Program of the 1st International Conference on Signal Processing and Communication Systems

Gold Coast, Australia, 17-19 December 2007

Monday, 17 December 2007

8:00 a.m. – 9:00 a.m.	***Registration***
9:00 a.m. – 9:05 a.m.	**Official Opening**
9:05 a.m. – 10:45 p.m.	**Session 1 – Communication Theory**
10:45 a.m. – 11.10 a.m.	***Coffee Break***
11:10 a.m. – 12:40 p.m.	**Session 2 – MIMO Systems**
12:40 p.m. – 1:30 p.m.	***Lunch***
1:30 p.m. – 3:00 p.m.	**Session 3 – Signal Processing for Multimedia 1**
3:00 p.m. – 3:30 p.m.	***Coffee Break***
3:30 p.m. – 5:00 p.m.	**Session 4 – Networking 1**
6:00 p.m. – 7:00 p.m.	***Cocktail Reception***

Tuesday, 18 December 2007

9:00 a.m. – 10:30 a.m.	**Session 5 – Hardware Implementations**
10:30 a.m. – 11.00 a.m.	***Coffee Break***
11:00 a.m. – 12:30 p.m.	**Session 6 - Signal Processing for Multimedia 2**
12:30 p.m. – 1:30 p.m.	***Lunch***
1:30 p.m. – 3:00 p.m.	**Poster Session 1**
3:00 p.m. – 3:30 p.m.	***Coffee Break***
3:30 p.m. – 5:00 p.m.	**Poster Session 2**
7:00 p.m. – 11:00 p.m.	***Banquet***

Wednesday, 19 December 2007

9:00 a.m. – 10:30 a.m.	**Session 7 – OFDM Systems**
10:30 a.m. – 11.00 a.m.	***Coffee Break***
11:00 a.m. – 12:30 p.m.	**Session 8 - Signal Processing for Communication Systems**
12:30 p.m. – 1:30 p.m.	***Lunch***
1:30 p.m. – 3:00 p.m.	**Session 9 – Networking 2**
3:00 p.m. – 3:30 p.m.	***Coffee Break***
3:30 p.m. – 5:00 p.m.	**Session 10 – Signal Processing for Multimedia 3**

End of the Conference

Session 1 – Communication Theory

Chair: Prof. Tadeusz A Wysocki

1. Keynote Address – Base Stations and Headsets Mobile Radio Systems Radiation: Analysis, Mitigation and Simulations Techniques, *Jacob Gavan*
2. Spectrum Shaping Technique Combined with SC/MMSE Turbo Equalizer for High Spectral Efficient Broadband Wireless Access Systems, *Akihiko Okada, Shinsuke Ibi, and Seiichi Sampei*
3. Closed-Form Derivations of ISI and MUI for Time-Reversed Ultra Wideband, *K. Popovski, T. A. Wysocki, and B. J. Wysocki*
4. Equivalent channel for capacity analysis of differential detection over time-varying communication channels, *Zarko B. Krusevac, and Predrag B. Rapajic*
5. An Improved Method for Radio Frequency Direction Finding Using Wireless Sensor Networks, *Mickey S. Batson, John C. McEachen, and Murali Tummala*
6. Pilot Symbol Transmission for Time-Varying Fading Channels: An Information-Theoretic Optimization, *Parastoo Sadeghi, Yang Liu, Rodney A. Kennedy, and Predrag B. Rapajic*

Session 2 – MIMO Systems

Chair: Prof. Hans-Juergen Zepernick

1. A Design for an EXIT Chart-Aided Adaptive Transmission Control Technique for Single-Carrier Based Multi-User MIMO Systems, *Haruka Obata, Shinsuke Ibi and Seiichi Sampei*
2. Optimal receiver for Space Time Spreading across a Time Hopping PPM over Ultra Wideband Saleh-Valenzuela MIMO Channel, *Peter Vial, Beata Wysocki and Tad Wysocki*
3. On the Performance of Golden Codes in Rayleigh Fading Channels with Doppler Spread, *Lance Linton, Phillip Conder, and Michael Faulkner*
4. Adaptive Modulation for MIMO Broadcast Channels, *Kuan Lun Huang, and Jinhong Yuan*

Session 3 – Signal Processing for Multimedia 1

Chair: Prof. Abbas Jamalipour

1. 3D-Hadamard Coefficients Sequency Scan Order for a Fast Embedded Color Video Codec, *Vanessa Testoni and Max H. M. Costa*
2. Higher-Order Statistics and Neural Network Based Multi-Classifier System for Gene Identification, *Teddy Surya Gunawan, Eliathamby Ambikairajah, and Julien Epps*
3. Block-Matching-Based Motion Field Generation Utilizing Directional Edge Displacement, *Hitoshi Hayakawa, and Tadashi Shibata*
4. Series Feature Aggregation for Content-Based Image Retrieval, *Jun Zhang and Lei Ye*
5. A HW/SW Co-design Methodology for Video Compression Algorithms, *Sungjei Kim, Byoungho Kim, Jaehwan Joo, Yungho Choi, and Yoonsik Choe*
6. Multi-View Human Pose Estimation using Modified Five-point Skeleton Model, *Daniel Chen, Pi-chi Chou, Clinton Fookes and Sridha Sridharan*

Session 4 – Networking 1

Chair: Dr Fariza Sabrina

1. A Playout Buffer Efficient Multimedia Streaming Using Multiple TCP Connections, *Young H. Jung, Hyunghoon Lee, In-Hwa Hong, and Yoonsik Choe*
2. Wireless Ad-hoc Networks: Employing Behaviour History to Combat Malicious Nodes, *H. Hallani, and S. A. Shahrestani*
3. Distributed Scheduling based Dimensioning Mechanism for Wireless Mesh Networks, *Farshad Javadi, M. Rubaiyat Kibria, and Abbas Jamalipour*
4. Analytical Modeling of IMS based Interworking in Heterogeneous Mobile Data Networks, *Kumudu S. Munasinghe and Abbas Jamalipour*
5. Scalability of MANET Routing Protocols for Heterogeneous and Homogenous Networks, *Huda Al Amri, Mehran Abolhasan , and Tadeusz Wysocki*

Session 5 – Hardware Implementations

Chair: Prof. Jacob Gavan

1. Time-Frequency Effects in Microwave and Radio Frequency Electronics, *Michael B. Steer , Gregory Mazzaro, Jonathan R. Wilkerson and Kevin G. Gard*
2. Tri-level Bit-Stream Signal Processing Circuits and Applications, *Chiu-Wa Ng, Ngai Wong, and Tung-Sang Ng*
3. Implementation of UE Decoder for 3G LTE System at ETRI, *Dae-Soon Cho, Tae-joong Kim, Hyeong-Jun Park, Hyun-Cheol Park*
4. A New Algorithm to Implement Low Complexity DCT for Portable Multimedia Devices, *S. Vijay, and A. P. Vinod*

Session 6 - Signal Processing for Multimedia 2

Chair: Prof. John McEachen

1. Normalisation of 3D Face Data, *Chris McCool, George Mamic, Clinton Fookes and Sridha Sridharan*
2. A Feature Clustering Algorithm for Scale-space Analysis of Image Structures, *Ruan Lakemond, David N. R. McKinnon, Clinton Fookes and Sridha Sridharan*
3. Feature-Based Object Tracking Using Spatial Matching of Differential Directional-Edge Images, *Sihwan Kim, and Tadashi Shibata*
4. On Region of Interest Coding for Wireless Imaging, *Muhammad Imran Iqbal and Hans-Jurgen Zepernick*
5. Query Streaming for Multimedia Query by Content from Mobile Devices, *Kevin Adistambha, Stephen J. Davis, Christian H. Ritz and Ian S. Burnett*
6. Hypercube Architecture for Resource Management in a Video-on-Demand System, *D. N. Sujatha, Girish K, Rajesh Srivastava, Venugopal K. R, and L. M. Patnaik*

Session 7 – OFDM Systems

Chair: Prof. Jinhong Yuan

1. Effect of the cyclic prefix on the timing synchronization method in ACO-OFDM systems, *Shuang Tian, Kusha Panta, Brendon Schmidt and Jean Armstrong*
2. Service Differentiated Non-cooperative Random Access Protocol for OFDMA based Wireless Communication System, *Subodh Pudasaini, Kanghee Kimy, and Seokjoo Shin*
3. Efficacies of Selected Blind Modulation Type Detection Methods for Adaptive OFDM Systems, *M. L. D. Wong, and A. K. Nandi*
4. A Novel Low Complexity Clipping Method for OFDM Signals, *Takashi Nakamura, Satoshi Kimura, Masato Saito, and Minoru Okada*

5. Iterative Detection and Decoding (IDD) MIMO-OFDM HARQ Algorithm with Antenna Scheduling, *KyooHyun Kim, SeungWon Kang, Manar Mohaisen, and KyungHi Chang*

Session 8 - Signal Processing for Communication Systems

Chair: Dr Haley M Jones

1. Complex-Value Recurrent Neural Networks for Global Optimization of Beamforming in Multi-Symbol MIMO Communication Systems, *Danchi Jiang*
2. A Cooperative Method for Tx/Rx Matrix Estimation in a Multi-Antenna Communication System, *N. Adlband, M. H. Shariat, and Mehrzad Biguesh*
3. Uniform Circular Broadband Beamformer with Selective Frequency Invariant Region, *Xin Zhang, Wee Ser, Zhang Zhang, and Anoop Kumar Krishna*
4. Low-Complexity Iterative Sinusoidal Parameter Estimation, *Jean-Marc Valin, Daniel V. Smith, Christopher Montgomery, and Timothy B. Terriberry*
5. Identification of number of independent sources in surface EMG recordings using over complete ICA, *Ganesh R Naik, Dinesh K Kumar, Hans Weghorn, and Marimuthu Palaniswami*
6. A Novel Decoding Algorithm for Reversible Variable Length Codes Based on the Massey Metric, *M. A. Hosany and M. Z. Bocus*

Session 9 – Networking 2

Chair: Dr Weimin Zhang

1. Countering video packet loss due to buffer overflow by means of retransmissions, *Frederik Vanhaverbeke and Marc Moeneclaey, Koen Laevens, Natalie Degrande, and Danny De Vleeschauwer*
2. Fair Resource Scheduling for QoS Aware Collaborative Services on the Internet, *Fariza Sabrina*
3. Effective Link Operation Duration: a New Routing Metric for Mobile Ad Hoc Networks, *Xiaoqin Chen, Haley M. Jones, and A .D .S. Jayalath*
4. Analytical Study of Connectivity in Wireless Ad hoc Networks with Random Beamforming, *Xiangyun Zhou, Salman Durrani and Haley M. Jones*
5. Utility Max-Min Fair Flow Control for Multipath Communication Networks, *Jiong Jin, Wei-Hua Wang and Marimuthu Palaniswami*

Session 10 – Signal Processing for Multimedia 3

Chair: Prof. Tadeusz A Wysocki

1. A Modified LIMA Framework for Spectral Subtraction Applied to In-Car Speech Recognition, *Tristan Kleinschmidt, Sridha Sridharan, and Michael Mason*
2. A Continuous Speech Recognition Evaluation Protocol for the AVICAR Database, *Tristan Kleinschmidt, David Dean, Sridha Sridharan, and Michael Mason*
3. Extended Temporal Scalability for Low-Performance Devices, *Jonghun Lee, and Heonshik Shin*
4. An Improved Error Estimation Algorithm for Stereophonic Acoustic Echo Cancellation Systems, *T. Nguyen-Ky, J. Leis, and W. Xiang*
5. VLSI Implementation of Efficient Video Processor for Worldwide TV-OUT, *Sungmok Lee, Jeonguk Im, Jingun Song, Joohyun Kim, Bongsoon Kang*

Poster Session 1 – Signal Processing for Multimedia

1. A comparison and analysis of different PDE-based approaches for image enhancement, *E. Nadernejad, and H. Hassanpour*
2. Using Hidden Markov Models for Feature Extraction in Paper Currency Recognition, *H. Hassanpour, and E. Hallajian*
3. ShadeTree Image Compression for Embedded Computing, *Ruben Gonzalez*
4. Stereo widening system using binaural cues for headphones, *S M A Basha, Abhinav Gupta, and Anshul Sharma*
5. Ringing Artifacts Removal System for Mobile Application Camera by Modified K-means Algorithm, *Wonwoo Jang, Junghwan Park, Joohyun Kim, Boodong Kwak, and Bongsoon Kang*
6. Automatic Video Object Segmentation and Tracking from Non-Stationary Cameras, *Xuesong Le, and Ruben Gonzalez*
7. A Deblocking Method using Wavelet Transform for MPEG-II format, *Tomio Goto, Tatsuya Yamazaki, and Masaru Sakurai*
8. Non-Uniform Sub-Band Kalman Filtering for Speech Enhancement, *Phu Ngoc Le, and Eliathamby Ambikairajah*
9. The Modificatin of AIC using Denoising by Wavelet, *H. Keivani, N. Tayyarzadeh, M. Bakhshi, A. Kazerooni*
10. Applying a Randomized Hough Transform based on Edge Segment Merging Scheme for Ellipse Detection, *Z. Haidari, B. Gholami, A. Kazerooni*
11. Automated Vehicle Classification System Using Advanced Noise Reduction Technology, *Wei Xiang, Colin Otto, and Peng Wen*
12. Efficient Histogram Algorithms for NVIDIA CUDA Compatible Devices, *Ramtin Shams, and R. A. Kennedy*
13. Ground-Plane Based Projective Reconstruction for Surveillance Camera Networks, *David N. R. McKinnon, Ruan Lakemond, Clinton Fookes, and Sridha Sridharan*
14. Multi-Sensor Tracking using a Scalable Condensation Filter, *Simon Denman, Todd Lamb, Clinton Fookes, Sridha Sridharan, and Vinod Chandran*
15. Abandoned Object Detection Using Multi-Layer Motion Detection, *Simon Denman, Sridha Sridharan, and Vinod Chandran*
16. An Improved Intra Prediction Scheme of H.264/AVC, *Changryoul Choi and Jechang Jeong*
17. The Dynamic of Crying and its Interactive Role: Phasic versus Tonic Components, *Dietmar Todt*
18. Password Less Security System Using MultiFactor Biometric Fusion, *Girija Chetty, Dat Tran, Dharmendra Sharma, and Bala Balachandran*
19. Face Recognition Using Bagging KNN, *Hossein Ebrahimpour, and Abbas Kouzani*
20. A low complexity packet loss concealment algorithm for G.711 and G.722, *Ashwin Kashyap, and Mikael K.Rudberg*
21. A protocol stack for futuristic multimedia, *Leif Arne Rønningen*
22. Design of Middleware with EPC global by Using RFID Reader and Tag to Collect Traffic Information Implemented on Urban-bus, *Shing Tenqchen, Yung-Kuei Huang, Po-Wen Lu, Wu-Shiung-Feng , and Charn-Kuo Wang*

Poster Session 2 – Communication Systems and Networks

1. Estimation of the mobile station velocity in microcellular systems with non-isotropic scattering, *Ehsan Zandi, and Ghasem Azemi*
2. On the security analysis of authenticated group key exchange protocols for low-power mobile devices, *Yue Li, and Thomas Newe*

3. Note on Remote Laboratory Access: A Networking Perspective, *Alexander A. Kist*
4. A Taxonomy for RFID Systems, *Xu Huang, Son Le,and Dharmendra Sharma*
5. Time-Reversal: Spatio-temporal focusing and its dependence on channel correlation, *Persefoni Kyritsi, and George Papanicolaou*
6. Improving the QoS of Wireless Video Transmissions via Packet-Level FEC, *Ghaida A. AL-Suhail, and Liansheng Tan*
7. Joint Time-Frequency Analysis of Ultra Wideband Radar Signals, *Hoi-Shun Lui, and Nicholas V. Z. Shuley*
8. Iterative Decision-Feedback Equalizer with Cyclic Detection for DFT-S OFDM System, *Wang Yafeng, Yang Hao, and Xiang Wei*
9. Network Performance of Freshwater Wireless Sensor Networks, *John C. McEachen and Juan Casias*
10. Improving the Throughput of TCP over TDMA-based Random Access Links Using the delayed ACK, *Nak Woon Sung, and Kyungsoo*
11. Technical Analysis of the Wireless Local Area Network Signals, *Pawel Skokowski, and Jerzy Lopatka*
12. Design and Implementation of Efficient Range Query over DHT Services, *Xinuo Chen, Stephen A. Jarvis*
13. Hierarchical Security Architecture for Next Generation Mobile Networks, *Fazirulhisyam Hashim, M. Rubaiyat Kibria, Damien Magoni, and Abbas Jamalipour*
14. Adaptive Autocorrelation Transmitted Reference Receivers for Ultra-Wideband Systems, *Rokhand Moradi, Vahid Tabatabavakili, and Mansour Tabari*
15. MAI Analysis of an Asynchronous MC-CDMA System With Polarization Diversity, *Xuan Li, Yu Chieh Huang, and Bouchra Senadji*
16. A Constrained Optimization Approach for an Adaptive Generalized Subspace Tracking Algorithm, *Amir Valizadeh*
17. A Fast Signal Subspace Tracking Algorithm Based on a Subspace Information Criterion, *Amir Valizadeh, Mehdi Seyfi, and Ali Rafiei*
18. A probabilistic approach for evaluating parameters of the Distributed Scheduling Scheme of the 802.16, *Valeria Loscri, and Gianluca Aloi*
19. PAPR Reduction of OFDM Signals Using Deliberate Clipping and Pre-scrambling Technique, *Lei Wang, Kyongkuk Cho, Dongweon Yoon, and Sang Kyu Park*
20. Exact Error Probability Expressions for Arbitrary Two-Dimensional Signaling with I/Q Unbalances over Nakagami-m Fading Channels, *Jaeyoon Lee, Dongweon Yoon, Sang Kyu Park, and Kyongkuk Cho*
21. Estimation of the mobile station velocity in microcellular systems with non-isotropic scattering, *Ehsan Zandi, and Ghasem Azemi*
22. Simulation of Multipath Fading Channels with Non-Isotropic Scattering, *Ghasem Azemi, Ehsan Zandi, and Laya Mohammadi*
23. Near Field Source Localization and Tracking Using a Passive Sensor Array, *Amir Valizadeh, Mahmood Karimi, and Ali Rafiei*
24. Adaptive 'imperfect' Decision Feedback Equalizer for a Frequency Selective Communication Channel, *Ramkumar Balasubramanyam, and Predrag B. Rapajic*
25. Towards Preventing Junk Emails for Heterogeneous Network, *Xiangqian Chen, Kia Makki, Kang Yen, and Niki Pissinou*
26. MIMO Relay Channels with Partial Channel Knowledge/Estimation Error and Spatial Correlation, *Triantafyllos Kanakis, and Predrag B. Rapajic*