distributed Coordination Function for Multimedia Applications
8. *J. Chakraborty and Z.D. Wu* - Fast Handover with Buffering Function for Mobile IPv6
9. *Backhyun Kim, Taejune Hwang, Iksoo Kim, Yoseop Woo, Seungchan Moon* - Web-Caching Algorithm for VOD Service
10. *Shaleeza Sohail, Khoi Ba Pham, Richmond Nguyen and Sanjay Jha*- Bandwidth Broker Implementation: Circa-Complete and Integrable
11. *X. Li, W. He, Z.Y. Dong, B. Verma, K. Yu, T.C. Koh, and C.W. NG* - Real Time Web Vehicle Classifier
12. *Peter P. Pham, Sylvie Perreau and Aruna Jayasuriya* - Improving TCP Performance in Ad Hoc Networks Using Adaptive Multipath Coding
13. *F.J. Liu, C.W. Tseng and C.S. Yang* - A Proxy Design for Improving the Efficiency of Video Delivery over Wireless Networks

Poster Session 2, Wednesday 1:30 – 3:30 p.m.

1. *S. Hodgson, N. Dunstan* - A Wavelet Based Metric for UXO Detection and Classification
2. *Le Chung Tran and Tadeusz A. Wysocki* - Antenna Selection Scheme for Wireless Channels Utilizing Differential Space-Time Modulation
3. *Raungrong Suleesathira* - Muisic of Subarrays for Close Direction Finding

4. *Raungrong Suleesathira and Luis F. Chaparro*- DOA Estimation Applying Music on Malvar Wavelet - Based Discrete Evolutionary Transform
5. *Huimin Grace Guo, Hong Yan* - Automatic main facial features region extracting and bounding based on boundary finding
6. *Nicholas A. Nechval, Konstantin N. Nechval, Edgars K. Vasermains* - Adaptive CFAR Tests for Detection and Recognition of Target Signals in Radar Clutter
7. *Abdolah Chalechale and Alfred Mertins* - Angular Radial Partitioning for Edge Image Description
8. *Sina Vafi, Tadeusz Wysocki, Ian Burnett* - Convolutional interleaver for unequal error protection of turbo codes
9. *J. Ning, R. Jakobs, G. Wade, M. Fu, and M. Tomlinson* - SCCC-CPM in a Ricean Fading Channel
10. *Qi Cheng* - Performance of Constrained Blind Identification of Multichannel FIR Systems
11. *W.Y.Leong, John Homer, Marcus Gallagher* - Blind Separation of Noisy Mixtures Using the SAND Algorithm
12. *Michael Cowling and Renate Sitte* - Building an Environmental Sound Taxonomy for Autonomous Robot Surveillance
13. *G. A. D. Punchihewa, D. G. Bailey, R. M. Hodgson* - Z-domain Analysis of Ghost Cancellation for Television Signals
14. *Honghui Xu and Soura Dasgupta* - Dual Channel Estimation Method with Feedback in OFDM Systems
15. *Eddie Wong and Sridha Sridharan* - Automatic Spoken Language Identification Utilising both Acoustic and Phonetic Information
16. *N. Chihab, A. Zergainoh, J-P. Astruc* - The family of non-uniform B-spline functions: basis selection in term of performances and implementation complexity
17. *E. Cheng, J. Lukasiak, C.H. Ritz, I.S. Burnett* - Linked Auditory/Visual Modelling with Tensegrity Structures
18. *Peter James Vial, Ibrahim Raad , Tad Wysocki* - On the effect of adjacent sector Multiple Access Interference on Space Time Spreading Systems