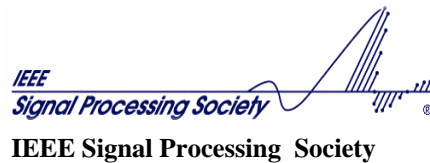# The 4th IEEE International Symposium on Signal Processing and Information Technology

December 18-21, 2004, Jolly Hotel-Vittorio Veneto, Rome, Italy

Final Program

Co-Sponsored by

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Program Summary

9:00am – 11:30am registration
11:30am – 12:45pm Welcome address

13:00pm-14:30pm Lunch

14:30-16:00 Panel Session (three invited speakers)

- Prof. Luigi Accardi, Tor Vergata University "*Quantum Information Processing*"
- Prof. Carlo Regazzoni, University of Genoa "*Signal and Data Processing in Video Surveillance Systems*"
- Prof. Domenico Solimini , Tor Vergata University "*Processing Techniques in Remote Sensing Applications*"

16:00pm-16:30pm Coffee Break

16:30pm-18:00pm: Tutorial Session
"Overview on Band-Pass Sampling Approaches for On-Board Processing" L. Simone, G. Lippolis, M. C. Comparini, D. Gelfusa, V. Piloni, R. Novello, Alenia Spazio, Rome, Italy

Time	Sunday, Dec. 19th			Monday, Dec. 20th			Tuesday, Dec. 21st		
9:00 - 11:00	SPCOM1	BSIP	SPTM	SPCOM2	SAMC	IT-1	SPCOM3	DER	IT-4
11:00 11:30	Coffee Break								
11:30 13:10	ISPS1	IVP1	CED	MSP	IVP2	IT-2	DCRN	DF	IT-5
13:10 14:30	Lunch								
14:30 16:10	SS	RSP	SALP	IT-3	ISPS2-NN				
16:10 16:30	Coffee Break								
16:30 18:00	Tutorial(s)								

SPCOM: Signal Processing for Communications
ISPS: Implementation of SP Systems
SPTM : Signal Processing Theory and Methods
IVP: Image and Video Processing
BSIP: Biomedical Signal and Image Processing
SS: Special Session
RSP : Radar Signal Processing
DF: Digital Filters

SALP: Speech, Audio, and Language Processing
CED: Channel Estimation& Detection
DER : Detection and Estimation with Radar Applications
SAMC: Sensor Arrays & Multichannel
ISP-NN: Implementation of Signal Processing- Neural Networks
DCRN : Data Communications, Recording & Networking

Conference Banquet will be on December 19th, 19:00pm-21:00pm.

9:00 – 11:00: Signal Processing for Communications I

1. **"Joint Blind Equalization and Decoding using Particle Filters,"** Claudio J. Bordin Jr. and Luiz Baccal'a, Universidade de Sao Paulo, Brazil.

2. **"Programmable Digital Channel Selector for Multimode Radio Receiver,"** Lirida A. de B. Naviner, Jean-Francois Naviner, GET/Telecom Paris - CNRS/LTCI, France, and Marcelo Alves de Barros, Universidade Federal de Campina Grande - UFCG/DSC, Brazil.

3. **"Least Mean Mixed-Norm adaptive filtering for impulsive DS-CDMA channels,"** S. A. Jimaa, M. E. Jadah, Etisalat College of Engineering, UAE, and B. S. Sharif, University of Newcastle upon Tyne, UK.

4. **"Blind Identification of the Channel with Common Zeros,"** Zhi-yong Zhang, Jun Wang, and Lei Tao, Nanjing University of Posts & Telecommunications, China.

5. **"The Effect of Array Length on the Capacity of Mobile MIMO Channels,"** Nahal Maleki, Ebrahim Karami, and Mohsen Shiva, University of Tehran, Iran.

6. **"Mean-Square Analysis of a Variable Step Size Transform Domain LMS Adaptive Algorithm,"** K. Mayyas, Jordan University of Science and Technology, Irbid, Jordan.

9:00 – 11:00: Biomedical Signal and Image Processing

1. **"Echocardiographic Image Sequence Segmentation by Multiscale Directional Snake,"** Jierong Cheng, Say Wei Foo, Shankar M. Krishnan, Nanyang Technological University, Singapore.

2. **"Methods for Clustered Microcalcifications Detection in Digital Mammograms,"** Wan Mimi Diyana, Rosli Besar, Multimedia University, Malaysia.

3. **"A Novel Multiscale Nonlinear Diffusion Method for Ultrasonic Speckle Reduction,"** Fan Zhang and Liang Mong Koh, Nanyang Technological University, Singapore.

4. **"Improving the Performance of the LF-ASD Brain Computer Interface by means of Genetic Algorithm,** "Mehrdad Fatourechi, Ali Bashashati, Jaimie F. Borisoff, Gary E. Birch, and Rabab K. Ward, University of British Columbia, Canada.

5. **"Radial Multiscale Cyst Segmentation in Ultrasound Images of Kidney,"** Abouzar Eslami, Shohreh Kasaei, and Mehran Jahed Sharif University of Technology, Iran.

6. **"Facial Expression Quantification and Analysis"** Ramya Sridharan and Edmond C. Prakash, Nanyang Technological University, Singapore.

7. **"Three Dimensional Reconstruction of the Left Ventricle Based on the Delaunay Triangulation"** Nadia. Souag, Electrical Engineering faculty, U.S.T.H.B, Alegria

9:00 – 11:00: Signal Processing Theory & Methods

1. **"An Efficient Three-Dimensional Decimation-in-Time FHT Algorithm Based On The Radix-2/4 Approach"** Saad Bouguezel, M. Omair Ahmad, and M.N.S. Swamy, Concordia Univ., Canada.

2. **"Robust Blind Separation Algorithms for Heavy-Tailed Sources"** M. Sahmoudi, CNRS-SUPELEC-Paris Sud University, France, and K. Abed-Meraim, Telecom-Paris, France.

3. **"Adaptive Hammerstein Filters for Nonlinear and Non-Minimum Phase Active Noise Control Systems"** M. H. Kahaei, M. Eghtedari, and J. Poshtan Iran Univ of Science & Technology, Iran.

4. **"A Nonlinear Signal Processing Approach to Model Heart Rate Variability"** N. Jafarnia Dabanloo, Iran University of Science and Technology, Iran, D. C. McLernon, University of Leeds, U.K., A. Ayatollahi1, Iran University of Science and Technology, Iran, V. Johari Majd, Tarbiat Modarres University, Iran.

5. **"A New Recursive Algorithm to Blindly Recover Input Sequences",** Zhi-yong Zhang, Yun Zhang, and Jun Wang, Nanjing University of Posts & Telecommunications, China.

6. **"A New FPCA–Based Fast Segmentation Method for Color Images"** Arash Abadpour and Shohreh Kasaei, Sharif Univ. of Tech.,Iran.

11:30 AM – 13:10 PM: Implementation of Signal Processing Systems I

1. **"Hierarchical Systolic Array Design for Full-Search Block Matching Motion Estimation,"** Fayez Gebali, University of Victoria, Canada. (Invited paper)

2. **"Processor Array Design for Deep Packet Classification"** A.N.M.Ehtesham Rafiq and Fayez Gebali, University of Victoria, Canada.

3. **"Efficient Modeling and Implementation of Advanced Encryption Standard using SystemC"** Eustace Painkras, Institute for Infocomm Research,Singapore.

4. **"A Unified SystemC-Based Framework for Simulation, Optimization and Synthesis of Complex Systems Implementing DSP Algorithms"** Gian Carlo Cardarilli, Alessandro Malatesta, Marco Re, University of Rome, Tor Vergata, Italy, Luigi Arnone, and Alberto Rosti, ST Microelectronics, Italy.

5. **"An ASIC Implementation for V-BLAST Detection in 0.35 µm CMOS",** Zhan Guo and Peter Nilsson, Lund University, Sweden.

11:30 – 13:10: Image and Video Processing I

1. **"Enhancing Motion Trajectories in Noisy Video Sequences"** Alexander Klaser, Bonn-Rhein-Sieg University of Applied Sciences, Germany, Srdjan Stankovic, University of Montenegro, Serbia and Montenegro, and Rainer Herper, Bonn-Rhein-Sieg University of Applied Sciences, Germany.

2. **"Translation, Rotation and Scale Invariant Texture Characterization Method for Retrieval"** Zhuo Liu and Shigeo Wada, Tokyo Denki University, Japan.

3. **"Combination of Binarization and Character Segmentation using Color Information"** Celine Thillou and Bernard Gosselin, Facult Polytechnique de Mons, Belgium.

4. **"Multicomponent Transforms for Motion JPEC 2000 Applications"** Barbara Penna, Luca Merello, Tammam Tillo, Gabriella Olmo, Politecnico di Torino, Italy.

5. **"Blind Multichannel Image Deconvolution with Regularization"** W. Souidene, Universit Paris 13, Telecom Paris, K. Abed-Meraim, Telecom Paris, A. Beghdadi, Universit Paris 13, France.

11:30 – 13:10: Channel Estimation & Detection

1. **"Stochastic Cramer-Rao Bounds for Semi-Blind MIMO Channel Estimation"** Lamia Berriche and Karim Abed-Meraim Ecole Nationale Supérieure des Télécommunications, France.

2. **"Parameter estimation of measured channels in mobile MIMO OFDM system"** Mihai Enescu, Helsinki University of Technology, Finland, Markus Herdin, Vienna University of Technology, Austeria, Timo Roman, and Visa Koivunen, Helsinki University of Technology, Finland.

3. **"Modified Unbiased EM-Based Channel Estimation for MIMO Turbo Receivers"** Mohammad Ali Khalighi and Joseph Boutros, ´ Ecole Nationale Supérieure des Télécommunications, France.

4. **"On the Structural Equivalence of Two Recent Algorithms for Implicitly Trained Channel Estimation"** D. C. McLernon, University of Leeds, UK, A. G. Orozco-Lugo, and M. M. Lara, Centro de Investigación y de Estudios Avanzados del IPN, Sección de Comunicaciones, México.

5. **"Implicitly-Trained Channel Estimation and Equalization with Zero Mean Input Data Packets**" D. C. McLernon, E. Alameda-Hernandez, Univ. of Leeds, UK, A. G. Orozco-Lugo, and M. M. Lara, CINVESTAV-IPN, Sección de Comunicaciones, México.

13:10-14:30: Lunch

14:30 – 16:10: DSP Circuits & Architectures for Wireless Systems (Special Session)

Organizers and session co-chairs:

Prof. Adel Ghazel, Ecole Supérieure des Communications de Tunis (SUP'COM), Tunisia.

Prof. Ammar Kouki, Ecole de Technologie Supérieure, Canada.

1. **"Interference Suppression and Multipath Mitigation For Global Navigation Satellite Systems"** Wei Sun and Moeness Amin, Villanova University, USA.

2. **"Digital Signal Pre-processing to Boost the Linear Power of 3G Radio Transmitters"** S. Boumaiza, M. Helaoui, A. Ghazel and F. M. Ghannouchi MEDIATRON, SUP'COM, Tunisia - Poly-GRAMES, Ecole Polytechnique de Montréal, Canada.

3. **"An Integrated Digital Platform for Rapid Evaluation of Novel Wireless Applications"** P-P Carpentier, A. Kouki and C. Thibeault Ecole de Technologie Supérieure, Canada.

4. **"Design & Hardawre Implementation of Digital Channel Selection Processor for Radio Receive"** K. Grati, A. Ghazel and L. Naviner MEDIATRON, SUP'COM, Tunisia - Comelec, ENST-Paris, France.

5. **"Analog to Digital Conversion Specifications for Ultra Wide Band Reception"** M. Ben Romdhane, P. Loumeau MEDIATRON, SUP'COM, Tunisia, Comelec, ENST-Paris, France.

6. **"On Systems Level Design of Wide Band IF Receiver for IEEE802.11a Wirless LAN Systems"** R. Barrak, A. Ghazel and F. M. Ghannouchi MEDIATRON, SUP'COM, Tunisia - Poly-GRAMES, Ecole Polytechnique de Montréal, Canada.

14:30 – 16:10: Radar Signal Processing

1. **"Analysis of SSR signals by super resolution algorithms"** Prof. Gaspare Galati, Ing. Simone Bartolini, and Ing. Luca Menè, Tor Vergata University, Italy.

2. **"Capon-LS for Model Order Selection of Interferometric"** SAR Signals Corrupted by Multiplicative Noise Federica Bordoni, Fulvio Gini, Matteo Pardini, Dept of "Ingegneria dell'Informazione", University of Pisa, via G. Caruso 14, 56122 Pisa, Italy.

3. **"Layover Solution in Multibaseline Insar using Interpolated Arrays"** F. Bordoni, University of Pisa, Italy, A. Jakobsson, Karlstad University, Sweden, F. Lombardini, F. Gini, University of Pisa, Italy.

4. **"Data-Adaptive Training Selection for Radar Applications E. Conte, A. De Maio,"** Università degli Studi di Napoli, Italy, A. Farina, Alenia Marconi Systems, Italy, G. Foglia, Elettronica S.p.A., Italy.

5. **"A New Approach for Target Location of Through the Wall Radar Imaging in the Presence of Wall Ambiguities"** Genyuan Wang and Moeness Amin, Villanova University, USA.

14:30 – 16:10: Speech, Audio, and Language Processing

1. **"An Investigation into a Mel Subspace Based Front-End Processing for Robust Speech Recognition"** Sid-Ahmed Selouani, Université de Moncton, Canada, and Douglas O'Shaughnessy, INRS-Energie-Matériaux-Télécommunications, Canada.

2. **"Time-Domain Vocal Tract Length Normalization"** David S̈undermann, Antonio Bonafonte, Universitat Polit`ecnica de Catalunya, Spain, Hermann Ney, RWTH Aachen – University of Technology, Germany, and Harald Hoge, Siemens AG, Germany.

3. **"Spoken Arabic Digits Recognizer Using Recurrent Neural Networks"** Yousef A. Alotaibi, King Saud University, Saudi Arabia.

4. **"Acoustic Training System for Speaker Independent Continuous Arabic Speech Recognition System"** Maged Nofal, Ain Shams Univ., Egypt, Esam Abdel Reheem,University of Windsor, Canada, Hadia El Henawy, Ain Shams Univ., Egypt, and Neamat Abdel Kader, Cairo University, Egypt.

5. "**Dynamic Segmental Vector Quantization in isolated-word speech recognition**" Vo Dinh Minh Nhat and Sungyoung Lee Kyung Hee University – South of Korea.

16:10 – 16:30: Coffee Break

16:30 – 18:00: Tutorial:

"Radar processing techniques and technologies: state of the art, hot topics and way ahead." Falessi (AMS Technology Director), A. Farina (AMS Scientific Director), AMS, Rome, Italy.

19:00-22:00: Conference Banquet

9:00 – 11:00: Signal Processing for Communications II

1. **"A Semi-Blind Equalization Algorithm for Long Coded CDMA Systems"** Claudio J. Bordin Jr. and Luiz A. Baccal, Escola Politécnica, Universidade de Sao Paulo, Brazil.

2. **"An Anti-Blocking Multicarrier CDMA System in MISO Channel with Time Diversity"** Tadashi Fujino, The University of Electro-Communications, Japan.

3. **"Time-Varying Carrier Offset Tracking in OFDM Systems Using Particle Filtering"** Tuomas Nyblom, Timo Roman, Mihai Enescu, Visa Koivunen, Helsinki Univ. of Technology, Finland.

4. **"Rotation-Based Adaptive Equalizer Architecture forHigh Data Rate CDMA Systems"** Luke V. Williams and Jarmo H. Takala, Tampere University of Technology, Finland.

5. **"An Efficient Implementation of a Wavelet Based Filtered Multitone Modulation Scheme"** Andrea M. Tonello, DIEGM - Università di Udine, Italy, and Roman M. Vitenberg, DATA-JCE Ltd, Israel.

6. **"A Transform Domain LMS Algorithm with an Adaptive Step Size Equation"** K. Mayyas, Jordan University of Science and Technology, Irbid, Jordan.

9:00 – 11:00: Sensor Arrays & Multichannel

1. **"Unconditional Maximum Likelihood Approach for Localization of Near-Field Sources in 3-D Space"** Nihat Kabaoglu, Kadir Has University, Turkey, Hakan A. Cirpan, Istanbul University, Turkey, and Selcuk Paker, Istanbul Technical University, Turkey.

2. **"A Study of Improved Spatial Smoothing"** Huiqin Yan and H. Howard Fan, University of Cincinnati, USA.

3. **"Indoor Surveillance with Multimodal Wireless Networks"** John Aa. Sørensen, Zoltan Safar, Jianjun Chen, K. J. Kristoffersen, and Martin Schiøtz, IT University of Copenhagen, Denmark.

4. **"Blurness and focusing–defocusing for Through the Wall Radar Imaging with Wall Ambiguities"** Govinda Mandapati and Moeness Amin, Villanova University, USA.

5. **"Blind Source Separation Using Time-Frequency Concepts"** M. F. Fahmy, Osama. M. H. Amin, Yassin M. Y. Hasan and G. M. El-Raheem Assiut University, Assiut, Egypt.

6. **"Combining Beamforming with MMSE Alamouti Multiuser Interference Cancellation Receiver"** Chen Sun, Nanyang Technological University, Singapore, and Nemai C. Karmakar, Monash University, Australia.

9:00 – 11:00: Information Technology –I

1. **"Congestion Control for UDP Traffic"** Stefano Avallone; Pierluigi Salvo Rossi and V incenzo La Marca Universit`a di Napoli "Federico II" , Giulio Iannello; Universit`a Campus Bio-Medico di Roma, Francesco Palmieri Universit`a di Napoli, Giorgio V entre Universit`a di Napoli "Federico II".

2. **"Proposition of a network policy management Ontology"** Maroun Chamoun and Rima Kilany, École Supérieure d'Ingénieurs de Beyrouth, Liban and Ahmed Serhrouchni École Nationale Supérieure de Télécommunication, France.

3. **"MBS-OCSP: An OCSP based certificate revocation system for wireless environments"** Diana Berbecaru and Politecnico di Torino, Dip. di Automatica e Informatica, Italy

4. **"An Adaptive Algorithm for Internet Multimedia Delivery in a Differentiated Services Environment"** Yang Feng and Randa El-Marakby University of Windsor, Canada.

5. **"Scalable Switch for Bi-Directional MultiRing Network"** Xiangjian He, University of Technology, Australia and Hamid R. Arabnia, University of Georgia, USA.

6. **"Congestion Relief in Wireless LANs",** Abed Elhamid Lawabni and Ahmed H. Tewfik, University of Minnesota, USA.

11:00 – 11:30: Coffee Break

1. **"Utilizing Repeated Adjacencies of Vector Quantization Indices in Image Compression"** Mohammed F. Abdel-Latif, Tarik K. Abdel-Hamid, Magdy M. Doss, and H. Selim Electrical Engineering Department, Faculty of Engineering, Assiut University, Assiut, Egypt.

2. **"Utilizing Index Usage Map for VQ Index Compression"** Mohammed F. Abdel-Latif, Tarik K. Abdel-Hamid, Magdy M. Doss, and H. Selim, Assiut University, Egypt.

3. **"Satellite On-Board Image Compression Adviser"** Antonio Guzmàn and Marta Beltràn, Rey Juan Carlos University, Spain.

4. **"Walsh Coding for Robust Digital Image Watermarking"** Amani Bin Sewaif, Mohammed Al-Mualla and Hussain Al-Ahmad, Etisalat College of Engineering, UAE.

5. **"WMICA: An ICA-Based Digital Watermarking Technique"** Thang V. Nguyen and Jagdish C. Patra, School of Computer Engineering, Nanyang Technological University, Singapore.

1. **"A Mathematical Morphological Method to Thin Edge Detection in Dark Region"** Ying-Tung Hsiao, Cheng-Long Chuang, Shwu-Huey Yen, and Hwei-Jen Lin, Tamkang University, Taiwan, R.O.C.

2. **"Finding Point Spread Function of Motion Blur using Radon Transform and Modeling the Motion Length"** Mohsen Ebrahimi Moghaddam and Mansour Jamzad, Sharif University of Technology, Iran.

3. **"Directional Gradient Vector Flow for Snakes"** Jierong Cheng, Say Wei Foo, and Shankar M. Krishnan, Nanyang Technological University, Singapore.

4. **"Mumford and Shah Functional: Finite Precision Analysis and Software Implementation"** M. Martina and G. Masera, Politecnico di Torino, Torino, Italy.

5. **"A New Algorithm for Recovering Automatically the Control Points Network of an Arbitrary Degree Bézier Surface"** N. Chihab, A. Zergaïnoh, J-P. Astruc, Université Paris 13, France.

1. **"Image Quality Assessment using a Neural Network Approach,"** A. Bouzerdoum and A. Havstad, University of Wollongong, Australia, and A. Beghdadi, Université Paris, France.

2. **"Shredded document reconstruction using MPEG-7 standard descriptors,"** A. Ukovich and G. Ramponi University of Trieste, Italy, H. Doulaverakis*x* Y. Kompatsiaris and M.G. Strintzis, Informatics and Telematics Institute, Greece.

3. **"A Novel Cluster-Based Image Retrieval"** Hewayda M. Lotfy, Adel S. Elmaghraby, University of Louisville, USA.

4. **"Video Indexing Using Speech Recognition Techniques in Audio Channel – Preliminary System Design",** Lingyun Gu, University of Florida, USA.

5. **"Hardware Oriented Architectures for Continuous-Speech Speaker-Independent ASR Systems"** Gian Carlo Cardarilli, Alessandro Malatesta, Marco Re, University of Tor Vergata, Rome, Italy, Luigi Arnone, Sara Bocchio, ST Microelectronics, Italy.

6. **"A Study of the DVD Content Scrambling System (CSS) Algorithm",** Ahmed Desoky and Matthew Becker, University of Louisville, USA.

1. **"A Novel Dynamic Structure Neural Network and Simulation for Optical Character Recognition"** Ying-Tung Hsiao, Cheng-Long Chuang, and Cheng-Chih Chien, Tamkang University, Taiwan, R.O.C.

2. **"Content-Based Recognition of Musical Instruments"** Anna Maria Fanelli, Laura Caponetti, Giovanna Castellano, Cosimo Alessandro Buscicchio Università degli Studi di Bari, Italy.

3. **"A Low Complexity Digital Oscillatory Neural Network for Image Segmentation"** Dênis Fernandes, PUCRS - Pontifícia Universidade Católica do Rio Grande do Sul, Brazil, and Philippe Olivier Alexandre Navaux, UFRGS - Universidade Federal do Rio Grande do Sul, Brazil.

4. **"Generic Floating Point Library for Neuro-Fuzzy Controllers Based on FPGA Technology"** Ahmed Sameh and Mohamed S. A. Abd El Kader, American University in Cairo, Egypt.

5. **"Fixed-point DSP implementation of Wavelet decomposition for image processing"** Giacomo Frassi, Alberto Bellini, Università degli Studi di Parma, Italy.

14:30 – 16:10: Information Technology -III

1. **"Multicast Schedulers for ATM Switches with Multiple Input Queues"** M. Gamvrili and D.N. Serpanos, University of Patras, Greece.

2. **"A Randomized Algorithm to Schedule Real-Time Task Graphs to Satisfy a Multi-criteria Objective Function",** Alaa Amin, Reda Ammar and S. Rajasekaran, University of Connecticut, USA.

3. **"Analysis of System Overhead on Parallel Computers"** Roberto Gioiosa Fabrizio Petrini Kei Davis, Fabien Lebaillif-Delamare, Los Alamos National Laboratory, USA.

4. **"Parallel Techniques for the Virtual Cell"** Sanguthevar Rajasekaran, Reda Ammar, B. Cheriyan, and L. Loew, University of Connecticut, USA.

5. **"Modeling and Restructuring of Object Oriented Distributed Software on a Pipeline Architecture"** Amal Abdel-raouf, University of Connectciut, USA, Tahany A. Fergany, University of New Haven and Reda A. Ammar, University of Connectciut.

16:10 – 16:30: Coffee Break

16:30 – 18:00: Tutorials

1. **On embedded system architectures for speech recognition applications: the gap between the status and the demand.**L. Arnone, S. Bocchio, A. Rosti, STMicroelectronics, Agrate Br. Italy.

2. **On-Board Signal Acquisition for Deep Space Communications** L. Simone*, M. C. Comparini*, G.C. Cardarilli**, A. Del Re**, M. Re**, * Alenia Spazio, Rome, Italy, ** University of Rome "Tor Vergata", Rome, Italy

9:00 – 11:00: Signal Processing for Communications III

1. **"Frequency Domain Echo Cancellation for Discrete Multitone Systems"** Heng-Cheng Yeh, Realtek Semiconductor Inc., HsinChu, and Leon Lin, Real Communications Inc.,USA.

2. **"Performance Evaluation of Uplink Transmission using Space Time Block Coding and Beamforming"** Deepali Arora and Panajotis Agathoklis, University of Victoria, Victoria, B.C., Canada.

3. **"A Throughput / Complexity Analysis for the VLSI Implementation of LDPC Decoder"** Luca Fanucci, EIIT National Research Council, Pisa, Italy, and Francesco Rossi, University of Pisa, Italy.

4. **"Adaptive Technique for Impulsive noise Cancellation in Broad-band Power Line Communication System"** Fatma Rouissi, Fethi Tlili, Adel Ghazel, Ecole Supérieure des Communications de Tunisia, Tunis, and Ahmed zeddam, France Télécom R&D, France.

5. **"Accelerated Power Control for CDMA Systems with Beamforming or Multiuser Detection"** Christoph Leibig, University of Dortmund, Germany, Armin Dekorsy, Bell Labs Europe Lucent Technologies, Germany, and J. Fliege, University of Dortmund, Germany.

6. **"On Performance of Multiuser OFDM Systems with Transmit Diversity"** Xuan Nam Tran, Tadashi Fujino, and Yoshio Karasawa, The University of Electro–Communications, Japan.

9:00 – 11:00:   Detection and Estimation with Radar Applications

1. **"Detection and Velocity Estimation of Aircrafts in Bistatic Radar Data Using Target Back Propagation Technique"** Ø. Overrein, Applied Radar Physics, Norway, K. E. Olsen, S. Johnsrud, P. Sørnes, and T. Johnsen, Forsvarets forskningsinstitutt, Norway.

2. **"Stochastic Boats Generated Acoustic Target Signal** Detection in Time-Frequency Domain" Eric D. Cheng, Massimo Piccardi, and Tony Jan, University of Technology, Australia.

3. **"Selective Bayesian Estimation for Efficient Super-Resolution"** Zoran A. Ivanovski, Lina J. Karam, Arizona State Univesity, USA, and Glen P. Abousleman, General Dynamics C4 Systems, USA.

4. **"Evolving Homing Guidance Configuration With Cramer Rao Bound"** S.Sadhu, S.Bhaumik and T.K.Ghoshal, Jadavpur University, India.

5. **"Joint Blind Maximum Likelihood MIMO Channel Tracking and Detection"** Ebrahim Karami, Iran Telecommunication Research Center, Iran and Mohsen Shiva, University of Tehran, Iran.

6. **"Wavelet Packet Transform Applications on QRS Detection"** Surapun Yimman, Watcharapong Hinjit, Phayung Desyoo, Wisarut Bholsithi, and Kobchai Dejhan, King Mongkut's Institute of Technology, Thailand.

9:00 – 11:00: Information Technology-IV

1. **"Non-iterative Method to Solve 3D EIT Forward Problem",** Bijan Vosoughi Vahdat, Sharif University of Technology, Iran.

2. **"Managing Intellectual Property Rights: from Products to Services",** V. Fotopoulos, B. Vassiliadis, A. N. Skodras, Hellenic Open University, Greece.

3. **"An Improved Method for Water Blotches Detection and Restoration"** F. Stanco and L. Tenze, University of Trieste, Italy and A. De Rosa, University of Florence, Italy.

4. **"The Totem Neurochip: an FPGA implementation"** M. Avogadro, M. Bera, G. Danese, F. Leporati and A. Spelgatti, Università di Pavia, Italy.

5. **"Hardware and software support for the implementation of dipolar system simulations onto an accelerator"** M. Bera, G. Danese, I. De Lotto, F. Leporati and A. Spelgatti, Università di Pavia, Italy

6. **"Hybrid Broadcasting Protocols: A Comparative Study",** Achraf Gazdar and Abdelfettah Belghith, Université de la Manouba, Tunisie.

11:30 – 13:10: Data Communications, Recording & Networking

1. **"Packet Interleaving Over Lossy Channels"** Pierluigi Salvo Rossi, , D.I.S. - Università di Napoli, Italy, Francesco Palmieri, , D.I.I. - Seconda Università di Napoli, Italy, Giulio Iannello, Università Campus Bio-Medico di Roma, Italy, and Athina P. Petropulu, E.C.E.D. - Drexel University, USA.

2. **"Infostation Information Transfer using Hybrid ARQ Technique Combined With Adaptive Modulation"** Yahya Al-Harthi, Ahmed Tewfik, and Mohamed-Slim Alouini, University of Minnesota, USA.

3. **"Replica Placement with Update Latency Guarantees"** Abed Elhamid Lawabni and Ahmed H. Tewfik, University of Minnesota, USA.

4. **"Wireless DSP architecture for biosignals recording"** Luca Piccini, Luigi Arnoney, Fabrizio Beverina, Andrea Cucchi, Luca Petrelli, and Giuseppe Andreoni, Politecnico di Milano, Italy.

5. **"A Fast and Efficient Fuzzy Color Transfer Method"** Arash Abadpour and Shohreh Kasaei, Sharif Univ. of Tech.,Iran.

11:30 – 13:10: Digital Filters

1. **"A Study of Classical Frequency Sampling Filters"** Jiang xiaohua, Ji King, Zhu haifeng, Sun Yat-sen University, China, and Ali Emadi, Illinois Institute of Technology, USA.

2. **"A New Structure and Design Method for Low Group Delay Maximally-Decimated DFT Filter Banks"** B. A. Goh and D. C. McLernon, The University of Leeds, U.K.

3. **"Fully Parametrable Downsampler Generator"** Lirida Naviner, Jean-François Naviner, GET/Télécom Paris, France, and Marcelo Alves de Barros, Universidade Federal de Campina Grande, Brazil.

4. **"An accurate FIR approximation of Ideal Fractional in Hilbert Space"** N.Babaii-Rizvandi, A.Nabavi-Lishi, Tarbiat Modarres University, Iran, and Sh.Hessabi, Sharif university of Technology, Iran.

5. **"Analysis of Lattice-Hammerstein Nonlinear Filters"** M. H. Kahaei, A. Baharlouei, M. Eghtedari, and M. Torbatian, Iran University of Science and Technology, Iran**.**

11:30 – 13:10: Information Technology-V

1. **'Hands-free Interface'- A Fast and Accurate Tracking Procedure for Real Time Human Computer Interaction,** Layal El-Afifi, Mohamad Karaki, Joelle Korban and Mohamad A.Al Alaoui American University of Beirut, Labanon.

2. **'PhysioQuest: Management and Analysis of Physiological Data',** Jaques Reifman†, Jamila Gunawardena, Zhenqiu Liu U.S. Army Medical Research and Materiel Command, USA.

3. **'A Branch-and-Bound Algorithm for Hardware/ Software Partitioning'** Wu Jigang, Srikanthan Thambipillai, Nanyang Technological University, Singapore.

4. **'Fragile Blockwise Image Authentication Thwarting Vector Quantization Attack'** Yassin M. Y. Hasan Assiut University, Egypt, and Ammar M. Hassan, High Institute of Energy, Egypt.

5. **'An Object Oriented Framework for the Implementation of SDL Designs,'** Umberto Mascia, PXL, Italy, Michele Mosciatti, NCS, Italy, Giuseppe Razzano, Gaetano Scarano and Roberto Cusani, University of Roma "La Sapienza", Italy.