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**The  $\varepsilon$ -Normalized Sign Regressor Least Mean Fourth (NSRLMF) Adaptive Algorithm**

Mohammed Mujahid Ulla Faiz (KFUPM & HBCC, Saudi Arabia); Azzedine Zerguine (KFUPM, Saudi Arabia)  
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**Convergence Analysis of a Modified Armijo Rule Step-Size LMF Algorithm**

Syed Muhammad Asad (King Fahd University of Petroleum and Minerals, Saudi Arabia); Azzedine Zerguine (KFUPM, Saudi Arabia)  
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**Multi-object Filtering for Pairwise Markov Chains**

Yohan Petetin (Telecom SudParis, France); François Desbouvries (Telecom SudParis, France)  
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**Optimization of Partial Discharge Detection in High Voltage Cables Based on Advanced Signal Processing Techniques**

Ion Candel (Grenoble INP, France); Angela Digulescu (Military Technical Academy, Romania); Cornel Ioana (Institute National Polytechnique de Grenoble, France); Alexandru Serbanescu (Military Technical Academy, Bucharest, Romania); Emil Sofron (University of Pitesti, Romania)  
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**A Discrete Linear Chirp Transform (DLCT) for Data Compression**

Osama Alkishriwo (University of Pittsburgh, USA); Luis Chaparro (University of Pittsburgh, USA)  
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**Joint Time Delay, Frequency and Amplitude Estimation Using Iterative Prefiltering Method**

Ehsan Hassani Sadi (Amirkabir University of Technology, Iran); Hamidreza Amindavar (Amirkabir University of Technology (AUT), Iran)  
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**Maneuvering Target Tracking Based on Combined Stochastic Differential Equations and GARCH Process**

Mohammadehsan Hajiramezanali (Amirkabir University of Technology, Iran); Hamidreza Amindavar (Amirkabir University of Technology (AUT), Iran)  
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**Design of a High-Resolution Separable-Kernel Quadratic TFD for Improving Newborn Health Outcomes Using Fetal Movement Detection**

Boualem Boashash (Qatar University, Doha & University of Queensland, Brisbane, Australia); Taoufik Ben-Jabeur (Qatar University, Qatar)

## WA-P5 (Poster): Image & Vision Processing P2

### ***Chaos-based Image Assessment for THz Imagery***

Erik Blasch (Air Force Research Lab, USA); Jianbo Gao (Wright State University, USA); Wen-Wen Tung (Purdue University, USA)  
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### ***An Efficient Dilation-based Clustering Algorithm for Automatic Optical Inspection***

Chin-Sheng Chen (National Taipei University of Technology, Taiwan); Chun-Wei Yeh (University of Birmingham, United Kingdom)  
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### ***An FFT-Based Visual Quality Metric Robust to Spatial Shift***

Guangyi Chen (Concordia University, Canada); Stéphane Coulombe (École de Technologie Supérieure, Canada)  
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### ***An Image Approximation Method Using Deformable Continuous Functions***

Takahiro Shimizu (Tokyo University of Science, Japan); Hisashi Aomori (Tokyo University of Science, Japan); Ichiro Matsuda (Tokyo University of Science, Japan); Susumu Itoh (Tokyo University of Science, Japan)  
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### ***A Fast Hierarchical Radiometric Invariant Stereo Matching Algorithm***

Xiaozhou Zhou (University of Alberta, Canada); Pierre Boulanger (University of Alberta, Canada)  
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### ***Improving Performance of Deblocking Techniques Using Image Fusion***

Amina Saleem (Université Paris 13, France); Azeddine Beghdadi (L2TI, Université Paris 13, France); Boualem Boashash (Qatar University, Doha & University of Queensland, Brisbane, Australia)  
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### ***Reference-Free Monocular 3D Tracking of Deformable Surfaces***

Hamed Jamalifar (Sharif University of Technology, Iran); Vahid Ghadakchi (Sharif University of Technology, Iran); Shohreh Kasaei (Sharif University of Technology, Iran)  
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### ***Locally Nonlinear Regression Based on Kernel for Pose-Invariant Face Recognition***

Yaser Arianpour (Islamic Azad University, South Tehran Branch, Iran); Sedigheh Ghofrani (, Iran); Hamidreza Amindavar (Amirkabir University of Technology (AUT), Iran)  
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### ***Automatic Conversion System for 3D Video Generation Based on Wavelets***

Volodymyr Ponomaryov (National Polytechnic Institute, Mexico); Eduardo Ramos-Diaz (Autonomous University of Mexico-City, Mexico); Victor Golikov (Autonomous University of Ciudad del Carmen, Mexico)  
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#### ***Nonlinear Statistics for Bearing Diagnosis***

Diego Luis Guarín (McGill University, Canada); Alvaro Angel Orozco (Universidad Tecnológica de Pereira, Colombia); Edilson Delgado Trejos (Instituto Tecnológico Metropolitano, Colombia)  
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#### ***Marginalized PHD Filters for Multi-Target Filtering***

Yohan Petetin (Telecom SudParis, France); François Desbouvries (Telecom SudParis, France)  
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#### ***A Mixed GM/SMC Implementation of the Probability Hypothesis Density Filter***

Yohan Petetin (Telecom SudParis, France); François Desbouvries (Telecom SudParis, France)  
pp. 425-430

#### ***An Optimum MMSE Post-Filter for Adaptive Noise Cancellation in Automobile Environment***

Soheil Khorram (Sharif University of Technology, Iran); Hossein Sameti (Sharif University of Technology, Iran); Hadi Veisi (Sharif University of Technology, Iran)  
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#### ***Phase Synchrony and Coherence Analysis of Bio-Signals Using Cross-Time-Frequency Distributions***

Said Assous (University of Leicester and Weatherford International, United Kingdom)  
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### WA-O2 (Oral): Pattern Recognition, Machine Learning and Applications 2

#### ***Improving X-means Clustering with MNDL***

Mahdi Shahbaba (Ryerson University, Canada); Soosan Beheshti (Ryerson, Canada)  
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#### ***Complementary Feature Splits for Co-training***

Ahmed Salaheldin (Nile University, Egypt); Neamat El-Gayar (Cairo University, Egypt)  
pp. 1303-1308

#### ***ATLAS - Annotation Tool Using Partially Supervised Learning and Multi-View Co-Learning in Human-Computer-Interaction Scenarios***

Sascha Meudt (University of Ulm, Germany); Lutz Bigalke (University of Ulm, Germany); Friedhelm Schwenker (University of Ulm, Germany)  
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#### ***Adaptive Biometric Verification System Using Quality-Based Co-training***

Tarek Mostafa (Faculty of Computers and Information - Cairo University, Egypt); Iman A. El-Azab (Cairo University, Egypt); Neamat El-Gayar (Cairo University, Egypt)  
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**ECG Signal Classification Using Support Vector Machine Based on Wavelet Multiresolution Analysis**

Ayman Rabee (United Arab Emirates University, UAE); Imad Barhumi (United Arab Emirates University, UAE)  
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**WA-O3 (Oral): Security, Multimedia & Data processing**

**Fuzzy Principal Component Analysis for Sensor Fusion**

Ghada Elbanby (Menoufia University & Faculty of Electronic Engineering, Egypt)  
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**Online Variational Finite Dirichlet Mixture Model and Its Applications**

Wentao Fan (Concordia University, Canada); Nizar Bouguila (Concordia University, Canada)  
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**On Efficient Decoding for the Fuzzy Vault Scheme**

Hoi Ting Poon (Ryerson University, Canada); Ali Miri (Ryerson University & University of Ottawa, Canada)  
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**On the Hardware Design and Implementation of a Chaos-Based RFID Authentication and Watermarking Scheme**

Harold Chung (University of Ottawa, Canada); Ali Miri (Ryerson University & University of Ottawa, Canada)  
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**Incorporating User Specific Normalization in Multimodal Biometric Fusion System**

Bengherabi Messaoud (Centre de Developpement des Technologies Avancees, Algeria); Harizi Farid (Centre de Developpement des Technologies Avances, Algeria); Guessoum Abderrezak (Blida University, Algeria); Mohamed Cheriet (Ecole de technologie superieure (University of Quebec), Canada)  
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**Lunch Break**

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**WB-O1 (Oral): Biomedical Signal and Image Processing 2**

**Real-Time Processing in Dynamic Ultrasound Elastography:A GPU-Based Implementation Using CUDA**

Emmanuel Montagnon (University of Montreal, Canada); Sami Hissoiny (École polytechnique de Montréal, Canada); Philippe Després (Université de Montréal, Canada); Guy Cloutier (Ecole Polytechnique de Montreal, Canada)  
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***Multiple Depth Cameras Calibration and Body Volume Reconstruction for Gait Analysis***

Edouard Auvinet (Universite de Montreal, Canada); Jean Meunier (University of Montreal, Canada); Franck Multon (M2S - University of Rennes 2 - IRISA, France)  
pp. 478-483

***A Novel Method for an Automatic 3D Reconstruction of Coronary Arteries From Angiographic Images***

Séverine Habert (Ecole Polytechnique de Montréal, Canada); Nagib Dahdah (Sainte-Justine Hospital Research Center, Canada); Farida Cheriet (Université de Montréal, Canada)  
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***3D Reconstruction of Microvasculature in MRI Using Magnetic Microparticles***

Nina Olamaei (Ecole Polytechnique Montreal, Canada); Farida Cheriet (Université de Montréal, Canada); Sylvain Martel (Ecole Polytechnique Montreal, Canada)  
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***A New Adaptive Framework for Tubular Structures Segmentation in X-ray Angiography***

Faten M'hiri (Ecole de Technologie Supérieure, Canada); Ngan Le T. Hoang (Carnegie Mellon University, USA); Luc Duong (École de Technologie Supérieure, Canada); Mohamed Cheriet (Ecole de technologie supérieure (University of Quebec), Canada)  
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**WB-O2 (Oral): Speech Signal Processing 2**

***Signal Processing for Low Cost Optical Dataglove***

William Trottier-Lapointe (École Polytechnique de Montréal & PolyProject, Canada); Lucas Majeau (École Polytechnique de Montréal, Canada); Yahya El-Iraki (École Polytechnique de Montréal, Canada); Sébastien Loranger (École Polytechnique de Montréal, Canada); Guillaume Chabot-Nobert (École Polytechnique de Montréal, Canada); Jonathan Borduas (École Polytechnique de Montréal, Canada); Jonathan Lavoie (École Polytechnique de Montréal, Canada); Jérôme Lapointe (École Polytechnique de Montréal, Canada)  
pp. 501-504

***Pseudo-Periodic Surrogate Data Method on Voice Signals***

Juan Sebastián Hurtado Jaramillo (Universidad Tecnológica de Pereira, Colombia); Diego Luis Guarín (McGill University, Canada); Alvaro Angel Orozco (Universidad Tecnológica de Pereira, Colombia)  
pp. 505-510

***A Mean Shift Algorithm for Manifolds of Exponential Families***

Themis Stafylakis (Ecole de Technologie Supérieure, Canada); Vassilis Katsouros (Institute for Language and Speech Processing, Greece); Patrick Kenny (CRIM, Canada); Pierre Dumouchel (Ecole de technologie supérieure, Canada)  
pp. 511-516

***Speaker Age Estimation Using Hidden Markov Model Weight Supervectors***

Mohamad Hasan Bahari (KU Leuven, Belgium); Hugo Van hamme (University of Leuven, Belgium)  
pp. 517-521

***A Soft Computing Approach to Improve the Robustness of On-Line ASR in Previously Unseen Highly Non-Stationary Acoustic Environments***

Mohammad Foezur Rahman Chowdhury (INRS-EMT, Université du Québec, Canada); Sid-Ahmed Selouani (Université de Moncton Campus of Shippagan, Canada); Douglas O'Shaughnessy (INRS-Énergie-Matériaux-Télécommunications, Canada)  
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**WB-O3 (Oral): Sparse Signal Analysis and Applications*****Graph Theory for the Discovery of Non-Parametric Audio Objects***

Christopher Srinivasa (University of Ottawa, Canada); Martin Bouchard (University of Ottawa, Canada); Ramin Pichevar (Communications Research Centre, Canada); Hossein Najaf-Zadeh (Communications Research Centre Canada (CRC), Canada)  
pp. 1324-1329

***Discriminative Sparse-Based Feature Extraction and Dictionary Learning for Sound Classification Applications***

Sanaz Seyedin (Université de Sherbrooke, Canada); Ramin Pichevar (Communications Research Centre, Canada); Jean Rouat (University of Sherbrooke, Canada)  
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***High Level Prototyping and FPGA Implementation of the Orthogonal Matching Pursuit Algorithm***

Pierre Blache (Lorraine University, France); Hassan Rabah (University of Lorraine, France); Abbes Amira (Qatar University, Qatar)  
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***Minimum Noiseless Description Length (MNDL) Based Regularization Parameter Selection***

Saeed Pouryazdian (Ryerson University, Canada); Soosan Beheshti (Ryerson, Canada); Sri Krishnan (Ryerson University, Canada)  
pp. 1341-1346

***Compressive Sensing for Through Wall Radar Imaging of Stationary Scenes Using Arbitrary Data Measurements***

Eva Lagunas (Universitat Politècnica de Catalunya, Spain); Moeness G. Amin (Villanova University, USA); Fauzia Ahmad (Villanova University, USA); Montse Nájar (UPC, Spain)  
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## Coffee/Discussions

### WC-O1 (Oral): Image & Vision Processing 2

#### ***Feedback-free and Hybrid Distributed Video Coding Using Neural Networks***

Isaac Nickaein (Amirkabir University of Technology, Iran); Mohammad Rahmati (Amirkabir University of Technology, Iran); Saeed Shiry Ghidary (Amirkabir University of Technology, Iran); Abtin Zohrabi (University of New Brunswick, Canada)  
pp. 528-532

#### ***A New Perceptually Adaptive Method for Deblocking and Deringing***

Quoc Bao Do (University of Paris 13, France); Marie Luong (Université Paris 13, France); Azeddine Beghdadi (L2TI, Université Paris 13, France)  
pp. 533-538

#### ***Identification of Blur Parameters of Motion Blurred Image Using Fractional Order Derivative***

Yongqiang Ye (Nanjing University of Aeronautics and Astronautics, P.R. China); Pan Xiang (Nanjing University of Aeronautics and Astronautics, P.R. China); Wang Jianhong (Nanjing University of Aeronautics and Astronautics, P.R. China)  
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#### ***A Fast Hybrid DCT Architecture Supporting H.264, VC-1, MPEG-2, AVS and JPEG Codecs***

Muhammad A Martuza (University of Saskatchewan, Canada); Khan A Wahid (University of Saskatchewan, Canada)  
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#### ***An Adaptive Search Range Algorithm for Multiview Motion and Disparity Estimation***

Yuan-Teng Chang (Industrial Technology Research Institute, Taiwan); Wen-Hao Chung (Industrial Technology Research Institute, Taiwan)  
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### WC-O2 (Oral): Signal processing for Communications 2

#### ***Precoder Selection and Rank Adaptation in MIMO-OFDM***

Tadesse Ghirmai (University of Washington Bothell, USA)  
pp. 555-560

#### ***An Exponential Approach to Signal Parameter Estimation***

Emmanuel Racine (Laval University, Canada); Dominic Grenier (Université Laval, Canada)  
pp. 561-566

#### ***Distributed Differential Evolution Algorithm for PAPR Reduction of OFDM Signals***

Hocine Ait Saadi (University of Blida, Algeria); Jean-Yves Chouinard (Laval University, Canada); Guessoum Abderrezak (Blida University, Algeria)  
pp. 567-572

***Optimum Joint Adaptive Modulation and Coding and Power Control for Packet Transmission Over Fading Channels Using the ARQ Protocol***

Asma Selmi (Higher School of Communication, Tunisia); Mohamed Siala (Sup'Com, Tunisia); Hatem Boujema (Ecole Supérieure des Communications, Tunisia)  
pp. 573-577

***Bit and Rate Allocation in Body-To-Body Channels***

Khalida Ghanem (Advanced Technologies Center (CDTA), Algeria)  
pp. 578-583

## WC-O3 (Oral): Signal Theory, Methods and Algorithms 2

***Fundamental Frequency Estimation From the Highest Order Coefficient of a Polynomial***

Serge Provencher (DSPectacle, Canada)  
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***New Algorithms for Adaptive BSS***

Thameri Messaoud (Telecom ParisTech, France); Karim Abed-Meraim (Dept TSI, Télécom Paris & University of Sharjah, UAE, France); Adel Belouchrani (Ecole Nationale Polytechnique, Algiers, Algeria)  
pp. 590-594

***A Semi-exact Sequential Monte Carlo Filtering Algorithm in Hidden Markov Chains***

Yohan Petetin (Telecom SudParis, France); François Desbouvries (Telecom SudParis, France)  
pp. 595-600

***Underdetermined Source Separation of Finite Alphabet Signals Via L1 Minimization***

Si Mohamed Aziz Sbaï (Telecom Bretagne, France); Abdeldjalil Aïssa-El-Bey (TELECOM Bretagne, France); Dominique Pastor (Ecole Nationale Supérieure des Télécommunications de Bretagne, France)  
pp. 601-604

***Compressed Sensing Based Robust Time-Frequency Representation for Signals in Heavy-Tailed Noise***

Srdjan Stanković (Faculty of Electrical Engineering, University of Montenegro, Montenegro); Irena Orovic (Faculty of Electrical Engineering, University of Montenegro, Montenegro); Moeness G. Amin (Villanova University, USA)  
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## **WS-1: Banquet**

### **Assembly**

### **Introductions**

### **THK-1: Keynote speech 3**

***Signal and Image Processing in Medical Nanorobotics: The Art of Tracking and Imaging Therapeutics Navigated in the Vascular Network Towards the Region to Be Treated***

Sylvain Martel (Ecole Polytechnique Montreal, Canada)  
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### **Q&A, discussions**

### **Coffee/Tea Break/Discussions**

### **THA-P1 (Poster): Signal processing for Communications Systems P1**

#### ***Superimposed Training Synchronization for Widely Linear Systems***

Israel Arriaga-Trejo (Cinvestav-IPN & Intel Labs SIA/IPR, Intel Guadalajara, Mexico);  
Aldo Orozco (CINVESTAV, Mexico); Arturo Veloz-Guerrero (Intel Guadalajara Design Center, Mexico); Manuel Guzman-Renteria (Intel Guadalajara Design Center, Mexico)  
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#### ***Solving the Clustering Problem in MANETS Using SAT & ILP Techniques***

Syed Zahidi (American University of Sharjah, UAE); Fadi Aloul (American University of Sharjah, UAE); Assim Sagahyroon (American University of Sharjah, UAE); Wassim El-Hajj (American University of Beirut, Lebanon)  
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#### ***Wavelength Independent Receiver for Low Cost and Reduced Complexity WDM DQPSK Systems***

Emma Lazzeri (Scuola Superiore Sant'Anna & CNIT, Italy); Francesco Fresi (Scuola Superiore Sant'Anna, Italy); Marco Secondini (Scuola Superiore Sant'Anna, Italy); Lee Sang-Bae (Korea Institute of Science & Technology, Korea); Luca Potì (Consorzio Nazionale Interuniversitario per le Telecomunicazioni, Italy)  
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#### ***3-D Source Localization in Shallow Ocean with non-Gaussian Noise Using a Linear Array of Acoustic Vector Sensors***

Zahra Madadi (Nanyang Technological University, Singapore); Gargeshwari V. Anand (Indian Institute of Science, India); A. Benjamin Premkumar (Nanyang Technological University, Singapore)  
pp. 1353-1358

***Modelling and Compensation of Frequency-Dependent I/Q Imbalance in Multiple Beamforming OFDM Transceivers***

Ozgur Ozdemir (Qatar University, Qatar); Ridha Hamila (Department of Electrical Engineering & Qatar University, Qatar); Naofal Al-Dhahir (University of Texas at Dallas, USA)  
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***System-Level Noise of an Ultra-Wideband Tracking System***

William C Suski, II (Clemson University, USA); Salil Banerjee (Clemson University, USA); Adam Hoover (Clemson University, USA)  
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***Practical Implementation of Compressive Sensing to UWB Signals***

Mohammad T Alkhodary (King Fahad University of Petroleum and Minerals, Saudi Arabia); Ali H Muqaibel (KFUPM, Saudi Arabia)  
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***Enhanced Feedback Robustness Against Communication Channel Uncertainties Vis Scaled Dithers in Networked Systems***

Lijian Xu (Wayne State University & Wayne State University, USA); Le Yi Wang (Wayne State University, USA); George Yin (Wayne State University, USA); Wei Xing Zheng (University of Western Sydney, Australia)  
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***Efficient Implementation of Tap Delay Line Filter Using High Speed Digital Signal Processor***

Muhammad Akram (King Fahd University of Petroleum and Minerals Dhahran, Saudi Arabia); Asrar U. Sheikh (King Fahd University of Petroleum and Minerals, Saudi Arabia)  
pp. 645-649

***Fault Diagnosis of a Sensor Network***

Rajamani Doraiswami (University of New Brunswick, Canada); Lahouari Cheded (King Fahd University of Petroleum & Minerals, Saudi Arabia)  
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***A Novel Adaptive Scheme for Channel Estimation***

Abdelmalek Zidouri (KFUPM, Saudi Arabia)  
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***Multicell Cooperative Base Stations in Presence of Channel Estimation Errors***

Souhalia Fki (Supcom, Tunisia); Fatma Abdelkefi (High School of Communications of Tunis (SUPCOM), Tunisia); Mohamed Siala (Sup'Com, Tunisia); Guillaume Ferré (University of Bordeaux, France)  
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## **THA-P2 (Poster): Speech Signal Processing P3**

### ***Towards Objective Measures of Speech Intelligibility for Cochlear Implant Users in Reverberant Environments***

Stefano Cosentino (University College London, United Kingdom); Torsten Marquardt (UCL, United Kingdom); David McAlpine (UCL, United Kingdom); Tiago Falk (INRS-EMT, Canada)  
pp. 666-671

### ***Arabic Adaptation of Phonology and Memory Test Using Entropy-Based Analysis of Word Complexity***

Sofiene Bacha (National Engineering School of Tunis, University Tunis El Manar, Tunisia); Raja Ghozi (University of Tunis El-Manar, Tunisia); Meriem Jaidane (National Engineering School of Tunis, Tunisia); Nezihha Gouider-Khouja (UR 06/11, Tunisia)  
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### ***Pitch Recovery of Missing Syllables Using Sparse Representation in Exemplar-based Pitch Generation***

Mohamed Abou-Zleikha (University College Dublin, Ireland); Peter Cahill (University College Dublin, Ireland); Julie Berndsen (University College Dublin, Ireland)  
pp. 678-682

### ***Using Multilayer Perceptron for Voicing Strength Estimation in HMM-based Speech Synthesis***

Udochukwu Ogbureke (University College Dublin, Ireland); Joao Cabral (University College Dublin, Ireland); Julie Berndsen (University College Dublin, Ireland)  
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### ***Formant-Based Analysis of Vowels in Modern Standard Arabic—Preliminary Results***

Yasser Mohammad Seddiq (King Abdulaziz City for Science and Technology, Saudi Arabia); Yousef A Alotaibi (King Saud University, Saudi Arabia)  
pp. 689-694

### ***Effects of Discriminative Training on the RACAD Corpus of the French Language Spoken in the Canadian Province of New-Brunswick***

Yacine Benahmed (INRS-EMT, Canada); Sid-Ahmed Selouani (Université de Moncton Campus of Shippagan, Canada); Douglas O'Shaughnessy (INRS-Énergie-Matériaux-Télécommunications, Canada)  
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### ***Explicit Duration Modelling in HMM-based Speech Synthesis Using Continuous Hidden Markov Model***

Udochukwu Ogbureke (University College Dublin, Ireland); Joao Cabral (University College Dublin, Ireland); Julie Berndsen (University College Dublin, Ireland)  
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## **THA-P3 (Poster): Signal Processing for Electric Power System**

### ***Development of a Portable Software Tool for Time Domain Modal Analysis***

Mathieu Perron (Hydro-Quebec Research Institute (IREQ) & Hydro-Quebec, Canada); Innocent Kamwa (Hydro-Québec/IREQ, Canada); Louis-A. Dessaint (Ecole de Technologie Supérieure, Canada)  
pp. 1371-1376

### ***Using the EPLL Algorithm as a Preprocessor for Fault Analysis***

Masoud Karimi-Ghartemani (Mississippi State University, USA); Jan Age Walseth (Statnett SF, Norway)  
pp. 1377-1382

### ***Stability Analysis of a Single-Phase Phase-Locked Loop for Power Systems***

#### ***Applications***

Sepehr Seifi (Sharif University of Technology, Iran); Houshang Karimi (Sharif University of Technology, Iran)  
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## **THA-P4 (Poster): Signal Theory, Methods and Algorithms P2**

### ***Further Rao-Blackwellizing an Already Rao-Blackwellized Algorithm for Jump Markov State Space Systems***

Yohan Petetin (Telecom SudParis, France); François Desbouvries (Telecom SudParis, France)  
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### ***Generalized Dynamic Robust Energy-to-Peak Filtering of Nonlinear Descriptor Systems with Uncertainties***

Masoud Abbaszadeh (United Technologies Research Center, USA)  
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### ***Exact Cramer Rao Bound for Near Field Source Localization***

Youcef Begriche (Ecole Nationale Supérieure des Télécommunications, France); Thameri Messaoud (Telecom ParisTech, France); Karim Abed-Meraim (Dept TSI, Télécom Paris & University of Sharjah, UAE, France)  
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### ***Signal Processing Using Singular Spectrum Analysis for Nonlinear System Identification***

Seyed Hossein Iranmanesh (University of Tehran, Iran); Arash Miranian (University of Tehran, Iran); Majid Abdollahzade (University of Tehran, Iran)  
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### ***Fundamental Frequency Smoothing for Nonstationary Multiharmonic Signals***

Maciej Niedźwiecki (Gdansk University of Technology, Poland); Michał Meller (Gdansk University of Technology, Poland)  
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## **THA-P5 (Poster): Information Processing P1**

### ***Application of ANFIS and LLNF Models to Automobile Fuel Consumption Prediction: A Comparative Study***

Mohammad Reza Rafimanzelat (Dolatabad Branch, Islamic Azad University, Isfahan & University of Tehran, Iran); Seyed Hossein Iranmanesh (University of Tehran, Iran)  
pp. 734-739

### ***Machine Learning Approaches for Electric Appliance Classification***

Damien Zufferey (University of Fribourg, Switzerland); Christophe Gisler (University of Applied Sciences of Western Switzerland & University of Fribourg, Switzerland);  
Omar Abou Khaled (University of Applied Sciences of Western Switzerland, Fribourg, Switzerland); Jean Hennebert (University of Fribourg, Switzerland)  
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### ***Does a Cycle-based Segmentation Improve Accelerometer-based Biometric Gait Recognition?***

Claudia Nickel (Hochschule Darmstadt, Germany); Christoph Busch (Hochschule Darmstadt, Germany)  
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### ***Kullback-Leibler NMF Under Linear Equality Constraints. Application to Pollution Source Apportionment***

Abdelhakim Limem (Université du Littoral Côte d'Opale, France); Gilles Delmaire (Université du Littoral Côte d'Opale, France); Gilles Roussel (Université du Littoral Côte d'Opale, France); Dominique Courcot (Université du Littoral Côte d'Opale, France)  
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### ***A Model-based Framework for the Design of a Symbolic Scheduler for Pre-emptive Real-time Tasks***

Vasudevan Janarthanan (Fairleigh Dickinson University, Canada); Abdelouahed Gherbi (Ecole de technologie superieure - University of Quebec, Canada)  
pp. 758-763

### ***New Evaluation Framework for Metadata Mapping Approaches Based on Markov Models***

Ines Ben Messaoud (Institute for Communications Technology, Germany); Hamid Amiri (National Engineering School of Tunis (ENIT), Tunisia); Haikal El Abed (Technische Universität Braunschweig & Institute for Communications Technology (IfN), Germany); Volker Märgner (TU Braunschweig, Germany)  
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### ***Signal Cancellation in Neural Systems: Encoding Sensory Input in the Weakly Electric Fish***

Kieran Bol (University of Ottawa, Canada); Gary Marsat (University of Ottawa, Canada); Jorge F Mejias (University of Ottawa, Canada); Erik Harvey-Girard (University of Ottawa, Canada); Leonard Maler (University of Ottawa, Canada); Andre Longtin (University of Ottawa, Canada)  
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**Sequential Fusion of Decisions From Adaptive and Random Samples for Controlled Verification Errors**

Vishnu Nallagatla (Queensland University of Technology, Australia); Vinod Chandran (Queensland University of Technology, Australia)  
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**Mid-session break**

**THA-O1 (Oral): Biomedical Signal and Image Processing 3**

**The Effect of Different Spectro-Temporal Representations of an Input Auditory Stimulus on the Fitting of a Point Process Model of Auditory Neurons**

Eric Plourde (Université de Sherbrooke, Canada); Emery Brown (Massachusetts General Hospital - Harvard Medical School - M. I. T., USA)  
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**Design of a Neuromuscular Disorders Diagnostic System Using Human Movement Analysis**

Christian O'Reilly (École Polytechnique de Montréal, Canada); Réjean Plamondon (École Polytechnique de Montréal, Canada)  
pp. 787-792

**Differential Activation of the Biceps Brachii Heads in Normal Subjects**

Nahal Nejat (University of Montreal, Canada); Pierre A. Mathieu (University of Montreal & Institute of Biomedical Engineering, Canada); Michel Bertrand (École Polytechnique de Montréal, Canada)  
pp. 793-797

**EIT System and Reconstruction Algorithm Adapted for Skin Cancer Imaging**

Alzbeta Elizabeth Hartinger (Ecole Polytechnique de Montreal, Canada); Robert Guardo (Ecole Polytechnique de Montreal, Canada); Herve Gagnon (Ecole Polytechnique de Montreal, Canada)  
pp. 798-803

**MRI-based Semi-Automatic Pelvimetry Measurement for Pelvic Organ Prolapse Diagnosis**

Sinan Onal (University of South Florida, USA); Susana Lai-Yuen (University of South Florida, USA); Stuart Hart (University of South Florida, USA); Paul Bao (University of South Florida, USA); Alfredo Weitzenfeld (University of South Florida, USA)  
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**THA-O2 (Oral): Image & Vision Processing 3**

**Hyperspectral Image Compression Using 3d Discrete Cosine Transform and Support Vector Machine Learning**

Azam Karami (Shiraz University, Iran); Soosan Beheshti (Ryerson, Canada); Mehran Yazdi (Shiraz University, Iran)  
pp. 809-812

***Hyperspectral Band Selection Based on Graph Clustering***

Rachid Hedjam (Laboratory for Multimedia Communication in Telepresence, ETS, University of Quebec, Canada); Mohamed Cheriet (Ecole de technologie superieure (University of Quebec), Canada)  
pp. 813-817

***A Clustering Game Based Framework for Image Segmentation***

Dan Shen (Intelligent Fusion Technology, USA); Erik Blasch (Air Force Research Lab, USA); Khanh D Pham (The U.S. Air Force Research Laboratory & Space Vehicles Directorate, USA); Genshe Chen (I-Fusion Technology, USA)  
pp. 818-823

***A Novel Topology Based Watershed Segmentation***

Madjid Allili (Bishop's University, Canada); Layachi Bentabet (Bishop's University, Canada); Yan Chen (Bishop's University, Canada)  
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**THA-O3 (Oral): All-optical signal processing Invited Panel*****Optical Signal Processing with Planar Lightwave Circuits***

Lawrence Chen (McGill University, Canada)  
pp. 1388-1389

***Digital Processing in the Optical Communications***

Luca Potì (Consorzio Nazionale Interuniversitario per le Telecomunicazioni, Italy)  
pp. 1390-1395

***Programmable and Single-Shot Chirped Microwave Pulse Compression Using an Optical Fiber-Based Microwave Dispersive Line***

Ming Li (INRS-EMT, Canada); Jose Azana (INRS, Canada)  
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***High Channel-Count Comb Filter Based on Sampled Fiber Bragg Grating***

Hongpu Li (Shizuoka University, Japan)  
pp. 1401-1404

***All-Optical Ultrafast Hilbert Transformations Based on All-Fiber Long Period Grating Designs***

Reza Ashrafi (INRS, Canada); Jose Azana (INRS, Canada)  
pp. 1405-1409

***Processing of Microwave Signals Using a Nonuniformly-Spaced Photonic Microwave Delay-Line Filter***

Jianping Yao (University of Ottawa, Canada)  
pp. 1410-1415

***Optical Differentiators and Integrators: Recent Advances and Applications, and Enormous Potential Applications***

Nam Quoc Ngo (Nanyang Technological University, Singapore)  
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***All-optical Signal Processing Using Integrated Silicon Photonic Devices***

Yikai Su (Shanghai jiao tong university, P.R. China)

## Lunch Break

### Assembly and Introductions

#### THB-P1 (Poster): DSP Forum: Biomedical signal processing

##### ***Neural Networks and SVM for Heartbeat***

Malika-Djahida Kedir-Talha (University of Technology Houari Boumediene, Algeria); Saliha Ould-Slimane (University of Sciences and Technology Houari Boumediene, Algeria)  
pp. 830-835

##### ***Application of Multipoint Auscultation for Heart Sound Diagnostic System (MAHDS)***

Hadrina Sh-Hussain (Universiti Teknologi Malaysia, Malaysia); Sh-Hussain Salleh (Universiti Teknologi Malaysia, Malaysia); A. Kamarul Ariff (Universiti Teknologi Malaysia, Malaysia); Osama Alhamdani (Universiti Malaysia Sabah, Malaysia); Tan Tian-Swee (Universiti Teknologi Malaysia, Malaysia); Alias Mohd Noor (Universiti Teknologi Malaysia, Malaysia); Hamed Oemar (Universiti Teknologi Mara, Malaysia); Khalid Yusoff (UITM, Malaysia)  
pp. 836-841

##### ***Rapid Prototyping of Three-Dimensional Transform for Medical Image Compression***

Noor Huda Ja'afar (Universiti Tun Hussein Onn Malaysia, Malaysia); Afandi Bin Ahmad (Universiti Tun Hussein Onn Malaysia (UTHM) & Faculty of Electrical and Electronic Engineering, Malaysia); Abbes Amira (Qatar University, Qatar)  
pp. 842-847

##### ***Immune Clonal Algorithm Based Feature Selection for Epileptic EEG Signal Classification***

Yong Peng (Shanghai Jiao Tong University, P.R. China); Bao-Liang Lu (Shanghai Jiao Tong University, P.R. China)  
pp. 848-853

##### ***Force Platform for Postural Balance Analysis***

Samir Boukhenous (Houari Boumediene University, Algeria); Mokhtar Attari (Houari Boumediene University, Algeria); Remram Youcef (University of Science and Technology Houari Boumediene, Algeria)  
pp. 854-858

##### ***Migraine Analysis Through EEG Signals with Classification Approach***

Erfan Sayyari (Sharif University of Technology, Iran); Mohsen Farzi (Sharif University of Technology, Iran); Roohollah Rezaei Estakhrooeieh (Sharif University of Technology, Iran); Farzaneh Samiee (Islamic Azad University, Iran); Mohammad Bagher Shamsollahi (Sharif University of Technology, Iran)  
pp. 859-863

##### ***Sputum Image Detection and Extraction for Lung Cancer Early Diagnosis***

Fatma Mohammed Taher (Khalifa University & Research Assistant, UAE)  
pp. 864-869

**Lung Nodule Classification in Frequency Domain Using Support Vector Machines**

Hiram Madero Orozco (Universidad Autonoma de Ciudad Juarez, Mexico); Osslan Osiris Vergara Villegas (Universidad Autonoma de Ciudad Juarez, Mexico); Leticia Ortega Maynez (Universidad Autonoma de Ciudad Juarez, Mexico); Vianey Guadalupe Cruz Sánchez (Universidad Autonoma de Ciudad Juarez, Mexico); Humberto de Jesús Ochoa Domínguez (Universidad Autonoma de Ciudad Juarez, Mexico)  
pp. 870-875

**Human Brain Tissues Segmentation Based on DTI Data**

Ihab El-Aff (Arab Academy for Science, Technology and Maritime Transport, Egypt)  
pp. 876-881

**EEG Amplitude and Correlation Spatial Decay Analysis for Neonatal Head Modelling**

Maryam Odabaei (University of Queensland Centre for Clinical Research (UQCCR), Australia); Siamak Layeghy (The University of Queensland, Australia); Mostefa Mesbah (The University of Western Australia, Australia); Ghasem Azemi (UQ, Brisbane, Australia); Boualem Boashash (Qatar University, Doha & University of Queensland, Brisbane, Australia); Paul B Colditz (University of Queensland, Australia); Sampsa Vanhatalo (The University of Queensland, Australia)  
pp. 882-887

**A Novel Automated Approach for Segmenting Lateral Ventricle in MR Images of the Brain Using Sparse Representation Classification and Dictionary Learning**

Ali Julazadeh (Ryerson University, Canada); Javad Alirezaie (Ryerson University, Canada); Paul Babyn (University of Saskatchewan, Canada)  
pp. 888-893

**Case Study: Applying the COSMIC ISO 19761 Measurement Method on an MRI Mesh Generation Medical Application**

Feras AbuTalib (McGill University, Canada); Dennis Giannacopoulos (McGill University, Canada); Alain Abran (École de Technologie Supérieure, Canada)  
pp. 894-899

**Network Weight Adjustment in a Fractional Fourier Transform Based Multi-Channel Brain Computer Interface for Person Authentication**

Intisar Rizwan-i-Haque (National University of Sciences and Technology, Pakistan); Muhammad Faisal Khan (National University of Sciences and Technology, Pakistan); Muhammad Saleem (National University of Sciences and Technology, Pakistan); Naveed Rao (NUST, Pakistan)  
pp. 900-905

**THB-P2 (Poster): DSP Forum: Image processing****Key Point Reduction in SIFT Descriptor Used by Subtractive Clustering**

Reza Javanmard, Alitappeh (Islamic Azad University of Qazvin, Iran); Kossar Jeddi Saravi (Islamic Azad University, Iran); Fariborz Mahmoudi (Islamic Azad University of Qazvin, Iran)  
pp. 906-911

**An EMD-SVM Screening System for Retina Digital Images: The Effect of Kernels and Parameters**

Salim Lahmiri (École de Technologie Supérieure, Canada); Christian S. Gargour (ETS, University of Quebec, Canada); Marcel Gabrea (Ecole de technologie superieure, Canada)  
pp. 912-917

**Content-based Video Copy Detection Using Nearest-Neighbor Mapping**

Vishwa Gupta (CRIM, Canada); Parisa Darvish Zadeh Varcheie (Genetec Inc, Canada); Langis Gagnon (Computer Research Institute of Montreal (CRIM), Canada); Gilles Boulianane (Centre de Recherche Informatique de Montreal (CRIM), Canada)  
pp. 918-923

**A 3D Deformable Model Constrained by Anthropometric Knowledge for Computerized Facial Reconstructions**

Adel Kermi (Higher National School of Computer Sciences (ESI), Algiers & ESI of Algiers, Algeria); Mohamed Tayeb Laskri (University of Annaba, Algeria)  
pp. 924-929

**Forming Projection Images From Each Layer of Retina Using Diffusion Map Based OCT Segmentation**

Jalil Jalili (Isfahan University of Medical Sciences, Iran); Hossein Rabbani (Isfahan University of Medical Sciences & The University of Iowa, Iran); Mohammadreza Akhlaghi (Isfahan University of Medical Sciences, Iran); Rahele Kafieh (Isfahan University of Medicine, Iran); Alireza Mehridehnavi (Isfahan University O Medical Sciences, Iran)  
pp. 930-934

**A Pre-Compensation Algorithm for Different Optical Aberrations Using an Enhanced Wiener Filter and Edge Tapering**

Soheil Mohammadpour (Isfahan University of Medical Sciences, Iran); Alireza Mehridehnavi (Isfahan University O Medical Sciences, Iran); Hossein Rabbani (Isfahan University of Medical Sciences & The University of Iowa, Iran); Vasudevan Lakshminarayanan (University of Waterloo, Canada)  
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**THB-P3 (Poster): DSP Forum: Communications**

**Modified Alamouti Decoding for Highly Selective Channels for LTE Systems**

Aymen Omri (ENIT, Qatar); Ridha Hamila (Department of Electrical Engineering & Qatar University, Qatar); Mazen Omar Hasna (Qatar University, Qatar); Ridha Bouallegue (National Engineering School of Sousse SUP'COM, 6'Tel Laboratory, Tunisia)  
pp. 940-944

**New Versions of the Propagator Method**

Mohamed Bouri (Université Pasquale Paoli de Corse, France)  
pp. 945-950

**Minimum Mean Square Error Turbo Equalization of Doubly Selective Channels Using the BEM**

Imad Barhumi (United Arab Emirates University, UAE)

pp. 951-955

**Pulse Shaping for Direct-sequence Offset Quadrature-spread UWB Communication Signals**

Adnan Landolsi (KFUPM, Saudi Arabia)

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**THB-P4 (Poster): DSP Forum: Implementation issues and methods**

***Proposing an Advanced Computational Method for Completion Time Estimation of the New Product Development (NPD) Projects***

Mehdi Fasanghari (Faculty Member of Iran Telecommunication Research Center (ITRC) & Tehran University, Iran); Seyed Hossein Iranmanesh (University of Tehran, Iran); Majid Abdollahzade (University of Tehran, Iran)  
pp. 961-967

***Dynamic Accuracy Adjustement for Fixed Width Dividers***

Samir Tagzout (Université Abderrahmane Mira & Centre de Développement des Technologies Avancées, Algeria); Adel Belouchrani (Ecole Nationale Polytechnique, Algiers, Algeria)  
pp. 968-972

***FPGA Optimised 3-D Cyclic Convolution Using Dynamic Partial Reconfiguration***

Benjamin Krill (University of Ulster, Ireland); Abbes Amira (Qatar University, Qatar); Afandi Bin Ahmad (Universiti Tun Hussein Onn Malaysia (UTHM) & Faculty of Electrical and Electronic Engineering, Malaysia)  
pp. 973-977

***Fixed Point Implementation for Parameters Extraction in a Digital Predistorter Using Adaptive Algorithms***

Martin Garcia-Hernandez (Universidad Autonoma Metropolitana, Mexico); Alfonso Prieto (University of Autónoma Metropolitana-Iztapalapa, Mexico); Gerardo Abel Laguna-Sanchez (Universidad Autonoma Metropolitana, Mexico); Paulino Mendoza-Valencia (Universidad Autónoma Metropolitana Iztapalapa (UAMI México), Mexico)  
pp. 978-982

**THB-P5 (Poster): DSP Forum: Radar and Target Tracking**

***The SIMCA Algorithm for Processing Ground Penetrating Radar Data and Its Use in Landmine Detection***

Anand Sengodan (University of Glasgow, United Kingdom); Paul Cockshott (University of Glasgow, United Kingdom)  
pp. 983-988

***Action Trajectory Reconstruction From Inertial Sensor Measurements***

Sofia Suvorova (University of Melbourne & NICTA, Australia); Tharshan Vaithianathan (The University of Melbourne, Australia); Terry Caelli (University of Melbourne, Australia)  
pp. 989-994

***Micro-Doppler Radar Signature Classification by Time-Frequency and Time-scale Analysis***

Amina Serir (USTHB, Algeria); Youcef Bouhafsi (USTHB, Algeria)  
pp. 995-1000

***Object-to-Track Association in a Multisensor Fusion System Under the TBM Framework***

Fadi Fayad (American University of Science and Technology, Lebanon); Khalil Hamadeh (Automation Systems and Diagnostics, USA)  
pp. 1001-1006

***Orbital Satellite Pursuit-Evasion Game-Theoretical Control***

Erik Blasch (Air Force Research Lab, USA); Khanh D Pham (The U.S. Air Force Research Laboratory & Space Vehicles Directorate, USA); Dan Shen (Intelligent Fusion Technology, USA)  
pp. 1007-1012

***On Modeling and Hardware Implementation of Space-Time Adaptive Processing (STAP) for Target Detection in Passive Bi-static Radar***

Zia Ul Mahmood (King Saud University & Prince Sultan Advanced Technologies Research Institute, Saudi Arabia); Mubashir Alam (KSU, Saudi Arabia); Khalid Jamil (PSATRI - KSU, Saudi Arabia); Mohamed Elnamaky (King Saud University, Saudi Arabia)  
pp. 1013-1017

**THB-P6 (Poster): DSP Forum: Speech and audio processing**

***Channel Optimized Switched Split Vector Quantization for Wideband Speech LSF Parameters***

Merouane Bouzid (USTHB University, Electronics Faculty, Algeria); Salah Eddine Cheraitia (USTHB University, Algeria)  
pp. 1018-1023

***Newborn's Pathological Cry Identification System***

Yasmina Kheddache (Ecole de Technologie Supérieure, Canada); Chakib Tadj (Ecole de Technologie Supérieure, Canada)  
pp. 1024-1029

***Voice Pathology Detection in Continuous Speech Using Nonlinear Dynamics***

Juan R. Orozco (Universidad de Antioquia, Colombia); Jesús F. Vargas (Universidad de Antioquia, Colombia); Jesús B. Alonso (Las Palmas de Gran Canaria University, Spain); Miguel A. Ferrer (Las Palmas de Gran Canaria University, Spain); Carlos M. Travieso (Las Palmas de Gran Canaria University, Spain); Patricia Henríquez (Universidad de Las Palmas de Gran Canaria, Spain)  
pp. 1030-1033

***Automatic Speaker Recognition for Mobile Communications Using AMR-WB Speech Coding***

Meriem Fedila (University of Sciences and Technology Houari Boumediene - USTHB, Algeria); Abderrahmane Amrouche (Speech Com. and Signal Proc. Lab. University of Sciences and Technology Houari Boumediene, Algeria)  
pp. 1034-1038

***Hierarchical Parametrisation and Classification for Musical Instrument Recognition***

Glenn Eric Hall (Université du Québec à Chicoutimi, Canada); Ezzaidi Hassan (Université du Québec à Chicoutimi, Canada); Mohammed Bahoura (University of Quebec at Rimouski, Canada)  
pp. 1039-1044

**THB-P7 (Poster): DSP Forum: Signal processing & Applications*****Kalman Filtering Algorithm for Blind Separation of Convulsive Mixtures***

Fanglin Gu (PLA University of Science and Technology, P.R. China); Hang Zhang (PLA University of Science & Technology, P.R. China); Yi Xiao (The University of New South Wales, P.R. China)  
pp. 1045-1049

***Time Delay Estimation in a Reverberant Environment by Low Rate Sampling of Impulsive Acoustic Sources***

Muhammad Omer (KFUPM, Saudi Arabia); Ahmed A. Quadeer (King Fahd University of Petroleum & Minerals, Saudi Arabia); Mohammad S. Sharawi (King Fahd University of Petroleum and Minerals, Saudi Arabia); Tareq Al-Naffouri (King Fahd University of Petroleum and Minerals & King Abdullah University of Science and Technology, Saudi Arabia)  
pp. 1050-1055

***Off-Line Uyghur Signature Recognition Based on Modified Grid Information Features***

Kurban Ubil (Xinjiang University, P.R. China); Andy Adler (Carleton University, Canada); Gulirana Abliz (Xinjiang University, P.R. China); Maimaitijiang Yasheng (Co-author, Canada); Askar Hamdulla (Xinjiang University, P.R. China)  
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**THC-ST1 (Poster): Student session: Image processing*****Efficiency Evaluation of Different Wavelets for Image Compression***

Salam Benchikh (Ecole Polytechnique de Montreal, Canada)  
pp. 1420-1421

***Image Retrieval Based on Mean-Shift Clustering Using Color Descriptor***

Mohamed Ali Bouker (University of Moncton, Canada); Eric Hervet (Université de Moncton, Canada)  
pp. 1422-1423

***Image Super-resolution Reconstruction Based on Self-similarity and Neural Networks***

Yan Xu (Beijing University of Posts and Telecommunications, P.R. China); Xue M. Li (Beijing University of Posts and Telecommunications, P.R. China); Tian Gao (Shandong Jianzhu University, P.R. China); Ching Y. Suen (Concordia University, Canada)  
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***Reconstructing 3D Human Poses From Monocular Image***

Anh Nguyen (University of Montreal, Canada); Jean Meunier (University of Montreal, Canada)

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**CT Image Reconstruction From Few Views Via Compressed Sensing**

Zangen Zhu (University of Saskatchewan, Canada); Khan A Wahid (University of Saskatchewan, Canada); Paul Babyn (University of Saskatchewan, Canada)  
pp. 1428-1429

**A New Framework for Online Sketch-Based Image Retrieval in Web Environment**

Lukas Tencer (École de Technologie Supérieure & Syncromedia Laboratory for Multimedia Communication in Telepresence, Canada); Marta Režnáková (École de Technologie Supérieure, Canada); Mohamed Cheriet (Ecole de technologie supérieure (University of Quebec), Canada)  
pp. 1430-1431

**THC-ST2 (Poster): Student session: Information and signal processing applications**

**Creating Musical Structure From the Temporal Dynamics of Soundscapes**

Ryan Maguire (Dartmouth College, USA)  
pp. 1432-1433

**Using Wide Band Signals for Obstacle Path Correction in Acoustic Scintillation Flow Meters**

Ion Candel (Grenoble INP, France); Cornel Ioana (Institute National Polytechnique de Grenoble, France); David Lemon (ASL Env, Canada); Bertrand Reeb (EDF DTG, France)  
pp. 1434-1435

**Performance of SVM Algorithm Implemented on Fixed Point ADSP-BF527**

Djilali Kairous (Université Hassiba Benbouali de Chlef, Algeria); René Wamkeue (Université du Québec en Abitibi-Témiscamingue, Canada); Jean Jacques Beaudoin (UQAC, Canada)  
pp. 1436-1437

**An Introduction to Deep Learning**

Francis Quintal Lauzon (École de Technologie Supérieure, Canada)  
pp. 1438-1439

**Automated Intrusion Attack with Permanent Control: Analysis and Countermeasures**

Ridha Gadhdhadi (École de Technologie Supérieure, Canada); Kim-Khoa Nguyen (ETS, University of Quebec, Canada); Mohamed Cheriet (Ecole de technologie supérieure (University of Quebec), Canada)  
pp. 1440-1441

**Calibration of Time Features and Frequency Features in the Time-Frequency Domain for Improved Detection and Classification of Seizure in Newborn EEG Signals**

Yomna Bahnasy (Qatar University College of Engineering, Qatar); Noha Saad (Qatar University College of Engineering, Qatar); Larbi Boubchir (Qatar University College of Engineering, Qatar); Boualem Boashash (Qatar University, Doha & University of Queensland, Brisbane, Australia)  
pp. 1442-1443

***Simulation of a Human Cochlea and Its Implementation on a Sample Cochlear Implant***

Maryam Sangargir (Tehran University of Medical Sciences, Iran); Mohammad Javad Abolhassani (Tehran University of Medical Sciences, Iran); Amir Homayoun Jafari (Tehran University of Medical Sciences-School of Medicine, Iran); Javad Alirezaie (Ryerson University, Canada); Mana Mehrzad (Tehran University of Medical Sciences, Iran)  
pp. 1444-1445

***The Effect of Phase Information in Speech Enhancement and Speech Recognition***

Mahsa Sadat Elyasi Langarani (Sharif University of Technology, Iran); Hadi Veisi (Sharif University of Technology, Iran); Hossein Sameti (Sharif University of Technology, Iran)  
pp. 1446-1447

***Cloud Security - A Short Primer***

Joel-Ahmed M Mondol (University of Saskatchewan, Canada)  
pp. 1448-1449

**Panel discussion**

**Closing and Award Ceremony**

(Coffee/Tea/Refreshments served)