



The 6th IEEE International Symposium on Signal Processing and Information Technology

August 27–30, 2006, Listel Vancouver Hotel, Vancouver, BC, Canada

Co-sponsored by



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- ❖ Lian Zhao, Ryerson U., Canada

Program Outline

Monday, August 28 2006

8:15–8:30	Welcome		
8:30–9:45	Plenary Talk: Andreas Antoniou, <i>Application of Genetic Algorithms for the Design of Digital Filters</i> Department of Electrical & Computer Engineering, University of Victoria Location: Impressionist Gallery		
9:45–10:15	Break		
10:15–12:00	M21: Biomedical Signal & Image Processing 1	M22: Image & Video Processing 1	M23: Signal Processing Techniques 1
12:00–13:30	Lunch		
13:30–15:15	M31: Biomedical Signal & Image Processing 2	M32: Wavelets & Applications	M33: Signal Processing Techniques 2
15:15–15:30	Break		
15:30–17:15	M41: Biomedical Signal & Image Processing 3	M42: DSP Systems & Implementation Issues	M43: Radar Signal Processing

Tuesday, 29 August 2006

8:30–9:45	Plenary Talk: Vikram Krishnamurthy, <i>Statistical Signal Processing of Biological Membrane Ion Channels</i> Department of Electrical & Computer Engineering, University of British Columbia Location: Impressionist Gallery		
9:45–10:15	Break		
10:15–12:00	T21: Audio, Text & Image Processing 1	T22: Image & Video Processing 2	T23: Signal Processing Techniques 3
12:00–13:30	Lunch		
13:30–15:15	T31: Computing	T32: Audio & Text Processing 2	T33: Signal Processing Techniques 4
15:15–15:30	Break		
15:30–17:15	T41: Performance Modeling & Analysis	T42: Signal Processing Theory & Methods 1	T43: Signal Processing for Communications 1

Wednesday, 30 August 2006

8:15–10:00	W11: Audio, Text & Image Processing 2	W12: Applications in Communications & Information Technology 1	W13: Signal Processing for Communications 2	W14: Source Separation and Localization, & Array Signal Processing
10:00–10:30	Break			
10:30–12:15	W21: Signal Processing Theory & Methods 2	W22: Applications in Communications & Information Technology 2	W23: Signal Processing for Communications 3	
12:15–13:45	Lunch			
13:45–15:30	W31: Signal Processing Theory & Methods 3	W32: Multimedia Signal Processing 1	W33: PAPR in OFDM Systems (special session)	
15:30–15:45	Break			
15:45–17:30	W41: Signal Processing Theory & Methods 4	W42: Multimedia Signal Processing 2	W43: Digital Filtering Techniques 2	

Schedule of Paper Presentation

Session M21: Biomedical Signal & Image Processing 1

Chair: Arjuna Flenner (USA)

Date: Monday, August 28 2006

Room: Sculpture Gallery East

Time: 10:15–12:00

- M21. 6 Optimal Filter Design For Multiple Sclerosis Lesions Segmentation from Regions of Interest in Brain MRI
M. Ghazel, A. Traboulsee, R. K. Ward
- M21. 6 Semi-Automated Segmentation of Multiple Sclerosis Lesions in Brain MRI using Texture Analysis
M. Ghazel, A. Traboulsee, R. K. Ward
- M21. 6 Hybrid Spot Segmentation in Four-Channel Microarray Genotyping Image Data
M. Abbaspour, R. Abugharbieh, M. Podder, B. W. Tripp, S. J. Tebbutt
- M21. 6 Breast Tumor Microwave Simulator Based on a Radar Signal Model
D. Flores-Tapia, G. Thomas, A. Sabouni, S. Noghianian, S. Pistorius
- M21. 6 Influence of the LPC filter upon the perception of breathiness and vocal effort
K. I. Nordstrom, P. F. Driessen, G. A. Rutledge
- M21. 6 Pain Recognition Using Artificial Neural Network
M. M. Monwar, S. Rezaei

Session M22: Image & Video Processing 1

Chair: Luis Ramos-Velasco

Date: Monday, August 28 2006

Room: Abstract Gallery

Time: 10:15–12:00

- M22. 1 A Novel Image Authentication Scheme based on Contourlets and Error Control Coding
N. Baaziz, A. Bouzidi, A. Ravoux
- M22. 2 A Novel Digital Watermarking Method for Commercial Bills Based on a Class of Orthogonal Function Systems
J. Zou, W. Zhong, R. K. Ward
- M22. 3 NIR Optical-Property Images of Heterogeneous Intra-lipid Phantom
M. C. Pan, M. C. Pan, C. H. Chen
- M22. 4 Research on Quantization Watermarking Algorithms
X. Changzhen, X. Junyi, Z. Jiancheng
- M22. 5 Dark Frame Correction Via Bayesian Estimator in the Wavelet Domain
J. Svihlik, P. Pata
- M22. 6 Measuring the Geometrical Parameters of Steel Billets during Molding Process using Image Processing
N. Mohammadiha, S. M. E. Sahraeian, B. V. Vahdat, A. Azizi, A. Shahahmadi

Session M23: Signal Processing Techniques 1

Chair: Nadia Baaziz

Date: Monday, August 28 2006

Room: Sculpture Gallery West

Time: 10:15–12:00

- M23. 1 High Powered Cluster Heads for Extending Sensor Network Lifetime
M. N. Halgamuge
- M23. 2 Robust Detection Algorithms for Time Reversal Matched Field Processing
Q. Bai, A. Asif
- M23. 3 Visual Servoing for an Inverted Pendulum Using a Digital Signal Processor
L. E. Enrique-Ramos, E. S. Espinoza-Quesada
- M23. 4 Efficient Determination of Optimal Smoothing Parameters in Spline Approximations
H. Kano, H. Fujioka, C. F. Martin
- M23. 5 Time Reversal Matched Field Processing: An Analytical Justification
A. Asif, Q. Bai
- M23. 6 A New Signal Compression Algorithm Using AllPass Extraction And Its Use In Image Compression And Coding

M. F. Fahmy, G. Fahmy

Session M31: Biomedical Signal & Image Processing 2

Chair: Mohsen Ghazel

Date: Monday, August 28 2006

Room: Sculpture Gallery East

Time: 13:30–15:15

- M31. 1 A Stochastic Model for DNA Sequences Using Prescribed Nucleotide and Length Distributions
A. Antoniou, S. W. A. Bergen
- M31. 2 Analysis and Recognition of Esophageal Speech
A. V. Mantilla-Caeiros, J. A. Trevino-Lopez, P. I. Ortal-Vite, H. M Perez-Meana
- M31. 3 MRI Brain Extraction with Combined Expectation Maximization and Geodesic Active Contours
A. Huang, R. Abugharbieh, R. Tam, A. Traboulssee
- M31. 4 A Robust Shape Extraction Method for the Medical Image Application
P. Lin
- M31. 5 Co-registration and fusion of CT and SPECT images
L. Tang, G. Hamarneh, A. Celler
- M31. 6 Adaptive Neuro-Fuzzy Inference Systems for Extracting Fetal Electrocardiogram
K. Assaleh
- M31. 7 Automatic Correction of the 3D Orientation of the Brain Imagery
X. Liu, C. a Lmielinska, J. Rosiene, S. Connolly, and A. D' Ambrosio

Session M32: Wavelets & Applications

Chair: Michael Adams

Date: Monday, August 28 2006

Room: Abstract Gallery

Time: 13:30–15:15

- M32. 1 Efficient Breadth-First Implementation of the Wavelet Transform
M. D. Adams
- M32. 2 Design of 6-Band Tight Frame Wavelets With Limited Redundancy
F. Abdelnour
- M32. 3 Spectral Density Driven Wavelet representation of 2-D images
L. K. Jiwani, S. D. Joshi, G. G. Visweswaran
- M32. 4 Multiple Misfire Identification by a Wavelet-based Analysis of Crankshaft Speed Fluctuation
M. Montani, N. Speciale
- M32. 5 New basis orthonormalization procedure of the linear non-uniform spline scaling and wavelet spaces
A. Zergainoh
- M32. 6 Investigating and Validation Numerical Measures of Corneal Topographic Data in LASIK Surgery Outcome Using Wavelet Transform
M. Rezazadeh, K. Maghooli, M. H. Taba, A. Raadi

Session M33: Signal Processing Techniques 2

Chair: Anissa Zergainoh (France)

Date: Monday, August 28 2006

Room: Sculpture Gallery West

Time: 13:30–15:15

- M33. 1 A Spatiotemporal Edge-Preserving De-Noising Method for High-Quality Video
A. N. Avanaki
- M33. 2 SWT based Composite Method for Fingerprint Image Enhancement
V. T. Humbe, R. R. Manza, S. S. Gornale, P. D. Deshmukh, K. V. Kale
- M33. 3 3-D Active Shape Image Segmentation Using a Scale Model
S. J. Lim, J. K. Udupa, Y. S. Ho
- M33. 4 DPC vs TDMA in SISO Broadcast Channels: A Practical Comparison
R. M. Khani, S. Lasaulce, J. Dumont
- M33. 5 Feasibility of Extracting Sea Surface Current by HF-SAR
W. Xue, M. Zhang, J. Tang, S. Han
- M33. 6 A Fast Block Motion Estimation Algorithm Using Gray Code Kernels
Y. Moshe, H. Hel-Or

Session M41: Biomedical Signal & Image Processing 3

Chair: Rafeef Abugharbieh

Date: Monday, August 28 2006

Room: Sculpture Gallery East

Time: 15:30–17:15

- M41. 1 An Elliptical Level Set Method for Automatic TRUS Prostate Image Segmentation
N. N. Kachouie
- M41. 2 Effects of Mid Sagittal Plane Perturbation and Image Interpolation on Corpus Callosum (CC) Area Calculation
O. Ishaq, G. Hamarneh, R. Tam, A. Traboulssee
- M41. 3 Semi-Automatic Prostate Segmentation of MR Images Based on Flow Orientation
M. Samiee, G. Thomas, R. Fazel-Rezai
- M41. 4 Prostate Tissue Characterization via Ultrasound Speckle Statistics
L. D. Marchi, N. Testoni, N. Speciale
- M41. 5 Is Information Transfer Rate a Suitable Performance Measure for Self-paced Brain Interface Systems?
M. Fatourechhi, S. G. Mason, G. E. Birch, R. K. Ward
- M41. 6 Locating Peaks in Proteomic Mass Spectral Data Using the Morel-Helmholtz Principle
A. Flenner, E. W. Ferguson, Y. Murata, G. T. Ooi, S. H. Pai, A. V. Nevel
- M41. 7 A Statistical Thresholding Method for Cell Tracking
N. N. Kachouie

Session M42: DSP Systems & Implementation Issues

Chair: Antonin Hermanek (Czech Republic)

Date: Monday, August 28 2006

Room: Abstract Gallery

Time: 15:30–17:15

- M42. 1 A Novel Genetic Algorithm for Optimization of FRM Digital Filters over DBNS Multiplier Coefficient Space Based on Correlative Roulette Selection
S. Kilambi, B. Nowrouzian
- M42. 2 A Computation-Aware Scheme for Motion Estimation in MPEG-4
J. J. Leou, Y. H. Chang
- M42. 3 Design of Radix 4 SRT Dividers for Single Precision DSP
T. N. Pham, E. E. Swartzlander
- M42. 4 An FPGA Implementation of Hierarchical Motion Estimation for Embedded Object Tracking
M. F. McErlean
- M42. 5 Area-Efficient FIR Filter Design on FPGAs using Distributed Arithmetic
P. Longa, A. Miri
- M42. 6 M42.6 Compact Implementation of a Sum-of-Sinusoids Rayleigh Fading Channel Simulator
A. Alimohammad, B. F. Cockburn
- M42. 7 Using Compressed B+-trees for Line-based Database Indexes
H. Y. Lin, C. L. Chen

Session M43: Radar Signal Processing

Chair: Gabriel Thomas

Date: Monday, August 28 2006

Room: Sculpture Gallery West

Time: 15:30–17:15

- M43. 1 Multi-resolution Edge Detection Based on Alpha-stable Model in SAR Images Using Translation-Invariance Contourlet Transform
H. Sun, J. Chen
- M43. 2 Robust estimation of radar pulse modulation
J. Lunden, V. Koivunen
- M43. 3 A Fast Adaptive Update Rate for Phased Array Radar Using IMM Target Tracking Algorithm
H. Benoudnine, M. Keche, A. Ouamri, M. S. Wolfson
- M43. 4 Automatic Target Recognition Based on High-Resolution Range Profiles with Unknown Circular Range Shift
J. K. Hwang, K. Y. Lin, Y. L. Chiu, J. H. Deng
- M43. 5 M43.6 An Alternative Target Density Function For Radar Imaging

A. Demirkol, E. Emre

Session T21: Audio, Text & Image Processing 1

Chair: Vijay Parsa

Date: Tuesday, August 29 2006

Room: Sculpture Gallery East

Time: 10:15–12:00

- T21. 1 A Unified Language Model Architecture for Web-based Speech Recognition Grammars
W. Holland, D. May, J. Baca, G. Lazarou, J. Picone
- T21. 2 Spectral Frequency Tracking for Classifying Audio Signals
T. Taniguchi, M. Tohyama, K. Shirai
- T21. 3 Single Carrier Interference Cancellation for Digital Radio Mondiale (DRM)
C. Jonietz, W. Gerstacker, P. Nickel, G. Kilian, A. Heuberger, W. Koch
- T21. 4 Speaker Verification Using Narrow-band Envelope Correlation Matrices
S. Gotoh, M. Kazama, M. Tohyama, Y. Yamasaki
- T21. 5 Hierarchical Segmentation of Presentation Videos through Visual and Text Analysis
H. Li, A. Dong
- T21. 6 Formants Measurement for Esophageal Speech Using Wavelets with Band and
B. Garcia, I. Ruiz, J. Vicente, A. Alonso

Session T22: Image & Video Processing 2

Chair: Jiancheng Zou (China)

Date: Tuesday, August 29 2006

Room: Abstract Gallery

Time: 10:15–12:00

- T22. 1 Data Compression Technique for Digital Holograms using a Temporally Scalable Coding Method for 2-D Images
D. W. Kim, Y. H. Seo, H. J. Choi
- T22. 2 Karhunen-Loève Transform for Compression of Astronomical Images
P. Pata
- T22. 3 Window Architecture for Deblocking Filter in H.264/AVC
C. M. Chen, J.P. Zeng, C. H. Chen, C. T. Yu, Y. P. Chang
- T22. 4 Large-scale structure preserving simultaneous textured image decomposition and discrimination
R. Shahidi, C. R. Moloney
- T22. 5 Adaptive down-scaling techniques for JPEG-based low bit-rate image coding
W. S. Lu, A. M. Sevcenco
- T22. 6 Robust Feature Extraction Using Multiresolution Local Pattern Information
S. Wada, Z. Liu

Session T23: Signal Processing Techniques 3

Chair: Amir Asif

Date: Tuesday, August 29 2006

Room: Sculpture Gallery West

Time: 10:15–12:00

- T23. 1 On the SPIHT-based multispectral image compression
F. Khelifi, A. Bouridane, F. Kurugollu
- T23. 2 Noise Variance Estimation In Signal Processing
D. Makovoz
- T23. 3 Local Orthogonal Discriminate Bases to Hybrid SVM/Self-adaptive HMM Classifier for Discrete Word Speech Recognition
S. R. Quchani, K. Rahbar
- T23. 4 New Insights into Wigner Distributions of Deterministic and Random Analytic Signals
K. M. Snopek
- T23. 5 Identification of non-minimum phase transfer function components
T. J. Moir, J. Jeong
- T23. 6 A Non Probabilistic Algorithm Based on Karhunen-Love Transform for the Recognition of Stochastic Signals
F. Gianfelici, C. Turchetti, P. Crippa

Session T31: Computing

Chair: Adel S. Elmaghraby (USA)
Room: Sculpture Gallery East

Date: Tuesday, August 29 2006 13:30–15:15
Time: 13:30–15:15

- T31. 1 Fuzzy Expert System for Object Labeling with Probabilistic Learning
H. M. Lotfy, A. S. Elmaghraby
- T31. 2 A Tunable, Efficient, Specialized Multidimensional Range Query Algorithm
R. Cook, M. Cremer
- T31. 3 A Consensus Text Summarizer Based on Meta-Search Algorithms
V. Thapar, A. A. Mohamed, S. Rajasekaran
- T31. 4 Improving Query-Based Summarization Using Document Graphs
A. Mohamed, S. Rajasekaran
- T31. 5 A Novel Sorting Algorithm Based on Guessing Function
S. Bao, Y. Xu, D. S. Zhen, Z. D. Zhao

Session T32: Audio & Text Processing 2

Chair: Rabab Ward
Room: Abstract Gallery

Date: Tuesday, August 29 2006
Time: 13:30–15:15

- T32. 1 Using Transfer Matrix Method to Study the Acoustic Property of Drill Strings
C. Y. Wang, W. X. Qiao, W. Q. Zhang
- T32. 2 Persian/Arabic Text Font Estimation Using Dots
M. H. Shirali-Shahreza, S. Shirali-Shahreza
- T32. 3 Equalization of Bone Conducted Speech for Improved Speech Quality
K. Kondo, T. Fujita, K. Nakagawa
- T32. 4 Spatial Sound Rendering Using Measured Room Impulse Responses
Y. Li, P. F. Driessen, G. Tzanetakis, S. Bellamy
- T32. 5 A Bayesian Estimator for Non-intrusive Speech Quality Evaluation in Psychoacoustic Domain
V. Parsa, G. Chen

Session T33: Signal Processing Techniques 4

Chair: Karbhari Kale (India)
Room: Sculpture Gallery West

Date: Tuesday, August 29 2006
Time: 13:30–15:15

- T33. 1 A Leap-type High-speed Match for Digital Music Search
J. Zhang, Y. Wu
- T33. 2 Temporal Error Concealment Algorithm Using Multi-Side Boundary Matching Principle
C. Y. Su, C. H. Huang
- T33. 3 A Fast Parametric Snake Model with Enhanced Concave Object Extraction Capability
K. W. Sum, P. Y. S. Cheung
- T33. 4 Integrating Local Correlation and Interframe Continuity for Robust Foreground Object Segmentation
C. Wang, X. Zhang, C. Yuan, L. Zhou, Y. Liu
- T33. 5 Concave and Convex Area on Planar Curve for Shape Defect Detection and Recognition
M. Mokji, S. A. R. A. Bakar
- T33. 6 Modelling and Prediction of Cyclostationary Chaotic Time Series Using Vector Autoregressive Models
F. Xi, Z. Liu

Session T41: Performance Modeling & Analysis

Chair: Adel Elmaghraby (USA)

Date: Tuesday, August 29 2006

Room: Sculpture Gallery East

Time: 15:30–17:15

- T41. 1 A Metric for Identifying System Exploitation using Buffer Overflow
A. Desoky, M. Allgeier
- T41. 2 Integrating Predictable Planning and Unpredictable Dynamics in Network Utility Maximization: An Improved Quota-Based Market Model
J. Wang, V. Leung
- T41. 3 A Fair Transaction Model in Mobile Commerce
C. L. Chen, H. Y. Lin, Y. Y. Chen, J. K. Jan
- T41. 4 Compensation of Memory-Effects in PDM-based Transmitters for Digital Audio Broadcast
S. H. Melvin, J. Ilow
- T41. 5 Reconfigurable Platform Evaluation Through Application Mapping And Performance Analysis
S. Majzoub, R. Saleh, H. Diab
- T41. 6 A Sphere Decoding Algorithm for MIMO Channels
C. Y. Hung, T. H. Sang

Session T42: Signal Processing Theory & Methods 1

Chair: Elias Masry (USA)

Date: Tuesday, August 29 2006

Room: Abstract Gallery

Time: 15:30–17:15

- T42. 1 Bilateral Filtering of Diffusion Tensor MR Images
G. Hamarneh, J. Hradsky
- T42. 2 DTMRI Segmentation using DT-Snakes and DT-Livewire
G. Hamarneh, J. Hradsky
- T42. 3 An Efficient Multiple Description Coding Scheme for the Scalable Extension of H.264/AVC (SVC)
H. Mansour, P. Nasiopoulos, V. Leung
- T42. 4 Minimal Capture Sets for Multi-Exposure Enhanced-Dynamic-Range Imaging
N. Barakat, T. E. Darcie
- T42. 5 An Efficient Re-quantization Error Compensation for MPEG2 to H.264 Transcoding
Q. Tang, P. Nasiopoulos, R. Ward
- M21. 6 Pain Recognition Using Artificial Neural Network
M. M. Monwar, S. Rezaei

Session T43: Signal Processing for Communications 1

Chair: Hanna Bogucka (Poland)

Date: Tuesday, August 29 2006

Room: Sculpture Gallery West

Time: 15:30–17:15

- T43. 1 Modeling of Loss-Distortion in Hierarchical Prediction Codecs
H. Mansour, P. Nasiopoulos, V. Krishnamurthy
- T43. 2 A Bayesian Approach To Flux Correction In Extragalactic Source Detection
D. Herranz, J. L. Sanz, M. Lopez-Caniego, J. Gonzalez-Nuevo
- T43. 3 A Robust Hierarchical Digital Modulation Classification Technique: using Linear Approximations
S. M. Baarrij, F. Nasir, S. Masood
- T43. 4 Comparative Analysis of Spatial Covariance Matrix Estimation Methods in OFDM Communication Systems
R. Maslennikov, A. Maltsev, A. Khoryaev
- T43. 5 Linear feature vector compression using Kullback-Leibler distance
H. Crysandt

Session W11: Audio, Text & Image Processing 2

Chair: Kazuhiro Kondo

Date: Wednesday, August 30 2006

Room: Sculpture Gallery East

Time: 8:15–10:00

- W11. 1 Formant estimation of whispered speech based on spectral segmentation
G. C. hui, Z. H. ming, L. Gang, L. J. xin
- W11. 2 Detecting Fatigue From Voice Using Speech Recognition
S. Raghavan, H. P. Greeley, J. Berg, E. Friets, J. Picone, J. P. Wilson
- W11. 3 A Novel Low Complexity VQ-based Single Channel Speech Separation Technique
M. H. Radfar, R. M. Dansereau, A. Sayadiyan
- W11. 4 Experiments on Partial Encryption Performance for Image Sets
Z. Wang, P. Luo, X. Li
- W11. 5 Modular-Based Classifier for Phoneme Recognition
A. Ahmadi, F. Karray, M. Kamel
- W11. 6 Resonant Bandwidth Estimation of Vowels Using Clustered-Line Spectrum Modeling for Pressure Speech Waveforms
O. Yasojima, Y. Takahashi, M. Tohyama

Session W12: Applications in Communications & Information Technology 1

Chair: Chung-Yen Su (Taiwan)

Date: Wednesday, August 30 2006

Room: Abstract Gallery

Time: 8:15–10:00

- W12. 1 A Distributed Prototyping Environment for Human Language Technology
T. Stanley, J. Baca, M. Liu, J. Picone
- W12. 2 Metrics to Evaluate Internet Pricing Schemes
K. F. Li, J. Wang
- W12. 3 The Use of the Galois lattice for the extraction and the visualization of the spatial association rules
M. Rabia, B. Azeddine, Z. karima
- W12. 4 Efficient Execution of Real-Time Tasks
R. A. Ammar, A. Hussein, A. Hamdy
- W12. 5 Algorithm of dynamic routing for ad hoc networks
A. N. Fawaeer

Session W13: Signal Processing for Communications 2

Chair: Victor Leung

Date: Wednesday, August 30 2006

Room: Sculpture Gallery West

Time: 8:15–10:00

- W13. 1 Combining decoded-and-forwarded signals in Gaussian cooperative channels
B. Djeumou, S. Lasaulce, A. G. Klein
- W13. 2 Improving Bone-Conducted Speech Quality via Neural Network
T. Shimamura, J. Mamiya, T. Tamiya
- W13. 3 Optimum Structures for Sample Rate Conversion from CD to DAT and DAT to CD Using Multistage Interpolation and Decimation
M. G. Shayesteh, M. Mottaghi-Kashtiban, S. Farazi
- W13. 4 A Reduced-Complexity Sub-Maximum-Likelihood Detection Method for MIMO Systems
T. C. Whitworth, D. C. McLernon, M. Ghogho
- W13. 5 Audio Watermarking for Covert Communication through Telephone System
E. Tavakoli, B. V. Vahdat, M. B. Shamsollahi, R. Sameni

Session W14: Source Separation and Localization, & Array Signal Processing

Chair: Rayan Saab

Date: Wednesday, August 30 2006

Room: Impressionist Gallery

Time: 8:15–10:00

- W14. 1 Blind Separation of Anechoic Under-Determined Speech Mixtures Using Multiple Sensors
R. Saab, O. Ylmaz, M. J. McKeown, R. Abugharbieh
- W14. 2 Second-Order-Statistics-Based Blind Source Separation for Non-Stationary Sources with Stationary Noise
A. Tanaka, H. Imai, M. Miyakoshi
- W14. 3 Dual-Microphone Speech Dereverberation in a Noisy Environment
E. Habets, S. Gannot, I. Cohen
- W14. 4 W14.4 What ICA Provides for ECG Processing: Application to Noninvasive Fetal ECG Extraction
R. Sameni, C. Jutten, M. B. Shamsollahi
- W14. 5 An Enhanced Binaural 3D Sound Localization Algorithm
F. B. Keyrouz, K. Diepold
- W14. 6 Efficient use of signal-free samples for DOA estimation and detection in colored noise
K. Werner, M. Jansson

Session W21: Signal Processing Theory & Methods 2

Chair: To Be Assigned
Room: Sculpture Gallery East

Date: Wednesday, August 30 2006
Time: 10:30–12:15

- W21. 1 Photometric Stereo Using Four Surface Normal Approximations and Optimal Normalization of Images
O. Ikeda
- W21. 2 A System for Melody Extraction From Various Humming Inputs
L. Gao, Y. Wu
- W21. 3 Design and Simulation of a Life Detection System Based on Detection of the Heart Beat Using Doppler Frequency
A. Izadi, Z. Ghatan, B. V. Vahdat, F. Farzaneh
- W21. 4 Adaptive quadratic interpolation methods for lifting steps construction
J. Sole, P. Salembier
- W21. 5 Implementation of High Data Rate Stream Parsing with Data Aligning Mechanism
T. M. Mladenov, F. A. Mujahid, E. Jung, D. Har

Session W22: Applications in Communications & Information Technology 2

Chair: Aaron Klebanoff (USA)
Room: Abstract Gallery

Date: Wednesday, August 30 2006
Time: 10:30–12:15

- W22. 1 A Novel Approach of MMSE Detection in UWB System
M. D. Marjanovic
- W22. 2 Optimum Throughput Constrained Opportunistic Scheduling in Cellular Data Networks
S. H. Ali, K. D. Lee, V. C. M. Leung
- W22. 3 An Efficient Path Precomputation Technique for QoS Routing
S. S. Gokhale, H. Elazhary, R. A. Ammar
- W22. 4 A Survey for QoS and Power Management Algorithms in Wireless Transmission
A. H. Salem, A. Kumar, A. S. Elmaghraby
- W22. 5 Enhanced QoS for Real-time Multimedia Delivery over the Wireless Link using RFID Technology
R. El-Marakby, M. Enugula
- W22. 6 Multiscale Timing Estimation for Ad Hoc Networks
J. J. Chao

Session W23: Signal Processing for Communications 3

Chair: Tan-Jan Ho (Taiwan)
Room: Sculpture Gallery West

Date: Wednesday, August 30 2006
Time: 10:30–12:15

- W23. 1 Statistical Analysis of Fourier Transform Estimates: Monte Carlo and Stratified Sampling
E. Masry
- W23. 2 ML Detection in MIMO Communication Systems with Imperfect Channel Knowledge
M. Biguesh, A. A. Farhoodi
- W23. 3 Affine Precoding and Decoding MIMO Frequency-selective Fading Channel for Estimation and Source Detection
N. N. Tran, D. H. Pham, H. D. Tuan
- W23. 4 Highly Efficient Sparse Multipath Channel Estimator with Optimal Chu-sequence Preamble for MIMO Frequency-Domain DFE Receiver
J. K. Hwang, R. L. Chung, M. F. Tsai
- W23. 5 Robust Multiuser Dfes Based on Mmse And ML for Multipath Fading Channels
T. J. Ho

Session W31: Signal Processing Theory & Methods 3

Chair: Vikram Krishnamurthy

Date: Wednesday, August 30 2006

Room: Sculpture Gallery East

Time: 13:45–15:30

- W31. 1 Block based Bi-Directional Error Concealment for the Whole-Frame
H. Zhang, P. Rault
- W31. 2 Investigation on the Extended Angular-Velocity Vold-Kalman Order Tracking
M. C. Pan, C. X. Wu
- W31. 3 Automated Assessment of Erythrocyte Disorders Using Artificial Neural Network
S. Zahir, R. Chowdhury, G. Payne
- W31. 4 A hybrid 2-3-3 bits-based image encoding scheme
S. Zahir, R. Chowdhury
- W31. 5 An efficient and low complexity content-based relative-directional chain coding
S. Zahir, L. Zhou

Session W32: Multimedia Signal Processing 1

Chair: Saif Zahir

Date: Wednesday, August 30 2006

Room: Abstract Gallery

Time: 13:45–15:30

- W32. 1 Video Tracking of 2D Face Motion During Speech
E. A. Vatikiotis-Bateson, A. V. Barbosa
- W32. 2 Hierarchical Motion Estimation for Embedded Object Tracking
M. F. McErlean
- W32. 3 An Efficient Statistical Intra-mode Prediction Method for H.264
D. Storey, P. Nasiopoulos
- W32. 4 Adaptive Video Motion Estimation Algorithm via Estimation of Motion Length Distribution and Bayesian Classification
M. Asefi, M. Y. Dabbagh
- W32. 5 A New Diamond-Arc-Hexagon Search Algorithm for Fast Block Motion Estimation
H. T. Lin, J. S. Chiang
- W32. 6 Temporal Motion Prediction for Fast Motion Estimation in Multiple Reference Frames
G. N. Rao, P. S. S. B. K. Gupta

Session W33: PAPR in OFDM Systems (Special session)

Chair: Yves Louet (France)

Date: Wednesday, August 30 2006

Room: Sculpture Gallery West

Time: 13:45–15:30

- W33. 1 Directions and recent advances in PAPR reduction methods
H. Bogucka
- W33. 2 Amplifier Efficiency of Peak Power Reduction and Envelope Flattening for OFDM systems
H. Ochiai
- W33. 3 SOCP approach for OFDM peak-to-average power ratio reduction in the signal adding context
S. Zabre, J. Palicot, Y. Louet, C. Lereau
- W33. 4 An Overview of Peak-to-Average Power Ratio Reduction Technique for OFDM systems
L. Wang, C. Tellambura
- W33. 5 Power spectral density and cubic metric for the OFDM/OQAM modulation
A. Skrzypczak, P. Siohan, J.P. Javardin

Session W41: Signal Processing Theory & Methods 4

Chair: Kajetana Snopek (Poland)

Date: Wednesday, August 30 2006

Room: Sculpture Gallery East

Time: 15:45–17:30

- W41. 1 Robust and Accurate Image Registration with Pixel Selection
M. Shimizu, S. Chang, M. Okutomi
- W41. 2 Large Array Beamforming via Semidefinite Programming
H. G. Hoang, H. D. Tuan, B. N. Vo
- W41. 3 A Reversible Data Hiding Scheme for 3D Point Cloud Model
H. Luo, Z. M. Lu, J. S. Pan
- W41. 4 Design of High-Performance Filter Banks for Image Coding
M. D. Adams, D. Xu
- W41. 5 Piecewise Constant Reconstruction Using a Stochastic GNC Approach
M. C Robini, I. E. Magnin
- W41. 6 Computation of Long Time Cross Ambiguity function using reconfigurable HW
A. Hermanek, M. Kunes, M. Kvasnicka

Session W42: Multimedia Signal Processing 2

Chair: Panos Nasiopoulos

Date: Wednesday, August 30 2006

Room: Abstract Gallery

Time: 15:45–17:30

- W42. 1 Motion estimation method through adaptive deformable variable-sized rectangular meshes using warping function
A. Zergainoh, V. Munoz-Jimenez
- W42. 2 Inverse Halftoning Method of Error Diffused Images Using Look-Up Table With State Reduction
F. Ono, M. Kitamura
- W42. 3 Robust Feature Extraction Using Spectral Peaks of the Filtered Higher Lag Autocorrelation Sequence of the Speech Signal
G. Farahani, M. Ahadi, M. M. Homayounpour
- W42. 4 Edge Sensitive Block Motion Estimation Employing Partial Ridgelet Distortion Search
M. eslami, E. Fatemizadeh
- W42. 5 Adaptive Block Motion Prediction
A. eslami, M. Babaiezadeh
- W42. 6 A Speech Recognition System Based on Dynamic Characterization of Background Noise
A Russo, F. Beritelli, S. Casale, S. Serrano

Session W43: Digital Filtering Techniques 2

Chair: Parameswaran Ramachandran

Date: Wednesday, August 30 2006

Room: Sculpture Gallery West

Time: 15:45–17:30

- W43. 1 A Pseudo-Hilbert Scan for Arbitrarily-sized Cuboid Region
Z. Jian, K. Sei-ichiro
- W43. 2 Localization of hot spots in proteins using digital filters
A. Antoniou, P. Ramachandran
- W43. 3 Cascade-Form Multiplierless FIR Filter Design Using Orthogonal Genetic Algorithm
A. Antoniou, S. U. Ahmad
- W43. 4 Flaw Shape Characterization in 3D Volume Visualization in Ultrasonic Testing
V. Matz, R. smid, M. Kreidl, J. Kerka
- W43. 5 Diffusion Geodesic Path: A Common Feature for Automatic Image-Map Registration
L. Tian, S. I. Kamata
- W43. 6 Morphological filter assisted low amplitude impulse detector
S. D. Meier, P. J. Moore