

# ISSPIT 2008

IEEE Symposium on Signal Processing and Information Technology



## REGISTRATION

**Monday, December 15, 6:00 pm – 8:00 pm**  
**Tuesday, December 16, 7.30 am – 12.00 noon**  
**Wednesday, December 17, 7.30 am – 12.00 noon**  
**Thursday, December 18, 7.30 am – 12.00 noon**  
**Friday, December 19, 7.30 am – 12.00 noon**

## TECHNICAL PROGRAM:

### **Tuesday, December 16, 2008**

Hall 1: 9:00 – 9:20

Opening Session

Session Chair: Dr. Branislava Perunicic, ISSPIT'08 Conference Co-Chair

### **Tuesday, December 16, 2008**

Hall 1: 9:20 – 10:20

Plenary Session: "**Sequence-Based Bioinformatics: the Roots of Genomic Signal Processing**"

Invited Speaker: Dr. Eric Rouchka, University of Louisville, USA

Session Chair: Dr. Branislava Perunicic, ISSPIT'08 Conference Co-Chair

**COFFEE BREAK: 10:20 – 10:40**

**Tuesday, December 16, 2008**

Hall 1: 10:40 – 12:00

Image and Video Processing: I

Session Chair: Dr. Gamal E. Fahmy

|                                                                                                                                                               |         |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| Signal Denoising and Image Compression Using Bspline Wavelets,<br>Mamdouh F. Fahmy, Gamal F. Abdel Raheem, Osama S Mohammed, Omar F. Fahmy,<br>Gamal F. Fahmy | SP-2711 |
| Face Recognition using Dual-Tree Wavelet Transform,<br>Alaa Eleyan, Hasan Demirel, Huseyin Ozkaramanli                                                        | SP-2835 |
| Morphological feature extraction and spectral unmixing of hyperspectral images,<br>Antonio Plaza, Javier Plaza, Alejandro Cristo                              | SP-2856 |
| Glottal Area Segmentation without Initialization using Gabor Filters,<br>Amaia Méndez, Begoña García, Ibon Ruiz, Ibai Iturricha                               | SP-2839 |

**Tuesday, December 16, 2008**

Hall 2: 10:40 – 12:00

Biomedical Informatics

Session Chair: Dr. Eric Rouchka

|                                                                                                                                                    |         |
|----------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| New Method for Lossless Compression of Medical Records,<br>Mariofanna G Milanova, Roumen K Kountchev, Vladimir T Todorov, Roumiana A<br>Kountcheva | IT-2907 |
| Evidence of bias towards buffered codons in human transcripts,<br>Mahdi N Rami, Eric C Rouchka                                                     | BI-2778 |
| Prediction of Temporal Lobe Seizures Using the Singular Spectrum Analysis,<br>Qingmeng Wang, Tao Song, Manling Ge, Li Yang                         | BI-2834 |
| Incremental Pattern Recognition on EEG Signal,<br>Kam Swee Ng, Hyung-Jeong Yang, Sun-Hee Kim, Jong-Mun Jeong                                       | SP-2933 |

**LUNCH BREAK: 12:00 – 2:00 pm**

**Tuesday, December 16, 2008**

Hall 1: 2:00 pm – 3:00 pm

Image and Video Processing: II

Session Chair: Dr. Henryk Palus

|                                                                                                                                                                                           |         |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| Fingerprint Compression by Ridgelet Transform,<br>Ouanane Abdelhak, Serir Amina                                                                                                           | SP-2851 |
| Clustering with K-Harmonic Means Applied to Colour Image Quantization,<br>Mariusz Frackiewicz, Henryk Palus                                                                               | SP-2867 |
| Edge Defect Detection in Ceramic Tile Based on Boundary Analysis Using Fuzzy<br>Thresholding and Radon Transform,<br>Meysam Siyah Mansoori, Hojjat Tajik, Gelareh Mohamadi, Mohsen Pashna | SP-2874 |

**Tuesday, December 16, 2008**

Hall 2: 2:00 pm – 3:00 pm

Multimedia &amp; Web Applications

Session Chair: Dr. Mehmed Kantardzic

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|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| Reliable Field of View Coverage in Video-Camera based Wireless Networks for Traffic<br>Management Applications,<br>Codruta Istina, Dan Pescaru, Daniel Curiac, Alex Doboli | IT_2968 |
| Improving Click Fraud Detection by Real Time Data Fusion,<br>Mehmed Kantardzic, Chamila Walgampaya, Brent Wenerstrom, Olexandr Lozitskiy,<br>Sean Higgins, Darren King     | IT_2927 |
| Simple computer vision system for chess playing robot manipulator as a Project-based<br>learning example,<br>Emir Sokic, Melita Ahic-Djokic                                | SP-2837 |

**COFFEE BREAK: 3:00 pm– 3:40 pm**

**Tuesday, December 16, 2008**

Hall 1: 3:40 pm – 5:20 pm

Signal Processing: I

Session Chair: Dr. Francisco Garsia-Ugalde

|                                                                                                                                                            |         |
|------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| Maximizing the Zero-Error Density for RTRL,<br>Luís A Alexandre                                                                                            | SP_2840 |
| Bspline based Wavelets with Lifting Implementation,<br>Gamal E Fahmy                                                                                       | SP_2886 |
| Design of state-space digital filters with spread coefficient's sensitivity,<br>Francisco Garcia-Ugalde, Bohumil Psenicka                                  | SP_2926 |
| White and Color Noise Cancellation using Adaptive Feedback Cross-Coupled Line<br>Enhancer Filter,<br>Asaad F Said                                          | SP_2791 |
| FPGA Implementation of a Multi-Rate Punctured Viterbi Decoder Compatible with the<br>DVB-T Standard,<br>Ahmad A. Abdellatif, Samar M. Ismail, Darek Korzec | SP_2850 |

**Tuesday, December 16, 2008**

Hall 2: 3:40 pm – 5:00 pm

Machine Learning I

Session Chair: Dr. Mansour M. Alsulaiman

|                                                                                                                                                                         |         |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| Design of Chaotic Neural Network for Robust Phoneme Recognition,<br>Aboozar Taherkhani, Seyyed Ali Seyyedsalehi                                                         | IT_2832 |
| Automatic Detection and Recognition of Shop Name in Outdoor Signboard Images,<br>Jonghyun Park, Gueesang Lee, Euichul Kim, Junsik Lim, Soohyung Kim, Hyungjeong<br>Yang | IT_2920 |
| Binarization by Local K-mean Clustering Method for Korean Text Extraction,<br>Anh-Nga Thi Lai, Gueesang Lee                                                             | IT_2952 |
| Learning of Robotic Assembly based on Specially Adjustable Vibrations Parameters,<br>Lejla Banjanovic-mehmedovic, Senad Karic                                           | IT_2970 |

**CONFERENCE RECEPTION AT 7:00 pm**

**Wednesday, December 17, 2008**

Hall 1: 9:00 – 10:20

Signal Processing: II

Session Chair: Dr. Ghulam Muhammad

|                                                                                                                                       |         |
|---------------------------------------------------------------------------------------------------------------------------------------|---------|
| FIR Digital Filters Design: Particle Swarm Optimization Utilizing LMS and Minimax Strategies,<br>Meisam Najjarzadeh, Ahmad Ayatollahi | SP_2871 |
| Noise Robust Pitch Detection Based on Extended AMDF,<br>Ghulam Muhammad                                                               | SP_2785 |
| An Efficient Approach to Minimum Phase Prefiltering of Short Length Filters,<br>Sundar Rajan Krishnamurthy                            | SP_2895 |
| Efficient Computation of Joint Direction-Of-Arrival and Frequency Estimation,<br>Y. He, K. Hueske, E. Coersmeier and J. Götze         | SP_2902 |

**Wednesday, December 17, 2008**

Hall 2: 9:00 – 10:00

Communication Systems I

Session Chair: Dr. Jose A. Pacheco de Carvalho

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|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| A Contribution to Experimental Performance Evaluation of Point-to-Point WiMAX links,<br>Jose A Pacheco de Carvalho, Hugo Veiga, Rui Costa, Paulo A Gomes, Antonio D Reis                                                         | IT_2923 |
| Experimental Performance Study of a Very High Speed Free Space Optics Link at the University of Beira Interior Campus: a Case Study,<br>Jose A Pacheco de Carvalho, Hugo Veiga, Paulo A Gomes, Claudia F Pacheco, Antonio D Reis | IT_2931 |
| Advanced Bandwidth Brokering Architecture in PLC Networks,<br>Elmir Secerbegovic, Melika Bolic, Zlatan Begic                                                                                                                     | IT_2862 |

**COFFEE BREAK: 10:20 – 10:40**

**Wednesday, December 17, 2008**

Hall 1: 10:40 – 12:00

Image and Video Processing: III

Session Chair: Dr. Roumen K. Kountchev

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|------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| Adaptive Contour Image Interpolation for Sign Language Interpretations,<br>Rumen P. Mironov, Roumen K. Kountchev                                           | SP_2890 |
| Optimization and Implementation of Integer Lifting Scheme for Lossless Image Coding,<br>Vlado Kitanovski, Dimitar Taskovski, Dusan Gleich, Peter Planinsic | SP_2950 |
| Iris Recognition System Using Combined Colour Statistics,<br>Hasan Demirel, Gholamreza Anbarjafari                                                         | SP_2897 |
| A novel thresholding method for automatically detecting stars in astronomical images,<br>Alejandro Cristo, Antonio Plaza, David Valencia                   | SP_2912 |

**Wednesday, December 17, 2008**

Hall 2: 10:40 – 12:00

Machine Learning II

Session Chair: Dr. Mariofana Milanova

|                                                                                                                                                                             |         |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| Recognition of Emotional states in Natural Human-Computer Interaction,<br>Mariofanna Milanova, Nikolay Sirakov                                                              | IT_2971 |
| Neural Network's k-means Distance-Based Nodes-Clustering for Enhanced RDMAR<br>Protocol in a MANET,<br>Omar F Hamad, Mi-Young Kang, Jin-Han Jeon, Ji-Seung Nam              | IT_2977 |
| A Word-Dependent Automatic Arabic Speaker Identification System,<br>Suliman S Al-Dahri, Youssaf H Al-Jassarr, Yousef A Alotaibi, Mansour M Alsulaiman,<br>Khondaker A Mamun | SP_2739 |
| A Text-Independent Persian Writer Identification System Using LCS Based Classifier,<br>Behzad Helli, Mohsen Ebrahimi Moghaddam                                              | SP_2889 |

**LUNCH BREAK: 12:00 – 2:00 pm**

**Wednesday, December 17, 2008**

Hall 1: 2:00 pm – 3:20 pm

Audio and Speech Processing: I

Session Chair: Dr. Stephane Rossignol

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|----------------------------------------------------------------------------------------------------------------------------------------------|---------|
| Precise Voicing Information Extraction in Speech Signals Using the Analytic Signal,<br>Stéphane Rossignol, Olivier Pietquin                  | SP_2795 |
| A Method for Simultaneously Extract the Fundamental Frequency of a Speech Signal<br>and Segment It,<br>Stéphane Rossignol, Jean-Luc Collette | SP_2798 |
| Localization of Sound Source in 3D Space,<br>Petar Hinich, Sasa Hinich, Svetko Milutinovich                                                  | SP_2943 |
| Mask Matching for Low Resolution Musical Note Recognition,<br>Jae Myeong Yoo, Guee Sang Lee, Gi Hong Kim                                     | SP_2948 |

**Wednesday, December 17, 2008**

Hall 2: 2:00 pm – 3:00 pm

Biomedical Informatics: II

Session Chair: Dr. Lejla Banjanovic-Mehmedovic

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|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| Fast Adaptive Anisotropic Filtering for Medical Image Enhancement,<br>Jose George George, Indu S.P.                                                                      | SP_2838 |
| Extracting Single Trial Visual Evoked Potentials Using Iterative Generalized Eigen<br>Value Decomposition,<br>Sepideh Hajipour, Mohammad B Shamsollahi, Vahid Abootalebi | SP_2932 |
| Epileptic Seizure Detection Using Empirical Mode Decomposition,<br>Azadeh Kamali Tafreshi, Ali M Nasrabadi, Amir H Omidvarnia                                            | SP_2947 |

**COFFEE BREAK: 3:20 pm – 3:40 pm**

**Wednesday, December 17, 2008**

Hall 1: 3:40 pm – 5:00 pm

Image and Video Processing: IV

Session Chair: Dr. Antonio Plaza

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|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| Anisotropic Diffusion for Preserving Line-edge,<br>Hyesuk Kim, Gueesang Lee, Juneyoung Chang, Hanjin Cho                                                                | SP_2922 |
| Bidirectional Motion Estimation Approach Using Warping Mesh Combined to Frame<br>Inetrpolation,<br>Vianney Muñoz-Jiménez, Anissa Mokraoui-Zergaïnoh, Jean-Pierre Astruc | SP_2930 |
| Gesture Recognition by Line Fitting Over Significant Pixels,<br>Ashtosh Sapru, Ravi Lakkundi, Nisar Ahmed                                                               | SP_2944 |
| Improved Spectral Unmixing of Hyperspectral Images Using Spatially Homogeneous<br>Endmembers,<br>Maciel Zortea, Antonio Plaza                                           | SP_2945 |

**Wednesday, December 17, 2008**

Hall 2: 3:40 pm – 4:40 pm

Biomedical Informatics III

Session Chair: Dr. Antonio J. Bravo

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|-----------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| Using morphological and clustering analysis for left ventricle detection in MSCT cardiac<br>images,<br>Jose Clemente, Antonio J Bravo, Ruben Medina | SP_2957 |
| Tracking Dynamical Transition of Epileptic EEG Using Particle Filter,<br>Hossein Mamaghanian, Mohammad Bagher Shamsollahi                           | SP_2965 |
| Empirical Mode Decomposition In Epileptic Seizure Prediction,<br>Azadeh Kamali Tafreshi, Ali M Nasrabadi, Amir H Omidvarnia                         | SP_2973 |

**CONFERENCE DINNER AT 7:00 pm**

**Thursday, December 18, 2008**

Hall 1: 9:00 – 10:00

Plenary Session: **Image Segmentation: From Active Contours to Evolving Systems**

Invited Speaker: Dr. Leonardo Bocchi, University of Florence, Italy

Session Chair: Dr. Novica Nosovic

**COFFEE BREAK: 10:00 – 10:40**

**Thursday, December 18, 2008**

Hall 1: 10:40 – 12:20

Signal Processing III

Session Chair: Dr. Patricio Bulic

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|----------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| Artificial signals addition for reducing PAPR of OFDM systems,<br>Desire Guel, Jacques Palicot                                                     | SP_2787 |
| Adaptive Golomb Codes for Level Binarization in the H.264/AVC FRExt Lossless<br>Mode,<br>Davide Bardone, Elias S.G. Carotti, Juan Carlos De Martin | SP_2929 |
| Weighting of Mel Sub-bands Based on SNR/Entropy for Robust ASR,<br>Hojatollah Yeganeh, Seyed Mohammad Ahadi, Ali Ziaei                             | SP_2935 |
| Maximal Ratio Combining Subband Adaptive Array Using Decision Feedback<br>Approach,<br>Tetsuki Taniguchi, Nordin Bin Ramli, Yoshio Karasawa        | SP_2936 |
| An Iterative Mitchell's Algorithm Based Multiplier,<br>Zdenka Babic, Aleksej Avramovic, Patricio Bulic                                             | SP_2925 |

**Thursday, December 18, 2008**

Hall 2: 10:40 – 12:00

## Machine Learning III

Session Chair: Dr. Amir Asif

|                                                                                                                                                    |         |
|----------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| Effect of Multipaths on N-ary Time Reversal Classifiers,<br>Foroohar Foroozan, Amir Asif                                                           | SP_2906 |
| A Method for Off-line Persian Signature Identification and Verification Using DWT and Image Fusion,<br>Samaneh Ghandali, Mohsen Ebrahimi Moghaddam | SP_2938 |
| Road Type Recognition Using Neural Networks for Vehicle Seat Vibration Damping,<br>Omer Tanovic, Senad Huseinbegovic, Bakir Lacevic                | SP_2989 |
| Spoken Language Identification Using A New Sequence Kernel-based SVM,<br>Ali Ziaei, Seyed Mohammad Ahadi, Hojatollah Yeganeh                       | SP_2939 |

**LUNCH BREAK: 12:00 – 2:00 pm****Thursday, December 18, 2008**

Hall 1: 2:00 pm – 3:20 pm

## Watermarking

Session Chair: Dr. Ahmed Desoky

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|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| Digital Video Watermarking Based on Histogram and Temporal Modulation and Robust to Camcorder Recording,<br>Hoseok Do, Dooseop Choi, Hyuk Choi, Taejeong Kim                  | SP_2847 |
| Watermarking Via Bspline Expansion And Natural Preserving Transforms,<br>Mamdouh M.F Fahmy, Gamal G.M. Abdel Raheem, Osama O.S. Mohammed, Omar O.E.F. Fahmy, Gamal G.M. Fahmy | SP_2876 |
| Intelligent Decoding for Mean Quantization Based Audio Watermarking in the Wavelet Transform Domain,<br>Nima Khademi Kalantari, Seyed Mohammad Ahadi                          | SP_2979 |
| An Implementation and Analysis of the Blowfish Cryptosystem,<br>Ahmed Desoky, Russell Meyers                                                                                  | IT_2972 |

**Thursday, December 18, 2008**

Hall 2: 2:00 pm – 3:20 pm

Networking

Session Chair: Dr. Adel S. Elmaghraby

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|-----------------------------------------------------------------------------------------------------------------------------|---------|
| Security in Multicast Networks,<br>Zlatan Begic, Melika Bolic                                                               | IT_2793 |
| Streaming Media Transport Protocols On Basis Of Next Generation Internet,<br>Melika Bolic, Zlatan Begic, Elmir Secerbegovic | IT_2841 |
| Seamless Connectivity Scheme for Heterogeneous Wireless Networks,<br>Iyad Alkhayat, Anup Kumar, Adel Elmagraby              | IT_2916 |
| Data Center Resilience Evaluation Test-bed: Design and Implementation,<br>Yehia H Khalil, Adel S Elmaghraby                 | IT_2987 |

**COFFEE BREAK: 3:20 pm – 3:40 pm****Thursday, December 18, 2008**

Hall 1: 3:40 pm – 5:20 pm

Image and Video Processing V

Session Chair: Dr. Mohsen Ebrahimi Moghaddam

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|-------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| Ghosting Reduction and Estimation in Anaglyph Stereoscopic Images,<br>Alexander A Krupev, Antoaneta A Popova                                          | SP_2949 |
| Motion Blur Identification Using Image Derivative,<br>Navid Norouzi, Mohsen Ebrahimi Moghaddam                                                        | SP_2894 |
| Multi-scale Edge Detection Using Undecimated Wavelet Transform,<br>Vlado Kitanovski, Dimitar Taskovski, Ljupco Panovski                               | SP_2951 |
| A Robust Lip Center Detection in Cell Phone Environment,<br>Trung T Pham, Min G Song, Jin Y Kim, Seung Y Na, Sung T Hwang                             | SP_2958 |
| Triangular Mesh Geometry Coding with Multiresolution Decomposition Based on<br>Structuring of Surrounding Vertices,<br>Shuji Watanabw, Akira Kawanaka | SP_2910 |

**Thursday, December 18, 2008**

Hall 2: 3:40 pm – 5:20 pm

Communication Systems II

Session Chair: Dr. Carl J. Debono

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|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| The Implementation of an Adaptive Data Reduction Technique for Wireless Sensor Networks,<br>Carl J Debono, Nicholas P Borg                                                 | SP_2877 |
| A New Lattice LP-based Post-Filter for Adaptive Noise Cancellers in Mobile and Vehicular Applications,<br>Soheil Khorram, Hossein Sameti, Hadi Veisi, Hamid Reza Abutalebi | SP_2909 |
| An Improved Method for Tracking a Single Target in Variable Cluttered Environments,<br>Fatemeh Rahemi, Ali Khaki Sedigh, Alireza Fatehi, Farbod Razzazi                    | SP_2919 |
| Dynamic On-Line Allocation of Independent Task onto Heterogeneous Computing Systems to Maximize Load Balancing,<br>Amal Khalifa, Tahany Fergany, Reda Ammar, Mohamed Tolba | SP_2953 |
| Randomized Algorithms for Mapping Clustered Object-Oriented Software onto Distributed Architectures,<br>Safwat Hamad, Reda Ammar, Essam Khalifa, Tahany Fergany            | IT_2928 |

**Friday, December 19, 2008**

Hall 1: 9:00 – 10:20

Image and Video Processing VI

Session Chair: Dr. Tetsuki Taniguchi

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|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| A Geometrical Active Contour Based On Statistical Shape Prior Model,<br>Foued Derraz, Abdelmalik Taleb-Ahmed, Antonio Pinti, Azzeddine Chikh, Fethi Bereksi-Regui | SP_2962 |
| A Geometrical Active Contour Based Sobolev Metric,<br>Foued Derraz, Abdelmalik Taleb-Ahmed, Azzeddine Chikh, Fethi Bereksi-Regui, A. Pinti                        | SP_2964 |
| Adaptive Image Pyramidal Representation,<br>Valeriy V Cherkashyn, Roumen K Kountchev, Dong-Chen He, Roumiana A Kountcheva                                         | IT_2914 |

**Friday, December 19, 2008**

Hall 2: 9:00 – 10:20

Communication &amp; Information Technologies

Session Chair: Dr. Nikolaos E. Myridis

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|---------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| Integration of Spatial Data with Business Intelligence Systems,<br>Dzenana Muracevic, Fahrudin Orucevic                                           | IT_2833 |
| Detecting anomalies with Benford's law,<br>Zoran Jasak                                                                                            | IT_2960 |
| Computer-based Systems in Society (CbSyS),<br>Nikolaos E Myridis                                                                                  | IT_2921 |
| Comparison of Interleaved Polling with adaptive Cycle Time and Cyclic Demand<br>Proportionality Algorithms,<br>Sadeta Krijestorac, Jonathan Bagby | IT_2855 |

**COFFEE BREAK: 10:20 – 10:40****Friday, December 19, 2008**

Hall 1: 10:40 – 11:40

Multimedia &amp; Databases

Session Chair: Dr. Antoaneta Popova

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|---------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| A Fast Symbolic Image Indexing and Retrieval Method Based On TSR and Linear<br>Hashing,<br>Mehri Sadooghi Yazdi, Kiana Najaf Zadeh, Mohsen Ebrahimi Moghaddam | SP_2917 |
| Multilingual Names Database Searching Enhancement,<br>Ivo R Draganov, Antoaneta A Popova, Lubomir L Ivanov                                                    | IT_2896 |
| An Application of Agent UML to Warehouse Management Systems,<br>Kemal Taljanovic                                                                              | IT_2974 |

**Friday, December 19, 2008**

Hall 2: 10:40 – 11:40

Audio & Speech Processing II

Session Chair: Dr. Elias S. G. Carotti

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|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| A Genetic Algorithm Approach with Harmonic Structure Evolution for Polyphonic Music Transcription,<br>Gustavo Reis, Nuno Fonseca, Francisco Fernandez, Anibal Ferreira | SP_2956 |
| An Approach To Doubletalk Detection Based On Non-Negative Matrix Factorization,<br>Niall Cahill, Robert Lawlor                                                         | SP_2967 |
| A Particle Swarm Optimization-Based Approach to Speaker Segmentation Based on Independent Component Analysis on GSM Digital Speech,<br>Masoud Mirrezaie                | SP_2980 |