

EUSIPCO-2005 TECHNICAL PROGRAM

September 5	September 6	September 7	September 8
<u>MONDAY</u>	<u>TUESDAY</u>	<u>WEDNESDAY</u>	<u>THURSDAY</u>

5 September 2005, MONDAY

8:30 - 10:00

Opening

10:00 - 11:20

Hour	Session	Type
10:00 – 11:20	<u>MonAmOR1: Adaptive Filters (Oral I)</u>	ORAL
10:00 – 11:20	<u>MonAmOR2: Brain Computer Interface</u>	ORAL
10:00 – 11:20	<u>MonAmOR3: Speech Analysis, Production and Perception</u>	ORAL
10:00 – 11:20	<u>MonAmOR4: Hardware Implementations of DSP Algorithms</u>	ORAL
10:00 – 11:20	<u>MonAmOR5: Independent Component Analysis and Source Separation</u>	ORAL
10:00 – 11:00	<u>SPECIAL SESSION</u> <u>MonAmOR6: MIMO Propagation and Channel Modeling</u>	ORAL

11:20 - 12:40

Hour	Session	Type
11:20 – 12:40	<u>MonAmOR7: Adaptive Filters (Oral II)</u>	ORAL
11:20 – 12:40	<u>MonAmOR8: Speech Synthesis</u>	ORAL
11:20 – 12:40	<u>MonAmOR9: Signal and System Modeling and System Identification</u>	ORAL
11:20 – 12:40	<u>MonAmOR10: Multiview Image Processing</u>	ORAL
11:20 – 12:40	<u>MonAmOR11: Cardiovascular System Analysis</u>	ORAL
11:20 – 12:40	<u>MonAmOR12: Channel Modeling, Estimation and Equalization</u>	ORAL

LUNCH

14:00 - 14:50

PLENARY LECTURE:
DATA COMPRESSION AND BIOINFORMATICS SEARCHING FOR STRUCTURE IN ALL KINDS OF PLACES
 Khalid Sayood, University of Nebraska-Lincoln, United States

15:10 - 16:30

Hour	Session	Type
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15:10 – 16:30	<u>MonPmOR1: Signal Reconstruction</u>	ORAL
15:10 – 16:30	<u>MonPmOR2: Image Segmentation and Performance Evaluation</u>	ORAL
15:10 – 16:30	SPECIAL SESSION <u>MonPmOR3: Model-Based Sound Synthesis (I)</u>	ORAL
15:10 – 16:30	SPECIAL SESSION <u>MonPmOR4: Security of Data Hiding and Watermarking (I)</u>	ORAL
15:10 – 16:30	SPECIAL SESSION <u>MonPmOR5: Geophysical Signal Processing (I)</u>	ORAL
15:10 – 16:30	<u>MonPmOR6: Speech Recognition</u>	ORAL
15:10 – 16:30	<u>MonPmPO1: Channel Modeling, Estimation and Equalization</u>	POSTER
15:10 – 16:30	<u>MonPmPO2: Nonlinear Methods in Signal Processing</u>	POSTER
16:50 - 18:10		
Hour	Session	Type
16:50 – 18:10	<u>MonPmOR7: Sampling, Interpolation and Extrapolation</u>	ORAL
16:50 – 18:10	<u>MonPmOR8: Modulation, Encoding and Multiplexing</u>	ORAL
16:50 – 18:10	<u>MonPmOR9: Multichannel Signal Processing</u>	ORAL
16:50 – 18:10	<u>MonPmOR10: Ultrasound, Radar and Sonar</u>	ORAL
16:50 – 18:10	SPECIAL SESSION <u>MonPmOR11: Model-Based Sound Synthesis (II)</u>	ORAL
16:50 – 18:10	SPECIAL SESSION <u>MonPmOR12: Geophysical Signal Processing (II)</u>	ORAL
16:50 – 18:10	<u>MonPmPO3: Image Segmentation and Performance Evaluation</u>	POSTER
16:50 – 18:10	<u>MonPmPO4: DSP Implementation</u>	POSTER
<u>top>></u>		
6 September 2005, TUESDAY		
08:30 - 10:30		
Hour	Session	Type
08:30 – 10:30	<u>TueAmOR1: Segmentation and Object Tracking</u>	ORAL
08:30 – 10:30	<u>TueAmOR2: Image Filtering</u>	ORAL
08:30 – 10:30	SPECIAL SESSION	ORAL

	<u>TueAmOR3: OFDM and MC-CDMA Systems</u>	
08:30 – 10:30	SPECIAL SESSION <u>TueAmOR4: NEWCOM Session on the Advanced Signal Processing Algorithms for Wireless Communications (I)</u>	ORAL
08:30 – 10:30	SPECIAL SESSION <u>TueAmOR5: Bayesian Source Separation</u>	ORAL
08:30 – 10:30	SPECIAL SESSION <u>TueAmOR6: SIMILAR Session on Multimodal Signal Processing</u>	ORAL
08:30 – 10:30	<u>TueAmPO1: Image Watermarking</u>	POSTER
08:30 – 10:30	<u>TueAmPO2: Statistical Signal Processing (Poster I)</u>	POSTER
10:50 - 12:50		
Hour	Session	Type
10:50 – 12:50	<u>TueAmOR7: Multicarrier Systems and OFDM</u>	ORAL
10:50 – 12:50	<u>TueAmOR8: Image Registration and Motion Estimation</u>	ORAL
10:50 – 12:50	<u>TueAmOR9: Image and Video Filtering</u>	ORAL
10:50 – 12:50	SPECIAL SESSION <u>TueAmOR10: NEWCOM Session on the Advanced Signal Processing Algorithms for Wireless Communications (II)</u>	ORAL
10:50 – 12:30	SPECIAL SESSION <u>TueAmOR11: Novel Directions in Information Theoretic Approaches to Source Separation and Estimation</u>	ORAL
10:50 – 12:50	SPECIAL SESSION <u>TueAmOR12: Partial Update Adaptive Filters and Sparse Systems</u>	ORAL
10:50 – 12:50	<u>TueAmPO3: Biomedical Signal Processing</u>	POSTER
10:50 – 12:50	<u>TueAmPO4: Statistical Signal Processing (Poster II)</u>	POSTER
LUNCH		
14:00 - 14:50		
PLENARY LECTURE:		
EC PROGRAMS IN SIGNAL PROCESSING: FP6 AND BEYOND		
Eric Badique, European Commission		
 <u>top>></u>		
7 September 2005, WEDNESDAY		
08:30 - 10:30		
Hour	Session	Type
08:30 – 10:30	<u>WedAmOR1: Nonstationary Signal Processing</u>	ORAL
08:30 – 10:30	<u>WedAmOR2: MIMO and Space-Time Processing</u>	ORAL
08:30 – 10:30	<u>WedAmOR3: Image Coding</u>	ORAL

08:30 – 10:30	WedAmOR4: Detection and Estimation	ORAL
08:30 – 10:30	SPECIAL SESSION WedAmOR5: Methods to Improve and Measures to Assess Visual Quality of Images and Video	ORAL
08:30 – 10:30	SPECIAL SESSION WedAmOR6: Recent Advances in Restoration of Audio	ORAL
08:30 – 10:30	WedAmPO1: Adaptive Filters	POSTER
08:30 – 10:30	WedAmPO2: Multirate Filtering and Filter Banks	POSTER
10:50 - 12:50		
Hour	Session	Type
10:50 – 12:50	WedAmOR7: Filter Design and Structures	ORAL
10:50 – 12:50	SPECIAL SESSION WedAmOR8: Space-Time Coding, MIMO Systems and Beamforming	ORAL
10:50 – 12:50	SPECIAL SESSION WedAmOR9: Security of Data Hiding and Watermarking (II)	ORAL
10:50 – 12:50	SPECIAL SESSION WedAmOR10: Recent Applications in Time-Frequency Analysis	ORAL
10:50 – 12:50	SPECIAL SESSION WedAmOR11: Novel Representations of Visual Information for Analysis and Classification	ORAL
10:50 – 12:50	WedAmPO3: Image Coding	POSTER
10:50 – 12:50	WedAmPO4: Video Coding	POSTER
LUNCH		
14:00 - 14:50		
PLENARY LECTURE:		
ADVANCES IN VIDEO COMPRESSION		
Jens Rainer Ohm, University of Aachen, Germany		
15:10 - 16:30		
Hour	Session	Type
15:10 – 16:30	WedPmOR1: Speech Coding	ORAL
15:10 – 16:30	WedPmOR2: Bioinformatics	ORAL
15:10 – 16:30	WedPmOR3: Array Signal Processing	ORAL
15:10 – 16:30	WedPmOR4: Sensor Signal Processing	ORAL
15:10 – 16:30	WedPmOR5: VESTEL Session on Video Coding (I)	ORAL

15:10 – 16:30	<u>WedPmOR6: Multimedia Communications and Networking</u>	ORAL
15:10 – 16:30	<u>WedPmPO1: Signal Processing for Communications</u>	POSTER
15:10 – 16:30	<u>WedPmPO2: Image Analysis, Classification and Pattern Recognition</u>	POSTER
16:50 - 18:10		
Hour	Session	Type
16:50 – 17:50	<u>WedPmOR7: Beamforming</u>	ORAL
16:50 – 18:10	<u>WedPmOR8: Synchronization</u>	ORAL
16:50 – 18:10	<u>WedPmOR9: Radar</u>	ORAL
16:50 – 18:10	<u>WedPmOR10: VESTEL Session on Video Coding (II)</u>	ORAL
16:50 – 18:10	<u>WedPmOR11: Machine Learning</u>	ORAL
16:50 – 18:10	<u>WedPmOR12: MUSCLE Session on Anthropocentric Multimedia Data Analysis</u>	ORAL
16:50 – 18:10	<u>WedPmPO3: Multiresolution and Time-Frequency Processing</u>	POSTER
16:50 – 18:10	<u>WedPmPO4: I) Machine Vision, II) Facial Feature Analysis</u>	POSTER
<u>top>></u>		
8 September 2005, THURSDAY		
08:30 - 10:30		
Hour	Session	Type
08:30 – 10:30	<u>SPECIAL SESSION</u> <u>ThuAmOR1: 3DTV (I)</u>	ORAL
08:30 – 10:30	<u>ThuAmOR2: Performance Analysis, Optimization and Limits in Communications</u>	ORAL
08:30 – 10:30	<u>ThuAmOR3: Face and Head Recognition</u>	ORAL
08:30 – 10:30	<u>SPECIAL SESSION</u> <u>ThuAmOR4: MIMO Receivers</u>	ORAL
08:30 – 10:30	<u>SPECIAL SESSION</u> <u>ThuAmOR5: Particle Filtering</u>	ORAL
08:30 – 10:30	<u>SPECIAL SESSION</u> <u>ThuAmOR6: Geometric Compression</u>	ORAL
08:30 – 10:30	<u>ThuAmPO1: Speech, speaker and language recognition</u>	POSTER
08:30 – 10:30	<u>ThuAmPO2: Topics in Audio Processing</u>	POSTER
10:50 - 12:50		
Hour	Session	Type

10:50 – 12:50	<u>ThuAmOR7: Statistical Signal Analysis</u>	ORAL
10:50 – 12:50	<u>ThuAmOR8: Image Watermarking</u>	ORAL
10:50 – 12:50	<u>ThuAmOR9: Source Localization</u>	ORAL
10:50 – 12:50	SPECIAL SESSION <u>ThuAmOR10: MIMO Hardware and Rapid Prototyping</u>	ORAL
10:50 – 12:50	SPECIAL SESSION <u>ThuAmOR11: BIOSECURE Session on Multimodal Biometrics (I)</u>	ORAL
10:50 – 12:50	SPECIAL SESSION <u>ThuAmOR12: 3DTV (II)</u>	ORAL
10:50 – 12:50	<u>ThuAmPO3: Biomedical Signal Processing (Human Neural System Analysis)</u>	POSTER
10:50 – 12:50	<u>ThuAmPO4: Speech Enhancement and Noise Reduction</u>	POSTER
LUNCH		
14:00 - 14:50		
PLENARY LECTURE:		
OPTICAL INFORMATION PROCESSING		
Haldun Ozaktas, Bilkent University, Turkey		
15:10 - 16:30		
Hour	Session	Type
15:10 – 16:30	<u>ThuPmOR1: Isolated Word Recognition</u>	ORAL
15:10 – 16:30	<u>ThuPmOR2: Biomedical Signal Analysis</u>	ORAL
15:10 – 16:30	<u>ThuPmOR3: Multiuser Communications (I)</u>	ORAL
15:10 – 16:30	<u>ThuPmOR4: Architecture and VLSI Hardware (I)</u>	ORAL
15:10 – 16:30	<u>ThuPmOR5: Signal Processing for Music</u>	ORAL
15:10 – 16:30	SPECIAL SESSION <u>ThuPmOR6: BIOSECURE Session on Multimodal Biometrics (II)</u>	ORAL
15:10 – 16:30	<u>ThuPmPO1: SIMILAR Interfaces for Handicapped</u>	POSTER
15:10 – 16:30	<u>ThuPmPO2: Multimedia Indexing and Retrieval</u>	POSTER
16:50 - 18:50		
Hour	Session	Type
16:50 – 18:10	<u>ThuPmOR7: Architecture and VLSI Hardware (II)</u>	ORAL

16:50 – 17:50	<u>ThuPmOR8: Multiuser Communications (II)</u>	ORAL
16:50 – 18:30	<u>ThuPmOR9: Communication Applications</u>	ORAL
16:50 – 18:30	<u>ThuPmOR10: Astronomy</u>	ORAL
16:50 – 18:10	<u>ThuPmOR11: Face and Head Motion and Models</u>	ORAL
16:50 – 18:50	SPECIAL SESSION <u>ThuPmOR12: Ultra wideband</u>	ORAL

5 September 2005, Monday

10:00-11:20

[top>>](#)

SESSION MonAmOR1: Adaptive Filters (Oral I)

ORAL SESSION CHAIR: Yehekel Bar-Ness, NJIT, United States

10:00 LOW-RESOURCE DELAYLESS SUBBAND ADAPTIVE FILTER USING WEIGHTED OVERLAP-ADD
Hamid Sheikhzadeh, Robert L. Brennan, Zamir Khan, Kevin R. L. Whyte, AMI Semiconductor Canada Company, Canada

10:20 THE FAST DATA PROJECTION METHOD FOR STABLE SUBSPACE TRACKING
Xenofon Doukopoulos, France Telecom R&D, France; George Moustakides, University of Thessaly, Greece

10:40 STOCHASTIC MODELLING OF THE TRANSFORM DOMAIN EPSILON-LMS ALGORITHM FOR A TIME-VARYING ENVIRONMENT
Elen Lobato, Orlando Tobias, Rui Seara, Federal University of Santa Catarina, Brazil

11:00 A STOP & GO PRE-WHITENED SIGN ALGORITHM
Hichem Besbes, Sofia Ben Jebara, Ecole Supérieure des Communications de Tunis, Tunisia

[top>>](#)

SESSION MonAmOR2: Brain Computer Interface

ORAL

SESSION CHAIR: William J. Fitzgerald, Cambridge University, United Kingdom

10:00 MODEL BASED EEG SIGNAL PURIFICATION TO IMPROVE THE ACCURACY OF THE BCI SYSTEMS
Farid Atri, Amir Hossein Omidvarnia, Seyed Kamaledin Setarehdan, University of Tehran, Iran

10:20 SINGLE-TRIAL EEG CLASSIFICATION FOR BRAIN-COMPUTER INTERFACE USING WAVELET DECOMPOSITION
Anysia Yong, Neil Hurley, University College Dublin, Ireland

10:40 COMPLEXITY ANALYSIS OF FUNCTIONAL NEAR-INFRARED SPECTROSCOPY SIGNALS
Koray Ciftci, Yasemin Kahya, Bülent Sankur, Ata Akin, Bogazici University, Turkey

11:00 CLASSIFICATION OF CHAOTIC SIGNALS USING HMM CLASSIFIERS: EEG-BASED MENTAL TASK CLASSIFICATION

Soroosh Solhjoo, Amirkabir University of Technology, Iran; Ali Motie Nasrabadi, Shahed University, Iran; Mohammad Reza Hashemi Golpayegani, Amirkabir University of Technology, Iran

[top>>](#)

SESSION MonAmOR3: Speech Analysis, Production and Perception

ORAL

SESSION CHAIR: Mubeccel Demirekler, Middle East Technical University, Turkey

10:00 HNR EXTRACTION IN VOICED SPEECH, ORIENTED TOWARDS VOICE QUALITY ANALYSIS

Francois Severin, Baris Bozkurt, Thierry Dutoit, Faculte Polytechnique de Mons, Belgium

10:20 PERCEPTUAL TIME-VARYING MODELLING OF SPEECH SIGNALS FOR ASR COMPRESSION APPLICATION

Amir Leibman, Ilan D. Shallom, Ben-Gurion University, Israel

10:40 A DYNAMIC PROGRAMMING APPROACH TO CONTEXT-FREE VOICE TRANSFORMATION

Ozgul Salor, Mubeccel Demirekler, Middle East Technical University, Turkey

11:00 SEQUENTIAL FORWARD FEATURE SELECTION WITH LOW COMPUTATIONAL COST

Dimitrios Ververidis, Constantine Kotropoulos, Aristotle University of Thessaloniki, Greece

[top>>](#)

SESSION MonAmOR4: Hardware Implementations of DSP Algorithms

ORAL

SESSION CHAIR: Levent Oktem, Synplicity Inc, Turkey

10:00 SEGMENT-BASED MOTION ESTIMATION USING A BLOCK-BASED ENGINE

Patrick Meuwissen, Fabian Ernst, Ramanathan Sethuraman, Harm Peters, Philips Research, Netherlands; Rafael Peset Llopis, Philips Consumer Electronics, Netherlands

10:20 A LECTURE COURSE SERIES: FROM CONCEPT ENGINEERING TO IMPLEMENTATION OF SIGNAL PROCESSING ALGORITHMS WITH FPGAS

Mario Huemer, University of Erlangen-Nuremberg, Germany; Michael Lunglmayr, Markus Pfaff, University of Applied Sciences of Upper Austria Hagenberg, Austria

10:40 EFFICIENT FPGA IMPLEMENTATION OF AN ADAPTIVE IQ-IMBALANCE CORRECTOR FOR COMMUNICATION RECEIVERS USING REDUCED RANGE MULTIPLIERS

Ediz Cetin, Suleyman Demirsoy, Izzet Kale, Richard Morling, University of Westminster, United Kingdom

11:00 DESIGN AND IMPLEMENTATION OF A NEW PERSIAN DIGITS OCR ALGORITHM ON FPGA CHIPS

Navid Toosizadeh, Mohammad Eshghi, Shahid Beheshti University, Iran

[top>>](#)

SESSION MonAmOR5: Independent Component Analysis and Source Separation

ORAL

SESSION CHAIR: Asoke Nandi, University of Liverpool, United Kingdom

10:00 ICA IN SIGNALS WITH MULTIPLICATIVE NOISE USING FOURTH-ORDER STATISTIC

David Blanco, University of Granada, Spain; Bernard Mulgrew, University of Edinburgh, United Kingdom; Maria del Carmen Carrión, University of Granada, Spain; Diego Pablo Ruiz, University of Granada, Spain

10:20 A SIMPLE ICA ALGORITHM FOR NON-DIFFERENTIABLE CONTRASTS

John Aldo Lee, Frédéric Vrins, Michel Verleysen, Université Catholique de Louvain, Belgium

10:40 BLIND SEPARATION OF MORE THAN TWO SOURCES BASED ON HIGH-CONVERGENCE ALGORITHM COMBINING ICA AND BEAMFORMING

Tsuyoki Nishikawa, Hiroshi Saruwatari, Kiyohiro Shikano, Nara Institute of Science and Technology, Japan

11:00 SPATIOTEMPORAL BLIND SOURCE SEPARATION USING DOUBLE-SIDED APPROXIMATE JOINT DIAGONALIZATION

Fabian Joachim Theis, Peter Gruber, Ingo Keck, University of Regensburg, Germany; Anke Meyer-Baese, Florida State University, United States; Elmar Wolfgang Lang, University of Regensburg, Germany

[top>>](#)

SPECIAL SESSION MonAmOR6: MIMO Propagation and Channel Modeling

ORAL

SESSION ORGANIZER AND CHAIR: Peter Grant, University of Edinburgh, United Kingdom

10:00 DIRECTIONAL MEASUREMENTS AND MODELLING OF INDOOR ENVIRONMENTS AT 5.2GHZ

David Irvine Laurenson, The University of Edinburgh, United Kingdom; Chor Min Tan, University of Bristol, United Kingdom; Chia Chin Chong, The University of Edinburgh, United Kingdom; Mark A Beach, University of Bristol, United Kingdom

10:20 GAUSSIAN CHANNEL MODEL FOR MACROCELLULAR MOBILE PROPAGATION

Damian Bevan, Nortel, United Kingdom; Victor Ermolayev, Alexander Flaksman, Ilya Averin, Mera Networks, Russian Federation; Peter Grant, The University of Edinburgh, United Kingdom

10:40 SOUNDERS FOR MIMO CHANNEL MEASUREMENTS

Sana Salous, Stuart Feeney, Nima Razavi-Ghods, Mustafa Abdallah, Durham University, United Kingdom

11:20-12:40

[top>>](#)

SESSION MonAmOR7: Adaptive Filters (Oral II)

ORAL

SESSION CHAIR: Tyseer Aboulnasr, University of Ottawa, Canada

11:20 AN IMPROVED VARIABLE TAP-LENGTH ALGORITHM FOR STRUCTURE ADAPTATION

Yu Gong, Colin F. N. Cowan, Queen's University of Belfast, United Kingdom

11:40 SIGNAL TRACKING PROPERTIES OF A CLASS OF ADAPTIVE NOTCH FILTERS

Maciej Niedzwiecki, Piotr Kaczmarek, Gdansk University of Technology, Poland

12:00 A GENERAL APPROACH TO THE DERIVATION OF BLOCK MULTICHANNEL FAST QRD-RLS ALGORITHMS

Antonio Ramos, Jose Apolinario Jr., IME, Brazil; Stefan Werner, HUT, Finland

12:20 ON THE PERFORMANCE COMPARISON OF GRADIENT-TYPE JOINT PROCESS ESTIMATORS IN ADAPTIVE SIGNAL PROCESSING

Deniz Gencaga, Aysin Ertuzun, Bogazici University, Turkey

[top>>](#)

SESSION MonAmOR8: Speech Synthesis

ORAL

SESSION CHAIR: Baris Bozkurt, Faculté Polytechnique de Mons, Belgium

11:20 DONOR SELECTION FOR VOICE CONVERSION

Oytun Turk, Levent M. Arslan, SESTEK, Turkey

11:40 BRANDT'S GLR METHOD AND REFINED HMM SEGMENTATION FOR TTS SYNTHESIS APPLICATION

Safaa Jarifi, Dominique Pastor, ENST Bretagne, France; Olivier Rosec, France Telecom, France

12:00 GENERATION OF SYNTHETIC SPEECH FROM TURKISH TEXT

Hasim Sak, Tunga Güngör, Bogaziçi University, Turkey; Yasar Safkan, Yeditepe University, Turkey

12:20 EMOTION INCLUSION IN AN ARABIC TEXT-TO-SPEECH

Oumayma Al-Hakawati Al-Dakkak, Nada Ghneim, Higher Institute of Applied Science and Technology (HIAS), Syrian Arab Republic; Mohamed Abou Zliekha, Samer Al-Moubayed, Damascus University, Syrian Arab Republic

[top>>](#)

SESSION MonAmOR9: Signal and System Modeling and System Identification

ORAL

SESSION CHAIR: Ali Mohammad-Djafari, Supélec, France

11:20 THE GAUSSIAN TRANSFORM

Teodor Iulian Alecu, Sviatoslav Voloshynovskiy, Thierry Pun, University of Geneva, Switzerland

11:40 FIRST RESULTS ON UNIQUENESS OF SPARSE NON-NEGATIVE MATRIX FACTORIZATION

Fabian Joachim Theis, Kurt Stadthanner, University of Regensburg, Germany; Toshihisa Tanaka, Tokyo University of Agriculture and Technology, Japan

12:00 REAL-TIME SPEECH VISUALIZATION SYSTEM :KANNON - APPLYING AUDITORY CHARACTERISTICS

Ken Nakamuro, Katsuhiko Haruki, Sueo Sugimoto, Ritsumeikan University, Japan

12:20 A ROBUST NON-UNIFORM LUT INDEXING METHOD IN DIGITAL PREDISTORTION LINEARIZATION OF RF POWER AMPLIFIERS

Sonia Saied-Bouajina, Meriem Jaidane, ENIT, Tunisia; Fadhel Ghannouchi, Slim Boumaiza, POLY-GRAMES, Canada

[top>>](#)

SESSION MonAmOR10: Multiview Image Processing

ORAL

SESSION CHAIR: Levent Onural, Bilkent University, Turkey

11:20 IMAGE COMPRESSION IN A MULTI-CAMERA SYSTEM BASED ON A DISTRIBUTED SOURCE CODING APPROACH

Giovanni Toffetti, Stefano Tubaro, Augusto Sarti, Marco Marcon, Marco Tagliasacchi, Politecnico di Milano, Italy; Kannan Ramchandran, UC Berkeley, United States

11:40 OPTIMAL USAGE OF COLOR FOR DISPARITY ESTIMATION IN STEREO VISION

Eran David Pinhasov, Nahum Shimkin, Yehoshua Zeevi, Technion – Israel Institute of Technology, Haifa, Israel

12:00 CODING DEPTH IMAGES WITH PIECEWISE LINEAR FUNCTIONS FOR MULTI-VIEW SYNTHESIS

Yannick Morvan, Dirk Farin, Peter H. N. de With, University of Technology Eindhoven, Netherlands

12:20 SUBJECTIVE EVALUATION OF EFFECTS OF SPECTRAL AND SPATIAL REDUNDANCY REDUCTION ON STEREO IMAGES

Anil Aksay, Cagdas Bilen, Gozde Bozdagi Akar, Middle East Technical University, Turkey

[top>>](#)

SESSION MonAmOR11: Cardiovascular System Analysis

ORAL

SESSION CHAIR: Mustafa Kahraman, Isik University, Turkey

11:20 BALLISTOCARDIOGRAM DIAGNOSIS USING NEURAL NETWORKS AND SHIFT-INVARIANT DAUBECHIES WAVELET TRANSFORM

Alireza Akhbardeh, Mikko Koivuluoma, Tampere University of Technology, Finland; Teemu Koivistoinen, Tampere University Hospital, Finland; Alpo Värri, Tampere Tampere University of Technology, Finland

11:40 EFFICIENT ECG COMPRESSION BASED ON M-CHANNEL MAXIMALLY DECIMATED FILTER BANKS

Manuel Blanco-Velasco, Fernando Cruz-Roldan, Universidad de Alcala, Spain; Juan. I Godino-Llorente, Universidad Politecnica de Madrid, Spain; Kenneth E. Barner, University of Delaware, United States

12:00 USING SPEECH PROCESSING METHODS TO MODEL BLOOD FLOW

Derek H. Justice, Joel Trussell, Mette Olufsen, North Carolina State University, United States

12:20 ESTIMATION OF CARDIAC AND RESPIRATORY RHYTHMS BASED ON AN AMFM DEMODULATION AND AN ADAPTIVE EIGENVECTOR DECOMPOSITION

Stéphane Bruno, APHYCARE Technologies, France; Pascal Scalart, IRISA Lannion, France

[top>>](#)

SESSION MonAmOR12: Channel Modeling, Estimation and Equalization

ORAL

SESSION CHAIR: Peter Grant, University of Edinburgh, United Kingdom

11:20 ADAPTIVE CODED MODULATION WITH RECEIVE ANTENNA DIVERSITY AND IMPERFECT CHANNEL KNOWLEDGE AT RECEIVER AND TRANSMITTER

Duc V. Duong, Geir E. Øien, Norwegian University of Science and Technology (NTNU), Norway; Kjell J. Hole, University of Bergen, Norway

11:40 BLIND CHANNEL IDENTIFICATION WITH FRAME LENGTH AND OFFSET ESTIMATION

T. Engin Tuncer, Middle East Technical University, Turkey

12:00 ITERATIVE DECISION FEEDBACK EQUALIZATION FOR TIME-VARYING CHANNELS

Zijian Tang, Geert Leus, Delft University of Technology, Netherlands

12:20 GENERALIZED PILOT ASSISTED CHANNEL ESTIMATION FOR WCDMA

Ahmet Bastug, Giuseppe Montalbano, Philips Semiconductors, France; Dirk Slock, Eurecom Institute, France

14:00-14:50

PLENARY LECTURE:

DATA COMPRESSION AND BIOINFORMATICS SEARCHING FOR STRUCTURE IN ALL KINDS OF PLACES,

Khalid Sayood, University of Nebraska-Lincoln, United States

15:10-16:30

[top>>](#)

SESSION MonPmOR1: Signal Reconstruction

ORAL

SESSION CHAIR: Pierre Duhamel, Supelec, France

15:10 BLIND SEPARATION OF COMPLEX-VALUED MIXTURES: SPARSE REPRESENTATION IN POLAR AND CARTESIAN SCATTER-PLOTS

Ehud Orian, Yehoshua Y. Zeevi, Technion - Israel Institute of Technology, Israel

15:30 ANISOTROPIC LOCAL APPROXIMATIONS FOR POINTWISE ADAPTIVE SIGNAL-DEPENDENT NOISE REMOVAL

Alessandro Foi, Tampere University of Technology, Finland; Radu Bilcu, Nokia Research Center, Tampere, Finland; Vladimir Katkovnik, Karen Egiazarian, Tampere University of Technology, Finland

15:50 SOUND SIGNAL PROCESSING USING COMPLEX DYNAMIC REPRESENTATION

Ewa Hermanowicz, Gdansk University of Technology, Poland

16:10 BLIND SEPARATION OF CONVOLUTIVE MIXTURE OF SPEECH SIGNALS

Hakim Boumaraf, Dinh-Tuan Pham, Laboratory of Modélisation et Calcul, France; Christine Servière, Laboratoire des Images et des Signaux, France

[top>>](#)

SESSION MonPmOR2: Image Segmentation and Performance Evaluation

ORAL

SESSION CHAIR: Aytul Ercil, Sabanci University, Turkey

15:10 SEGMENTATION EVALUATION BY FUSION WITH A GENETIC ALGORITHM

Sébastien Chabrier, Christophe Rosenberger, Bruno Emile, LVR, France

15:30 UNSUPERVISED VARIATIONAL CLASSIFICATION THROUGH IMAGE MULTI-THRESHOLDING

Luc Klaine, Benoit Voziel, Kacem Chehdi, IETR-University of Rennes I, France

15:50 A NEW METHOD FOR MULTI-RESOLUTION TEXTURE SEGMENTATION USING GAUSSIAN MARKOV RANDOM FIELDS

Roni Mittelman, Moshe Porat, Technion, Israel

16:10 PERFORMANCE EVALUATION OF IMAGE SEGMENTATION. APPLICATION TO PARAMETERS FITTING

Sébastien Chabrier, Hélène Laurent, Bruno Emile, LVR, France

[top>>](#)

SPECIAL SESSION MonPmOR3: Model-Based Sound Synthesis (I)

ORAL

SESSION ORGANIZERS: Cumhur Erkut, Helsinki University of Technology, Finland; Vesa Välimäki, Helsinki University of Technology, Finland

SESSION CHAIRS: Cumhur Erkut, Helsinki University of Technology, Finland; Matti Karjalainen, Helsinki University of Technology, Finland

15:10 MODULAR INTERACTIONS AND HYBRID MODELS: A CONCEPTUAL MAP FOR MODEL-BASED SOUND

15:30 AN INTEGRATED SYSTEM FOR THE AUTOMATIC BLOCK-WISE SYNTHESIS OF SOUNDS

Augusto Sarti, Stefano Tubaro, Giovanni De Sanctis, Gabriele Scarparo, DEI - Politecnico di Milano, Italy

15:50 PHYSICAL MODELING OF FLAGEOLET TONES IN STRING INSTRUMENTS

Jyri Pakarinen, Helsinki University of Technology, Finland

16:10 AN ENERGY-CONSERVING DIFFERENCE SCHEME FOR NONLINEAR COUPLED TRANSVERSE/LONGITUDINAL STRING VIBRATION

Stefan Bilbao, Sonic Arts Research Centre, United Kingdom

[top>>](#)

SPECIAL SESSION MonPmOR4: Security of Data Hiding and Watermarking (I)

ORAL

SESSION ORGANIZERS AND CHAIRS: Kivanç Mihçak, Microsoft, United States; S. Voloshynovskiy, University of Geneva, Switzerland

15:10 BIOMETRIC TEMPLATE SECURITY: CHALLENGES AND SOLUTIONS

Anil Jain, Michigan State University, United States; Arun Ross, West Virginia University, United States; Umut Uludag, Michigan State University, United States

15:30 AN AUDIO WATERMARKING ALGORITHM VIA ZERO ASSIGNED FILTER BANKS

Zeynep Yücel, Bilkent University, Turkey; A. Bülent Özgüler, Bilkent University, Turkey

15:50 FUSING DIGITAL AUDIO WATERMARKING AND AUTHENTICATION IN DIVERSE SIGNAL DOMAINS

Nedeljko Cvejic, Tapio Seppanen, University of Oulu, Finland

16:10 DATA-HIDING WITH PARTIALLY AVAILABLE SIDE INFORMATION

Sviatoslav Voloshynovskiy, Oleksiy Koval, University of Geneva, Switzerland; Fernando Perez-Gonzalez, University of Vigo, Spain; Kivanc Mihcak, Microsoft Research, United States; Thierry Pun, Jose Vila, University of Geneva, Switzerland

[top>>](#)

SPECIAL SESSION MonPmOR5: Geophysical Signal Processing (I)

ORAL

SESSION ORGANIZERS AND CHAIRS: Ali Ozbek, Schlumberger Cambridge Research, United Kingdom; Sinan Ozeren, Istanbul Technical University, Turkey

15:10 P PHASE AND S PHASE DETECTION USING THE DAUBECHIES WAVELET TRANSFORM (DWT)

Omer Halil Colak, Akdeniz University, Turkey

15:30 COMPLEX-VALUED FIR SEISMIC MIGRATION FILTER DESIGN USING PURE AND RELAXED PROJECTION ALGORITHMS

Wail Mousa, Said Boussakta, Des McLernon, Leeds University, United Kingdom

15:50 A NON-SEPARABLE 2D COMPLEX MODULATED LAPPED TRANSFORM AND ITS APPLICATIONS TO SEISMIC DATA FILTERING

Jérôme Gauthier, Laurent Duval, IFP, France; Jean-Christophe Pesquet, Université de Marne-la-Vallée, France

16:10 SPATIAL PREDICTION FILTERS FOR ATTENUATION OF SEISMIC INTERFERENCE NOISE

Necati Gulunay, Mag Magesan, Simon Baldock, CGG Americas, United States

[top>>](#)

SESSION MonPmOR6: Speech Recognition

ORAL

SESSION CHAIR: Ahmet Kondoz, University of Surrey, United Kingdom

15:10 WARPED DISCRETE COSINE TRANSFORM CEPSTRUM: A NEW FEATURE FOR SPEECH PROCESSING

Muralishankar Rangarao, INRS-EMT (Telecommunications), University of Quebec, Canada; Abhijeet Sangwan, Concordia University, Canada; Douglas O'Shaughnessy, INRS-EMT (Telecommunications), University of Quebec, Canada

15:30 ON THE USE OF PHASE INFORMATION IN SPEECH RECOGNITION

Baris Bozkurt, Laurent Couvreur, Faculté Polytechnique de Mons, Belgium

15:50 LANGUAGE MODELING USING INDEPENDENT COMPONENT ANALYSIS FOR AUTOMATIC SPEECH RECOGNITION

Raghunandan Kumaran, John Gowdy, Karthik Narayanan, Clemson University, United States

16:10 TRAJECTORY CLUSTERING FOR AUTOMATIC SPEECH RECOGNITION

Yan Han, Johan de Veth, Louis Boves, Radboud University, Nijmegen, Netherlands

[top>>](#)

SESSION MonPmPO1: Channel Modeling, Estimation and Equalization

POSTER

SESSION CHAIR: Tuncer Baykas, University of Ottawa, Canada

A BLIND SPATIO TEMPORAL EQUALIZATION OPERATING ON A POLARIZATION

Yvon Erhel, Centre de Recherche des Ecoles de Coetquidan GUER, France; Clency Perrine, Dominique Lemur, Alain Bourdillon, I.E.T.R. Université de Rennes 1, France

A NON-PARAMETERIC ML ESTIMATOR WITH UNKNOWN CHANNEL ORDER

Yu Gong, Queen's University of Belfast, United Kingdom; Vimal Bhatia, Bernard Mulgrew, University of Edinburgh, United Kingdom; Colin Cowan, Queen's University of Belfast, United Kingdom

NON-PARAMETRIC ML CHANNEL ESTIMATOR AND DETECTOR FOR OFDM

Vimal Bhatia, Bernard Mulgrew, University of Edinburgh, United Kingdom; David Falconer, Carleton University, Canada

A NEW TURBO EQUALIZER WITH LINEAR COMPLEXITY

Dimitris Ampeliotis, Kostas Berberidis, University of Patras, Greece

BLIND CHANNEL EQUALIZATION WITH ALGEBRAIC OPTIMAL STEP SIZE

Vicente Zarzoso, The University of Liverpool, United Kingdom; Pierre Comon, CNRS/UNSA, France

TWO CROSS COUPLED KALMAN FILTERS FOR JOINT ESTIMATION OF MC-DS-CDMA FADING CHANNELS AND THEIR CORRESPONDING AUTOREGRESSIVE PARAMETERS

Ali Jamoos, David Labarre, Eric Grivel, Mohamed Najim, Equipe Signal & Image, LAPS UMR 5131, ENSEIRB, France

A GENERALIZED DUAL MODE BLIND EQUALIZATION SCHEME WITH CARRIER RECOVERY

Bakhtiar Ali, Azzedine Zerguine, KFUPM, Saudi Arabia

MMSE ESTIMATION OF BASIS EXPANSION MODELS FOR RAPIDLY TIME-VARYING CHANNELS

Imad Barhumi, K.U.Leuven-ESAT/SISTA, Belgium; Geert Leus, T.U.Delft, Netherlands; Marc Moonen, K.U.Leuven-ESAT/SISTA, Belgium

GEOMETRICALLY-BASED SPACE-TIME DETERMINISTIC MULTIPATH FADING CHANNEL MODEL WITH APPLICATION TO SPATIAL CORRELATION VERIFICATION OF MULTI-ANTENNA SYSTEMS

Arastoo Rostami-Ravari, Universiti Putra Malaysia (UPM), Malaysia; Borhanuddin Mohd. Ali, S.S. Jamuar, UPM, Malaysia; M.U. Siddiqi, MMU, Malaysia

SUBBAND ADAPTIVE EQUALISER TRACKING FOR FRACTIONALLY-SAMPLED FADING BROADBAND MIMO CHANNELS

Stephan Weiss, Viktor Bale, University of Southampton, United Kingdom

ADAPTIVE ITERATIVE LAYERED SPACE-FREQUENCY EQUALIZATION FOR SINGLE-CARRIER MIMO SYSTEMS

Xu Zhu, University of Liverpool, United Kingdom

ESTIMATION OF THE SNR FOR WIRELESS SYSTEMS IN A LOCAL FADING ENVIRONMENT WITH MULTI-ELEMENT ANTENNAS

Jean-Pierre Dubois, University of Balamand, Lebanon

IMPROVED OFDM RECEIVER WITH ITERATIVE CHANNEL ESTIMATION AND TURBO DECODING

Yehekel Bar-Ness, NJIT, United States; Marta Perez Portugal, ETSETB (UPC), Spain

[top>>](#)

SESSION MonPmPO2: Nonlinear Methods in Signal Processing (Poster)

POSTER

SESSION CHAIR: Kerem Harmanci, Boğaziçi University, Turkey

A FAST ALGORITHM FOR DIGITAL PRE-DISTORTION OF NONLINEAR POWER AMPLIFIERS

Ernst Aschbacher, Holger Arthaber, Markus Rupp, Vienna University of Technology, Austria

ROBUST MATCHED FILTERING IN THE FEATURE SPACE

Ignacio Santamaria, University of Cantabria, Spain; Deniz Erdogmus, Oregon Health and Science University, United States; Rati Agrawal, Jose C. Principe, University of Florida, United States

PARAMETRIZATION OF INHARMONIC BIRD SOUNDS FOR AUTOMATIC RECOGNITION

Seppo Fagerlund, Helsinki University of, Finland; Aki Härmä, Philips Research, Netherlands

DETECTION OF NONLINEARLY DISTORTED SIGNALS USING MUTUAL INFORMATION

Umut Ozertem, Deniz Erdogmus, OHSU, United States; Ignacio Santamaria, University of Cantabria, Spain

ASYMPTOTICALLY OPTIMAL MAXIMUM-LIKELIHOOD ESTIMATION OF A CLASS OF CHAOTIC SIGNALS USING THE VITERBI ALGORITHM

David Luengo, Universidad Carlos III de Madrid, Spain; Ignacio Santamaria, Luis Vielva, Universidad de Cantabria, Spain

IMPROVING THE INITIALISATION AND RELIABILITY OF THE SELF ORGANISING OSCILLATOR NETWORK

Sameh Salem, Lindsay Jack, Asoke Nandi, University of Liverpool, United Kingdom

16:50-18:10

[top>>](#)

SESSION MonPmOR7: Sampling, Interpolation and Extrapolation

ORAL

SESSION CHAIR: Moshe Porat, Technion - Israel Institute of Technology, Israel

16:50 OPTIMAL SAMPLING OF MULTIDIMENSIONAL PERIODIC BAND-LIMITED SIGNALS

Sayit Korkmaz, Bilkent University, Turkey

17:10 ON THE REPRESENTATION ERROR OF DIGITIZED SIGNALS

Hagai Kirshner, Moshe Porat, Technion - Israel Institute of Technology, Israel

17:30 BLOCK-BASED RECONSTRUCTION OF SIGNALS FROM NONUNIFORM SAMPLES

T. Engin Tuncer, Bulent Serdaroglu, Middle East Technical University, Turkey

17:50 OPTIMAL SQUARED-ERROR SIGNAL RECOVERY FROM NONIDEAL SAMPLES

Yonina Eldar, Tsvi Dvorkind, Technion, Israel

[top>>](#)

SESSION MonPmOR8: Modulation, Encoding and Multiplexing

ORAL

SESSION CHAIR: Ali N. Akansu, New Jersey Institute of Technology, United States

16:50 COMPARISON OF TWO DIFFERENT APPROACHES FOR JOINT SOURCE-CHANNEL DECODING OF VARIABLE LENGTH CODES

Pierre Siohan, France Télécom R&D, France; Marion Jeanne, IRISA-INRIA, France

17:10 BIT-FLIPPING POST-PROCESSING FOR FORCED CONVERGENCE DECODING OF LDPC CODES

Ernesto Zimmermann, TU Dresden, Germany; Prakash Pattisapu, STMicroelectronics, India; Gerhard Fettweis, TU Dresden, Germany

17:30 DESIGN OF INTEGER FILTERS FOR TRANSMULTIPLEXER PERFECT RECONSTRUCTION

Bartosz Ziolko, Mariusz Ziolko, Michal Nowak, AGH University of Science & Technology, Poland

17:50 NEW ORTHOGONAL BINARY USER CODES FOR MULTIUSER SPREAD SPECTRUM COMMUNICATIONS

Radha Poluri, Ali N. Akansu, New Jersey Institute of Technology, United States

[top>>](#)

SESSION MonPmOR9: Multichannel Signal Processing

ORAL

SESSION CHAIR: Selin Aviyente, Michigan State University, United States

16:50 PARAFAC RECEIVER FOR BLIND MULTIUSER EQUALIZATION IN WIRELESS COMMUNICATION SYSTEMS WITH TEMPORAL OVERSAMPLING

André de Almeida, Gérard Favier, Laboratoire I3S UNSA/CNRS, France; Joao Mota, Laboratório GTEL/DETI/UFC, Brazil

17:10 MULTICHANNEL BLIND DECONVOLUTION OF IMPULSIVE SIGNALS

Pablo Lecumberri, Marisol Gómez, Alfonso Carlosena, Universidad Pública de Navarra, Spain

17:30 RECONSTRUCTING ULTRASONIC IMAGES AND FLAW DETECTION IN TIME-FREQUENCY DOMAIN BY MATCHING A-SCAN INSPECTIONS

Addisson Salazar, Jorge Gosalbez, Ignacio Bosch, Universidad Politécnica de Valencia, Spain

17:50 FEATURE EXTRACTION OF ARTIFICIAL TONGUE DATA USING GRAM-SCHMIDT ORTHONORMALIZATION

Iasen Hristozov, Pencheva Tania, Bulgarian Academy of Science, Bulgaria; Selim Eskiizmirli, INSERM U-742 (ANIM), University of Denis Diderot, France

[top>>](#)

SESSION MonPmOR10: Ultrasound, Radar and Sonar

ORAL

SESSION CHAIR: Erkan Unal Mumcuoglu, Middle East Technical University, Turkey

16:50 BOAT-GENERATED ACOUSTIC TARGET SIGNAL DETECTION BY USE OF AN ADAPTIVE MEDIAN CFAR AND MULTI-FRAME INTEGRATION ALGORITHM

Eric Dahai Cheng, Massimo Piccardi, Tony Jan, University of Technology, Sydney, Australia

17:10 DETECTION OF NONLINEARITIES CAUSED BY BUBBLES IN ULTRASONIC SIGNALS

Ramon Miralles, Jorge Gosalbez, Addisson Salazar, Departamento de Comunicaciones (U.P.V.), Spain

17:30 MULTIPARAMETRIC SMOOTHING BASED ON MEAN SHIFT PROCEDURE FOR ULTRASOUND DATA SEGMENTATION

Thomas Grenier, Franck Davignon, Chantal Muller, Olivier Basset, Gérard Gimenez, Creatis, France

17:50 SYNTHETIC APERTURE RADAR IMAGING FROM TRUNCATED DATA

Vito Pascazio, Alessandra Budillon, Daniele Pisa, Università di Napoli Parthenope, Italy; Gilda Schirinzi, Università di Cassino, Italy

[top>>](#)

SPECIAL SESSION MonPmOR11: Model-Based Sound Synthesis (II)

ORAL

SESSION ORGANIZERS: Cumhur Erkut, Helsinki University of Technology, Finland; Vesa Välimäki, Helsinki University of Technology, Finland

SESSION CHAIRS: Cumhur Erkut, Helsinki University of Technology, Finland; Matti Karjalainen, Helsinki University of Technology, Finland

16:50 TENSION MODULATED NONLINEAR 2D MODELS FOR DIGITAL SOUND SYNTHESIS WITH THE FUNCTIONAL TRANSFORMATION METHOD

Stefan Petrausch, Rudolf Rabenstein, University of Erlangen-Nuremberg, Germany

17:10 DIFFUSION MODELLING AT THE BOUNDARY OF A DIGITAL WAVEGUIDE MESH

Simon Shelley, Damian Murphy, University of York, United Kingdom

17:30 ARTIFICIAL REVERBERATION USING A HYPER-DIMENSIONAL FDTD MESH

Antti Kelloniemi, Helsinki University of Technology, Finland; Patty Huang, Stanford University, United States; Vesa Välimäki, Lauri Savioja, Helsinki University of Technology, Finland

17:50 PARALLEL IMPLEMENTATION OF FINITE DIFFERENCE SCHEMES FOR THE PLATE EQUATION ON A FPGA-BASED MULTI-PROCESSOR ARRAY

Erdem Motuk, Roger Woods, Stefan Bilbao, Queen's University of Belfast, United Kingdom

[top>>](#)

SPECIAL SESSION MonPmOR12: Geophysical Signal Processing (II)

ORAL

SESSION ORGANIZERS AND CHAIRS: Ali Ozbek, Schlumberger Cambridge Research, United Kingdom; Sinan Ozeren, Istanbul Technical University, Turkey

16:50 LOCAL RADON TRANSFORMS VIA GENERALIZED DECONVOLUTION

Mauricio D. Sacchi, University of Alberta, Canada

17:10 MULTIDIMENSIONAL FILTERING OF IRREGULARLY SAMPLED SEISMIC DATA

Ali Özbek, Schlumberger Cambridge Research, United Kingdom; Ralf Ferber, WesternGeco, United Kingdom

17:30 THE LOCAL HARMONIC DECOMPOSITION: A TOOL FOR EXTRACTING ANGLE INFORMATION FROM WAVEFIELDS

Robert Soubaras, Compagnie Générale de Géophysique, France

17:50 ALGORITHMS AND BASIS FUNCTIONS IN TOMOGRAPHIC RECONSTRUCTION OF IONOSPHERIC ELECTRON DENSITY

Ersin Yavuz, Fintek A.S., Turkey; Feza Arikan, Hacettepe University, Turkey; Orhan Arikan, Bilkent University, Turkey; Cemil B. Erol, TUBITAK UEKAE ILTAREN, Ankara, Turkey

[top>>](#)

SESSION MonPmPO3: Image Segmentation and Performance Evaluation

POSTER

SESSION CHAIR: Ugur Güdükbay, Bilkent University, Turkey

THE USE OF HILBERT TRANSFORM ON DSNR ANALYSIS OF

Emir Tufan Akman, Istanbul University, Turkey

A COMPARATIVE EVALUATION OF COMPETITIVE LEARNING ALGORITHMS FOR EDGE DETECTION ENHANCEMENT

Tuba Sirin, Mehmet Izzet Saglam, Isin Erer, Muhittin Gokmen, Istanbul Technical University, Turkey; Okan Ersoy, Purdue University, United States

THRESHOLDING-BASED SEGMENTATION AND APPLE GRADING BY MACHINE VISION

Devrim Unay, Bernard Gosselin, Faculté Polytechnique de Mons, Belgium

MULTISCALE EDGE DETECTION AND IMAGE SEGMENTATION

Baris Sumengen, B. S. Manjunath, UC, Santa Barbara, United States

NEW ALGORITHM FOR KIKUCHI LINES DETECTION IN ELECTRON MICROSCOPY IMAGES

Tomasz Zielinski, Rafal Fraczek, AGH - University of Science and Technology, Poland

REGION-LEVEL MOVING OBJECT SEGMENTATION BY GRAPH LABELING

Ilias Grinias, Georgios Tziritas, University of Crete, Greece

IMAGE SEGMENTATION USING COLOR AND TEXTURE FEATURES

Ediz Polat, Mustafa Ozden, Kirikkale University, Turkey

A JOINT MOTION SEGMENTATION ALGORITHM FOR VIDEO CODING

Sylvain Boltz, Eric Debreuve, Michel Barlaud, Laboratory I3s, University of Nice / CNRS, France

VIDEO FRAME SEGMENTATION USING COMPETITIVE CONTOURS

Piotr Stec, University of Zielona Gora, Poland; Marek Domanski, Poznan University of Technology, Poland

[top>>](#)

SESSION MonPmPO4: DSP Implementation

POSTER

SESSION CHAIR: Cem Gökner, Işık University, Turkey

A FRAMEWORK FOR FPGA BASED DISCRETE BIORTHOGONAL WAVELET TRANSFORMS IMPLEMENTATION

Isa Servan Uzun, Abbes Amira, The Queen's University of Belfast, United Kingdom

VOICE TRANSFORMATION ALGORITHMS WITH REAL TIME DSP RAPID PROTOTYPING TOOLS

Graziano Bertini, Istituto di Scienza e Tecnologie dell'Informazione - CNR (I), Italy

ARCHITECTURAL OPTIMIZATIONS FOR SOFTWARE-BASED MPEG4 VIDEO ENCODER IMPLEMENTATION

Farooq Nasim, Shahid Masud, Nadeem Khan, Kamran Virk, Ayesha Farrukh, Lahore University of Management Sciences, Pakistan

DESIGN CONSIDERATIONS FOR REAL-TIME SYSTEMS WITH DSP AND RISC ARCHITECTURES

Iskender Serhat Koç, Nortel NETAS, Turkey

MEMORY CONTROLLER FOR DSP EMBEDDED SYSTEMS WITH DYNAMIC ACCESS SEQUENCES

Bertrand Le Gal, Emmanuel Casseau, Eric Martin, LESTER Lab., France

100% OPERATIONAL EFFICIENT BIT-SERIAL PROGRAMMABLE FIR DIGITAL FILTERS

Paraskevas Kalivas, Andreas Tsirikos, Paul Bougas, Kiamal Pekmestzi, Technical University of Athens, Greece

DESIGN AND AUTOMATIC CODE GENERATION OF A TWO-DIMENSIONAL FAST COSINE TRANSFORM FOR SIMD DSP ARCHITECTURES

Arne Lehman, Pablo Robelly, Gerhard Fettweis, Technische Universitaet Dresden, Germany

[top>>](#)

6 September 2005, Tuesday

08:30-10:30

SESSION TueAmOR1: Segmentation and Object Tracking

ORAL

SESSION CHAIR: Ioannis Pitas, Aristotle University of Thessaloniki, Greece

08:30 FAST IMPLEMENTATION OF VARIATIONAL, CONTOUR-BASED OBJECT TRACKING

Petr Dokladal, School of Mines of Paris, France; Eva Dokladalova, CEA, France

08:50 OBJECT TRACKING BASED ON MULTISCALE MORPHOLOGICAL TEMPLATES

Georgios N. Stamou, Nikos Nikolaidis, Ioannis Pitas, Aristotle University of Thessaloniki, Greece

09:10 3D TRACKING OF LICENSE PLATE FROM MONOCULAR CAMERA VIEW

Ilhan Kubilay Yalçin, TÜBİTAK MAM BTAE, Turkey

09:30 FEATURE-BASED TRACKING USING 3D PHYSICS-BASED DEFORMABLE SURFACES

Michail Krinidis, Nikos Nikolaidis, Ioannis Pitas, Aristotle University of Thessaloniki, Greece

09:50 WAVELET BASED REAL-TIME SMOKE DETECTION IN VIDEO

B. Ugur Töreyn, Yigithan Dedeoglu, A. Enis Cetin, Bilkent University, Turkey

10:10 STATIC AND DYNAMIC FEATURE-BASED VISUAL ATTENTION MODEL: COMPARAISON WITH HUMAN JUDGMENT

Mickael Guironnet, Laboratoire des Images et des Signaux (LIS), France; Nathalie Guyader, University College London, United Kingdom; Denis Pellerin, Patricia Ladret, Laboratoire des Images et des Signaux (LIS), France

[top>>](#)

SESSION TueAmOR2: Image Filtering

ORAL

SESSION CHAIR: Alptekin Temizel, Honeywell Video Systems-Visiopriime, United Kingdom

08:30 WAVELET DOMAIN IMAGE RESOLUTION ENHANCEMENT USING CYCLE SPINNING AND EDGE MODELLING

Alptekin Temizel, Honeywell Video Systems-Visiopriime, United Kingdom; Theo Vlachos, University of Surrey, United Kingdom

08:50 AN EFFICIENT ALGORITHM FOR ATTRIBUTE OPENINGS AND CLOSINGS

Jerome Darbon, Ecole Nationale Supérieure des Telecommunications (ENST), France; Ceyhun Burak Akgul, Bogazici University, Turkey

09:10 ADAPTABLE MATHEMATICAL MORPHOLOGY IN D DIMENSIONS USING THE SEPARABLE EUCLIDEAN DT IN D+1 DIMENSIONS

Olivier Cuisenaire, Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland

09:30 IMAGE DENOISING USING OVER-COMPLETE WAVELET REPRESENTATIONS

Slaven Marusic, The University of New South Wales, Australia; Guang Deng, David B. H. Tay, La Trobe University, Australia

09:50 QUADRATIC WEIGHTED MEDIAN FILTERS FOR NOISY IMAGE SHARPENING

Tuncer Can Aysal, Kenneth E. Barner, University of Delaware, United States

10:10 DENOISING OF IMAGES WITH MULTIPLICATIVE NOISE CORRUPTION

Zhiling Long, Nicolas Younan, Mississippi State University, United States

[top>>](#)

SPECIAL SESSION TueAmOR3: OFDM and MC-CDMA Systems

ORAL

SESSION ORGANIZER AND CHAIR: Hikmet Sari, Supelec, France

08:30 SINGLE-CARRIER TRANSMISSION WITH ITERATIVE FREQUENCY-DOMAIN DECISION-FEEDBACK EQUALIZATION

Hikmet Sari, Sainte-Agathe Frédérique, Supelec, France

08:50 FREQUENCY SELECTIVE FADING CHANNEL ESTIMATION IN OFDM SYSTEMS USING KL EXPANSION

Habib Senol, Kadir Has University, Turkey; Hakan Ali Cirpan, Istanbul University, Turkey; Erdal Panayirci, Isik

University, Turkey

09:10 BIT RATE COMPARISON BETWEEN MIMO CYCLICALLY PREFIXED SINGLE CARRIER AND MULTICARRIER TRANSMISSIONS

Bertrand Devillers, Thierry Sartenauer, Luc Vandendorpe, Université Catholique de Louvain, Belgium

09:30 MULTI-CARRIER SIGNAL SHAPING EMPLOYING HERMITE FUNCTIONS

Tolga Kurt, University of Ottawa, Canada; Mohamed Siala, Sup Com, Tunisia; Abbas Yongacoglu, University of Ottawa, Canada

09:50 MC-CDMA VERSUS OFDMA IN CELLULAR ENVIRONMENTS

Simon Plass, Stefan Kaiser, German Aerospace Center (DLR), Germany

10:10 ON INTER-CELL INTERFERENCE IN OFDMA WIRELESS SYSTEMS

Jean-Philippe Javaudin, France Telecom, France

[top>>](#)

SPECIAL SESSION TueAmOR4: NEWCOM Session on the Advanced Signal Processing Algorithms for Wireless Communications (I)

ORAL

SESSION ORGANIZERS AND CHAIRS: Erdal Panayirci, Isik University, Turkey; Hakan Ali Cirpan, Istanbul University, Turkey

08:30 SYNCHRONIZATION OF ENERGY CAPTURE RECEIVERS FOR UWB APPLICATIONS

Cecilia Carbonelli, Umberto Mengali, University of Pisa, Italy

08:50 A FACTOR GRAPH APPROACH TO DESIGN CLOSE-TO-OPTIMAL RECEIVERS IN THE PRESENCE OF A TIMING UNCERTAINTY.

Cédric Herzet, Luc Vandendorpe, Valéry Ramon, Université catholique de Louvain, Belgium

09:10 CODE-AIDED JOINT CHANNEL AND FREQUENCY ESTIMATION FOR A ST-BICM MULTI-USER DS-CDMA SYSTEM

Mamoun Guenach, Frederik Simoens, Henk Wymeersch, Marc Moeneclaey, Ghent University, Belgium

09:30 PEAK POWER REDUCTION IN OFDM SYSTEMS USING DYNAMIC CONSTELLATION SHAPING

Serdar Sezginer, Hikmet Sari, Supélec, France

09:50 OPTIMAL DESIGN OF NONCOHERENT CAYLEY UNITARY SPACE-TIME CODES

Jibing Wang, Qualcomm Inc., United States; Xiaodong Wang, Columbia University, United States; Mohammad Madhian, NEC Labs, United States

10:10 A SEQUENTIAL MONTE CARLO METHOD FOR BLIND PHASE NOISE ESTIMATION AND DATA DETECTION

Erdal Panayirci, Isik University, Turkey; Hakan Ali Cirpan, Istanbul University, Turkey; Marc Moeneclaey, University of Gent, Belgium

[top>>](#)

SPECIAL SESSION TueAmOR5: Bayesian Source Separation

ORAL

SESSION ORGANIZERS AND CHAIRS: Kevin Knuth, NASA, United States; Ercan Kuruoglu, ISTI-CNR, Italy

08:30 INFORMED SOURCE SEPARATION: A BAYESIAN TUTORIAL

Kevin Knuth, NASA Ames Research Center, United States

08:50 A MEAN FIELD APPROXIMATION APPROACH TO BLIND SOURCE SEPARATION WITH LP PRIORS

Mahieddine M. Ichir, Ali Mohammad-Djafari, L2S, CNRS-Supélec-UPSUD, France

09:10 BLIND SEPARATION OF SPARSE SOURCES USING VARIATIONAL EM

Ali Taylan Cemgil, Cédric Févotte, Simon J. Godsill, University of Cambridge, United Kingdom

09:30 COPING WITH TRIAL-TO-TRIAL VARIABILITY OF EVENT RELATED SIGNALS: A BAYESIAN INFERENCE APPROACH

Mingzhou Ding, University of Florida, United States; Kevin Knuth, NASA Ames Research Center, United States; Yonghong Chen, University of Florida, United States; Steven Bressler, Florida Atlantic University, United States; Charles Schroeder, Nathan Kline Psychiatric Institute, United States

09:50 MARGINALIZED PARTICLE FILTERING FOR BLIND SYSTEM IDENTIFICATION

Michael Daly, Jim Reilly, McMaster University, Canada

10:10 BAYESIAN MRF-BASED BLIND SOURCE SEPARATION OF CONVOLUTIVE MIXTURES OF IMAGES

Anna Tonazzini, ISTI- CNR, Italy; Ivan Gerace, Università di Perugia- Dip. Matematica e Informatica, Italy

[top>>](#)

SPECIAL SESSION TueAmOR6: SIMILAR Session on Multimodal Signal Processing

ORAL

SESSION ORGANIZER AND CHAIR: Jean-Philippe Thiran, Ecole Polytechnique Fédérale de Lausanne, Switzerland

08:30 A MULTIMODAL APPROACH TO EXTRACT OPTIMIZED AUDIO FEATURES FOR SPEAKER DETECTION

Patricia Besson, Murat Kunt, Torsten Butz, Jean-Philippe Thiran, Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland

08:50 IMPACT OF SAMPLE SIZES ON INFORMATION THEORETIC MEASURES FOR AUDIO-VISUAL SIGNAL PROCESSING

Ivana Arsic, Jean-Philippe Thiran, Ninoslav Marina, Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland

09:10 BIMODAL COMBINATION OF SPEECH AND HANDWRITING FOR IMPROVED WORD RECOGNITION

Pascale Woodruff, TCTS lab, FPMs, Belgium; Stéphane Dupont, Multitel ASBL, Belgium

09:30 PASSIVE VERSUS ACTIVE: VOCAL CLASSIFICATION SYSTEM

Hammal Zakia, LIS, France; Bozkurt Baris, Couvreur Laurent, Unay Devrim, SPL, FPM, Belgium; Caplier Alice, LIS, France; Dutoit Thierry, SPL, FPM, Belgium

09:50 MULTIMODAL SEGMENTATION COMBINING ACTIVE CONTOURS AND WATERSHEDS

Cédric De Roover, Université Catholique de Louvain, Belgium; Ariane Herbulot, CNRS - I3S, France; Annabelle Gouze, Université Catholique de Louvain, Belgium; Eric Debreuve, Michel Barlaud, CNRS - I3S, France; Benoit Macq, Université Catholique de Louvain, Belgium

10:10 AUDITORY EYES: REPRESENTING VISUAL INFORMATION IN SOUND AND TACTILE CUES

Suresh Matta, Heiko Rudolph, Dinesh K Kumar, Royal Melbourne Institute of Technology, Australia

[top>>](#)

SESSION TueAmPO1: Image Watermarking

POSTER

SESSION CHAIR: Ahmet M Eskicioglu, CUNY Brooklyn College, United States

VIDEO WATERMARKING FOR DIGITAL CINEMA CONTENTS

Sadi Vural, Hiromi Tomii, Hironori Yamauchi, Ritsumeikan University, Japan

DIGITAL WATERMARK TECHNIQUE FOR PROJECTIVE-DISTORTED IMAGES USING COLLINEAR POINTS

Natapon Pantuwong, Wiyada Yawai, Nopporn Chotikakamthorn, King Mongkut's Institute of Technology Ladkrabang, Thailand

RELIABLE IMAGE/VIDEO WATERMARK RETRIEVAL IN THE PRESENCE OF LOSSY COMPRESSION

Qing Chen, Indiana University-Purdue University Indianapolis, United States; Henri Maitre, Ecole Nationale Supérieure des Télécommunications, France

SAFE ROIS OF COLOR IMAGES BY INDUCTIVE DATA HIDING

Gregory Lo-Varco, William Puech, LIRMM, University of Montpellier, France

IMAGE WATERMARKING BASED ON WAVELET HARD THRESHOLDING

Mahmood Al-khassaweneh, Selin Aviyente, Michigan State University, United States

A NEW VIDEO AUTHENTICATION TEMPLATE BASED ON BUBBLE RANDOM SAMPLING

Fabrizio Guerrini, SCL- DEA University of Brescia, Italy; Riccardo Leonardi, Pierangelo Migliorati, SCL - DEA University of Brescia, Italy

SINGLE AND MULTIPLE SPREAD SPECTRUM WATERMARKING BASED ON PERIODIC CLOCK CHANGES

Vincent Martin, Marie Chabert, ENSEEIHT/IRIT, National Polytechnic Institute of Toulouse, France; Bernard Lacaze, INSA/IRIT, France

A JUST-NOTICEABLE DISTORTION (JND) PROFILE FOR BALANCED MULTIWAVELETS

Lahouari Ghouti, Ahmed Bouridane, Queen's University of Belfast, United Kingdom

WATERMARKING POLYGONAL LINES USING AN OPTIMAL DETECTOR ON THE FOURIER DESCRIPTORS DOMAIN

Victor Rodriguez-Doncel, Nikos Nikolaidis, Ioannis Pitas, Aristotle University of Thessaloniki, Greece

IMAGE MANIPULATION DETECTION WITH BINARY SIMILARITY MEASURES

Sevinc Bayram, Ismail Avciabas, Uludag University, Turkey; Bülent Sankur, Bogazici University, Turkey; Nasir Memon, Polytechnic University, United States

[top>>](#)

SESSION TueAmPO2: Statistical Signal Processing (Poster I)**POSTER**

SESSION CHAIR: Yasemin Yardimci, Middle East Technical University, Turkey

LINE SPECTRAL PROPERTIES OF QUADRATIC MODELS

Tom Bäckström, Helsinki University of Technology, Finland

ENHANCED LINE SEARCH : A NOVEL METHOD TO ACCELERATE PARAFAC

Myriam Rajih, I3S - UNSA/CNRS, France; Pierre Comon, I3S - CNRS, France

HOS-BASED MULTI-COMPONENT FREQUENCY ESTIMATION

Maciej Pedzisz, Ali Mansour, ENSIETA, France

CANONICAL CORRELATION ANALYSIS (CCA) ALGORITHMS FOR MULTIPLE DATA SETS: APPLICATION TO BLIND SIMO EQUALIZATION

Javier Vía, Ignacio Santamaría, Jesús Pérez, University of Cantabria, Spain

SNR IN WSS JITTERED SAMPLED SIGNAL

Ehsan Arbabi, Mohammad Bagher Shamsollahi, Sharif University of Technology, Iran

BAYESIAN MAXIMUM A POSTERIOR DOA ESTIMATOR BASED ON GIBBS SAMPLING

Jianguo Huang, Xiong Li, Qunfei Zhang, Northwestern Polytechnical University, China

BLIND SEPARATION OF BINAURAL SOUND MIXTURES USING SIMO-ICA WITH SELF-GENERATOR FOR INITIAL FILTER

Tomoya Takatani, Satoshi Ukai, Tsuyoki Nishikawa, Hiroshi Saruwatari, Kiyohiro Shikano, Nara Institute of Science and Technology, Japan

IMPROVED BEARING ESTIMATION IN OCEAN BY NONLINEAR WAVELET DENOISING UNDER NON-GAUSSIAN NOISE CONDITIONS

Pramod N C, Anand G V, Indian Institute of Science, India

MULTIPATH CHANNEL ESTIMATION VIA THE MPM ALGORITHM

Olivier Rabaste, Thierry Chonavel, ENST Bretagne, France

BLIND SOURCE SEPARATION OF NOISY MIXTURES USING A SEMI-PARAMETRIC APPROACH WITH

APPLICATION TO HEAVY-TAILED SIGNALS

Mohamed Sahmoudi, Karim Abed-Meraim, Telecom Paris, France; Marc Lavielle, Estelle Kuhn, Université Paris-Sud, France; Phillip Ciblat, Telecom Paris, France

ADAPTIVE COMMON ROOT ESTIMATION AND THE COMMON ZEROS PROBLEM IN BLIND CHANNEL IDENTIFICATION

Nikolay Gaubitch, Imperial College London, United Kingdom; Jacob Benesty, Université du Québec, INRS-EMT, Canada; Patrick Naylor, Imperial College London, United Kingdom

TWO-STAGE BLIND SOURCE SEPARATION COMBINING SIMO-MODEL-BASED ICA AND ADAPTIVE BEAMFORMING

Hiroshi Saruwatari, Satoshi Ukai, Tomoya Takatani, Tsuyoki Nishikawa, Kiyohiro Shikano, Nara Institute of Science and Technology, Japan

A NEW METHOD FOR ESTIMATING SCORE FUNCTION DIFFERENCE (SFD) AND ITS APPLICATION TO BLIND SOURCE SEPARATION

Bahman Bahmani, Massoud Babaie-Zadeh, Sharif University of Technology, Iran; Christian Jutten, INPG, France

INDEPENDENT COMPONENT ANALYSIS WITH OPTIMIZED PAIRWISE PROCESSING

Vicente Zarzoso, The University of Liverpool, United Kingdom; Juan J. Murillo-Fuentes, Rafael Boloix-Tortosa, Universidad de Sevilla, Spain; Asoke K. Nandi, The University of Liverpool, United Kingdom

THREE-DIMENSIONAL AUTOREGRESSIVE PARAMETER ESTIMATION FROM NOISY DATA

Youssef Stitou, LAPS - Université Bordeaux1, France; Marc Donias, LAPS - ENSEIRB, France; Brahim Aksasse, Département informatique - FTS - Errachidia, Morocco

A SUBSPACE METHOD FOR THE BLIND EXTRACTION OF A CYCLOSTATIONARY SOURCE

Roger Boustany, Jérôme Antoni, University of Technology of Compiègne, France

10:50-12:50

[top>>](#)

SESSION TueAmOR7: Multicarrier Systems and OFDM**ORAL**

SESSION CHAIR: Tricia Willink, Communications Research Centre, Canada

10:50 PILOT-SYMBOL-AIDED ITERATIVE CHANNEL ESTIMATION FOR OFDM-BASED SYSTEMS

Berna Ozbek, Didier Le Ruyet, Cristiano Panazio, CNAM, France

11:10 WINDOWING TECHNIQUES FOR ICI MITIGATION IN MULTICARRIER SYSTEMS

Luca Rugini, Paolo Banelli, University of Perugia - DIEI, Italy

11:30 DHT-BASED FREQUENCY-DOMAIN EQUALIZER FOR DMT SYSTEMS

Chih-Feng Wu, Muh-Tian Shiue, Chrong-Kuang Wang, National Taiwan University, Taiwan

11:50 ON THE PERFORMANCE OF STANDARD-INDEPENDENT I/Q IMBALANCE COMPENSATION IN OFDM DIRECT-CONVERSION RECEIVERS

Marcus Windisch, Gerhard Fettweis, Technische Universität Dresden, Germany

12:10 LOW-COMPLEXITY METHOD FOR PAPR REDUCTION IN OFDM BASED ON FRAME EXPANSION PARAMETER SELECTION

Lucia Valbonesi, Rashid Ansari, University of Illinois at Chicago, United States

12:30 LOW COMPLEXITY ITERATIVE METHOD OF SIGNAL DETECTION IN OFDM

Sajid Ahmed, Mathini Sellathurai, Cardiff University, United Kingdom; Sangarapillai Lambotharan, Kings Collage London, United Kingdom; Jonathon Chambers, Cardiff University, United Kingdom

[top>>](#)

SESSION TueAmOR8: Image Registration and Motion Estimation

ORAL

SESSION CHAIR: Yehoshua Zeevi, Technion, Israel

10:50 TEMPORAL DETECTION AND PROCESSING OF TRANSPARENT OVERLAYS FOR VIDEO INDEXING AND ENHANCEMENT

Ahmet Ekin, Radu Jasinschi, Philips Research, Netherlands

11:10 GRAPH-THEORETIC IMAGE REGISTRATION USING PRIOR EXAMPLES

Mert Sabuncu, Peter Ramadge, Princeton University, United States

11:30 ESTIMATION OF TRANSPARENT MOTIONS WITH PHYSICAL MODELS FOR ADDITIONAL BRIGHTNESS VARIATION

Hanno Scharr, Forschungszentrum Jülich, Germany; Ingo Stuke, Cicero Mota, Erhardt Barth, Lübeck University, Germany

11:50 MULTIREOLUTION MOTION ESTIMATION FOR OMNIDIRECTIONAL IMAGES

Ivana Tomic, Iva Bogdanova, Pascal Frossard, Pierre Vandergheynst, EPFL, Switzerland

12:10 COMPLEX DISCRETE WAVELET TRANSFORM BASED MOTION ESTIMATION FOR VISION-BASED TRACKING OF TARGETS

Sener Yilmaz, Aselsan Inc., Turkey; Mete Severcan, Middle East Technical University, Turkey

12:30 3D CUBE VIDEO CODING USING PHASE-BASED MOTION ESTIMATION AND EZW-IP CODER

Kiyohiro Uemura, Masaaki Ikehara, Keio University, Japan

[top>>](#)

SESSION TueAmOR9: Image and Video Filtering

ORAL

SESSION CHAIR: Joel Trussell, North Carolina State University, United States

10:50 A NEW METHOD FOR SUPPRESSING OPTICAL TURBULENCE IN VIDEO

Dalong Li, Russell. M Mersereau, David H. Frakes, Georgia Institute of Technology, United States; Mark J. T. Smith, Purdue University, United States

11:10 LOW COMPLEXITY TWO CLASSES GAUSS WEIGHTING FILTER FOR NOISE REDUCTION IN MOBILE RECEIVED ANALOG TV SIGNALS

Markus Friebe, André Kaup, University of Erlangen-Nuremberg, Germany

11:30 FULL OCCLUSION MANAGEMENT FOR WAVELET-BASED VIDEO CODING

Thomas André, Marc Antonini, Michel Barlaud, I3S Laboratory - CNRS - University of Nice, France

11:50 AUTOMATIC TV LOGO REMOVAL USING STATISTICAL BASED LOGO DETECTION AND FREQUENCY SELECTIVE INPAINTING

Katrin Meisinger, Tobias Troeger, Marcus Zeller, André Kaup, University of Erlangen-Nuremberg, Germany

12:10 IMPROVED FREQUENCY DOMAIN SUPER-RESOLUTION ALGORITHM WITH CONJUGATE GRADIENT – NUFFT METHOD AS ITS RECONSTRUCTION CORE

Krzysztof Malczewski, Ryszard Stasinski, Poznan University of Technology, Poland

12:30 CLASSIFICATION BASED DATA MIXING FOR HYBRID DE-INTERLACING TECHNIQUES

Meng Zhao, Technische Universiteit Eindhoven, Netherlands; Calina Ciuhu, Philips Research Laboratories Eindhoven, Netherlands; Gerard de Haan, Philips Research Laboratories Eindhoven, Technische Universiteit Eindhoven, Netherlands

[top>>](#)

SPECIAL SESSION TueAmOR10: NEWCOM Session on the Advanced Signal Processing Algorithms for Wireless Communications (II)

ORAL

SESSION ORGANIZERS AND CHAIRS: Erdal Panayirci, Isik University, Turkey; Hakan Ali Cirpan, Istanbul University, Turkey

10:50 MULTI-RELAY STRATEGY FOR IMPERFECT CHANNEL INFORMATION IN SENSOR NETWORKS
Nima Khajehnouri, Ali H. Sayed, UCLA, United States

11:10 EVOLUTIONARY WIENER-MASK RECEIVER FOR MULTIUSER DIRECT SEQUENCE SPREAD SPECTRUM
Abdullah A. Alshehri, Jeddah College of Technology, Saudi Arabia; Luis F. Chaparro, University of Pittsburgh, United States; Aydin Akan, Istanbul University, Turkey

11:30 A SUBSPACE METHOD FOR CHANNEL ESTIMATION IN SOFT-ITERATIVE RECEIVERS
Monica Barbara Nicoli, Umberto Spagnolini, Politecnico di Milano, Italy

11:50 APPROXIMATE BEST LINEAR UNBIASED CHANNEL ESTIMATION WITH CFAR THRESHOLDING FOR FREQUENCY SELECTIVE SPARSE MULTIPATH CHANNELS WITH LONG DELAY SPREADS
Serdar Özen, Izmir Institute of Technology, Turkey

12:10 HMM-BASED TRACKING OF MOVING TERMINALS IN DENSE MULTIPATH INDOOR ENVIRONMENTS
Monica Barbara Nicoli, Carlo Morelli, DEI - Politecnico di Milano, Italy; Vittorio Rampa, CNR - Politecnico di Milano, Italy; Umberto Spagnolini, DEI - Politecnico di Milano, Italy

[top>>](#)

SPECIAL SESSION TueAmOR11: Novel Directions in Information Theoretic Approaches to Source Separation and Estimation

ORAL

SESSION ORGANIZERS AND CHAIRS: Massoud Babaie-Zadeh, Sharif University of Technology, Iran; Christian Jutten, INPG, France

10:50 CAN WE ALWAYS TRUST ENTROPY MINIMA IN THE ICA CONTEXT ?
Frédéric Vrins, John Aldo Lee, Michel Verleysen, Université catholique de Louvain, Belgium

11:10 MUTUAL INFORMATION AND QUADRATIC DEPENDENCE FOR POST NONLINEAR BLIND SOURCE SEPARATION
Sophie Achard, University of Cambridge, United Kingdom; Christian Jutten, INPG, France; Dinh Tuan Pham, CNRS, France

11:30 ICA BY MUTUAL INFORMATION MINIMIZATION: AN APPROACH FOR AVOIDING LOCAL MINIMA
Massoud Babaie-Zadeh, Bahman Bahmani, Sharif University of technology, Iran; Christian Jutten, LIS, INPG, France

11:50 COMPLEX ICA FOR CIRCULAR AND NON-CIRCULAR SOURCES
Jan Eriksson, Helsinki University of Technology, Finland

12:10 MUTUAL INFORMATION APPROACH TO BLIND SEPARATION-DECONVOLUTION
Dinh-Tuan Pham, Laboratoire de Modélisation et Calcul, CNRS, France

12:30 MULTIDIMENSIONAL INDEPENDENT COMPONENT ANALYSIS USING CHARACTERISTIC FUNCTIONS
Fabian Joachim Theis, University of Regensburg, Germany

[top>>](#)

SPECIAL SESSION TueAmOR12: Partial Update Adaptive Filters and Sparse Systems

ORAL

SESSION ORGANIZERS AND CHAIRS: Kutluyil Dogancay, University of South Australia, Australia; Patrick Naylor, Imperial College, United Kingdom

10:50 RECENT ADVANCES IN PARTIAL UPDATE AND SPARSE ADAPTIVE FILTERS
Kutluyil Dogancay, University of South Australia, Australia; Patrick A. Naylor, Imperial College, United Kingdom

11:10 A SET-MEMBERSHIP APPROACH TO NORMALIZED PROPORTIONATE ADAPTATION ALGORITHMS

Stefan Werner, HUT, Finland; Jose Apolinario, IME, Brazil; Paulo Diniz, COPPE/UFRJ, Brazil; Timo Laakso, HUT, Finland

11:30 DATA-DEPENDENT PARTIAL UPDATE ADAPTIVE ALGORITHMS FOR LINEAR AND NONLINEAR SYSTEMS

Tyseer Aboulnasr, Qiongfeng Pan, University of Ottawa, Canada

11:50 A NEW MULTI-ALGORITHM APPROACH TO SPARSE SYSTEM ADAPTATION

Ashrith Deshpande, Steven L. Grant, University of Missouri -- Rolla, United States

12:10 AN IMPROVED PROPORTIONATE MULTI-DELAY BLOCK ADAPTIVE FILTER FOR PACKET-SWITCHED NETWORK ECHO CANCELLATION

Andy Khong, Imperial College London, United Kingdom; Jacob Benesty, Universite du Quebec, INRS-EMT, Canada; Patrick Naylor, Imperial College London, United Kingdom

12:30 DOA-DETECTION GUIDED NLMS ADAPTIVE ARRAY

John Homer, University of Queensland, Australia; Peter Kootsookos, United Technologies Research Center, United States; Vigneswaran Selvaraju, Hatch Associates, Australia

[top>>](#)

SESSION TueAmPO3: Biomedical Signal Processing

POSTER

SESSION CHAIR: Ziya Telatar, Ankara University, Turkey

DIAGNOSTIC ANALYSIS USING TEXTURAL FEATURES OF THE LACHRYMAL FLUID CRYSTAL IMAGES

Alexander Kupriyanov, Nataly Ilyasova, Alexander Malapheyev, Image Processing Systems Institute of Russian Academy of Sciences, Russian Federation

AUTOMATED CLASSIFICATION OF FLUORESCENT IN SITU CASES

Francesco Raimondo, Marios Gavrielides, Artificial Intelligence & Information Analysis Laboratory of Thessaloniki, Greece; Georgia Karayannopoulou, Ioannis Kostopoulos, Kleoniki Lyroudia, Aristotelio University of Thessaloniki, Greece; Ioannis Pitas, Artificial Intelligence & Information Analysis Laboratory of Thessaloniki, Greece

WEANING FROM MECHANICAL VENTILATION: FEATURE EXTRACTION FROM A STATISTICAL SIGNAL PROCESSING VIEWPOINT

Pablo Casaseca-de-la-Higuera, Rodrigo de-Luis-García, Federico Simmross-Wattenberg, Carlos Alberola-López, Laboratorio de Procesado de Imagen. ETSI Telecomunicación. Universidad de Valladolid., Spain

ABOUT IMPORTANCE OF POSITIVITY CONSTRAINT FOR SOURCE SEPARATION IN FLUORESCENCE SPECTROSCOPY

Cyril Gobinet, Abdelkamel Elhafid, Valeriu Vrabie, Régis Huez, Danielle Nuzillard, CRESTIC, France

BLIND SEPARATION OF TISSUES IN MULTI-MODAL MRI USING SPARSE COMPONENT ANALYSIS

Alexander Bronstein, Michael Bronstein, Michael Zibulevsky, Yehoshua Zeevi, Technion - Israel Institute of Technology, Israel

MEDICAL IMAGES REGISTRATION WITH A HIERARCHICAL ATLAS

Nawal Houhou, Ecole Polytechnique Fédérale de Lausanne, Switzerland

NAVIGATION SYSTEM FOR BRONCHOFIBEROSCOPIC PROCEDURES BASED ON IMAGE REGISTRATION WITH SCALE ADAPTIVE IMAGE SIMILARITY MEASURE

Pawel Turcza, AGH University of Science and Technology, Poland

IMAGE ANALYSIS AND SEGMENTATION OF ANATOMICAL FEATURES OF CERVIX UTERI IN COLOR SPACE

Vlara Van Raad, STI - Medical Systems, United States

ON A COMPRESSION ALGORITHM FOR ECG SIGNALS

Catalina Monica Fira, Liviu Goras, "Gh. Asachi" Technical University, Romania

VARIABLE BANDWIDTH MEAN SHIFT FOR SMOOTHING ULTRASONIC IMAGES

Thomas Grenier, Franck Davignon, Chantal Muller, Olivier Basset, Gérard Gimenez, CREATIS, France

[top>>](#)

SESSION TueAmPO4: Statistical Signal Processing (Poster II)

POSTER

SESSION CHAIR: Aysin Ertuzun, Boğaziçi University, Turkey

OPTIMIZATION OF NONUNIFORM PLANAR ARRAY GEOMETRY FOR DIRECTION OF ARRIVAL ESTIMATION

Toygar Birinci, Yalçın Tanik, Middle East Technical University, Turkey

LOCALIZATION OF SOURCES RADIATING ON A LARGE ANTENNA

Miloud Frikel, GREYC, France

IMPROVING ALIGNMENT OF NOISY SIGNALS USING AN ITERATIVE ZERO PHASE METHOD

Roberto Gil-Pita, Manuel Rosa-Zurera, Raúl Vicen-Bueno, Manuel Utrilla-Manso, Universidad de Alcalá, Spain

TIME-FREQUENCY ESTIMATION IN THE COSPAS/SARSAT SYSTEM USING ANTENNA ARRAYS: VARIANCE BOUNDS AND ALGORITHMS

Carles Fernández Prades, Pau Closas Gómez, Juan A. Fernández Rubio, Universitat Politècnica de Catalunya (UPC), Spain

CUBIC PHASE COUPLING ESTIMATION VIA TRISPECTRUM AUTORREGRESIVE MODELLING

Diego P. Ruiz, University of Granada, Spain

FAULT DETECTION TECHNIQUES ANALYSIS AND DEVELOPMENT OF ITS PROCEDURAL PHASES

H. Mokhneche Ryadh, Maaref Hichem, Vigneron Vincent, Laboratoire Systèmes Complexes, France

FREE-FORM PLANAR CURVE TRACKING USING RELATED POINTS

Burak Yondem, Mustafa Unel, Aytul Ercil, Sabanci University, Turkey

OPTIMAL HANKEL-NORM APPROXIMATION OF IIR BY FIR SYSTEMS

Li Chai, Jingxin Zhang, Monash University, Australia; Cisheng Zhang, Nanyang Technological University, Australia; Edoardo Mosca, University di Firenze, Italy

ASYMPTOTICALLY MINIMUM VARIANCE ESTIMATOR IN THE SINGULAR CASE

Jean Pierre Delmas, Habti Abeida, Institut National des Télécommunications, France

REMOVAL OF THE PHASE NOISE IN THE AUTOCORRELATION ESTIMATES WITH DATA WINDOWING

Mustafa A Altinkaya, Izmir Institute of Technology, Turkey; Emin Anarim, Bülent Sankur, Bogazici University, Turkey

PERFORMING DIMENSIONALITY REDUCTION OF NONSTATIONARY STOCHASTIC PROCESSES USING PERTURBATION ANALYSIS

V. Vigneron, H. Maaref, CNRS, France

THE INFLUENCE OF A SINGLE-TONE SINUSIOD OVER HURST ESTIMATORS

Suleyman Baykut, Tolga Esat Ozkurt, Melike Erol, Tayfun Akgül, Istanbul Technical University, Turkey

14:00-14:50

PLENARY LECTURE:

EC PROGRAMS IN SIGNAL PROCESSING: FP6 AND BEYOND, Eric Badique, European Commission

7 September 2005, Wednesday

08:30-10:30

[top>>](#)

SESSION WedAmOR1: Nonstationary Signal Processing

ORAL

SESSION CHAIR: Aydin Akan, Istanbul University, Turkey

08:30 MULTI-COMPONENT SIGNAL DENOISING USING UNITARY TIME-FREQUENCY TRANSFORMS

Arnaud Jarrot, Cornelia Ioana, André Quinquis, E3I2 Laboratory, ENSIETA, France; Jean-Claude Le Gac, GESMA, France

08:50 ON THE ESTIMATION OF NON-STATIONARY FUNCTIONAL SERIES TARMA MODELS

Aggelos Poulimenos, Fassois Spiliotis D., University of Patras, Greece

09:10 MULTITAPER SPECTRAL ESTIMATION: A GENERALIZED WINDOWS APPROACH

Nurgün Erdöl, Florida Atlantic University, United States

09:30 IS PCA RELIABLE FOR THE ANALYSIS OF FRACTIONAL BROWNIAN MOTION?

Tolga Esat Özkurt, Tayfun Akgül, Istanbul Technical University, Turkey

09:50 MULTICOMPONENT SIGNAL: LOCAL ANALYSIS AND ESTIMATION

Meryem Jabloun, Nadine Martin, Michelle Vieira, LIS Laboratoire des Images et des Signaux, France; Francois Leonard, Institut Hydro Quebec, Canada

10:10 A COMPARATIVE STUDY OF SOME TIME-FREQUENCY DISTRIBUTIONS USING RENYI CRITERION

Daoud Boutana, University of Jijel, Algeria; F. Marir, University of Constantine, Algeria; M. Benidir, Laboratoire des Signaux et Systèmes, Supelec, France; B. Barkat, School of Electrical and Electronic Engineering, Singapore

[top>>](#)

SESSION WedAmOR2: MIMO and Space-Time Processing

ORAL

SESSION CHAIR: Mutlu Koca, Boğaziçi University, Turkey

08:30 BLIND DIFFERENTIAL SCHEMES FOR CDMA ON DISPERSIVE MIMO CHANNELS

Emanuele Grossi, Marco Lops, Luca Venturino, University of Cassino, Italy

08:50 CONSTANT NORM ALGORITHMS FOR MIMO COMMUNICATION SYSTEMS

Aissa Ikhlef, Daniel Le Guennec, Jacques Palicot, Supelec, France

09:10 BLIND LAYERED SPACE-TIME EQUALIZATION FOR MIMO OFDM SYSTEMS

Luciano Sarperi, Xu Zhu, Asoke K. Nandi, The University of Liverpool, United Kingdom

09:30 SMART CANDIDATE ADDING: A NEW LOW-COMPLEXITY APPROACH TOWARDS NEAR-CAPACITY MIMO DETECTION

Patrick Marsch, Ernesto Zimmermann, Gerhard Fettweis, TU Dresden, Vodafone Chair, Germany

09:50 ADAPTIVE LAYERED SPACE-FREQUENCY EQUALIZATION FOR SINGLE-CARRIER MIMO SYSTEMS

Ye Wu, Xu Zhu, The University of Liverpool, United Kingdom; Asoke.K Nandi, The University of Liverpool, United Kingdom

10:10 ORTHOGONALIZATION OF QUASI-ORTHOGONAL SPACE-TIME BLOCK CODES IN MULTIPATH FADING ENVIRONMENTS BY USING FEEDBACK

Cenk Toker, Sangarapillai Lambotharan, King's College London, United Kingdom; Jonathon A. Chambers, Cardiff University, United Kingdom

[top>>](#)

SESSION WedAmOR3: Image Coding

ORAL

SESSION CHAIR: Gözde Bozdağı, Middle East Technical University, Turkey

08:30 DISTRIBUTED SOURCE CODING OF STILL IMAGES

Cagatay Dikici, Radhouane Guermazi, Khalid Idrissi, Atilla Baskurt, INSA de Lyon, France

08:50 QUALITY ESTIMATION IN WAVELET IMAGE CODING

Abla Kourzi, Danielle Nuzillard, Gilles Millon, Frédéric Nicolier, CReSTIC, France

09:10 EDGE ADAPTED WAVELET TRANSFORM FOR IMAGE COMPRESSION

Fikri Goksu, Ahmed H. Tewfik, University of Minnesota, United States

09:30 PERFECT RECONSTRUCTION IN REDUCED REDUNDANCY WAVELET-BASED MULTIPLE DESCRIPTION CODING OF IMAGES

Teodora Petrisor, Beatrice Pesquet-Popescu, ENST Paris, France; Jean-Christophe Pesquet, Institut Gaspard Monge, Université Marne la Vallée, France

09:50 A PRACTICAL SOLUTION TO TRANSFORM-DOMAIN ROUNDING

Chen Chen, Ping-Hao Wu, Homer Chen, National Taiwan University, Taiwan

10:10 HIERARCHICAL SECRET IMAGE SHARING METHOD USING JPEG 2000 CODESTREAM SYNTAX

Masayuki Hashimoto, Kenji Matsuo, Atsushi Koike, KDDI R&D Laboratories Inc., Japan; Yoriyuki Minami, Tokyo University of Science, Japan

[top>>](#)

SESSION WedAmOR4: Detection and Estimation

ORAL

SESSION CHAIR: Pierre Moulin, University of Illinois at Urbana-Champaign, USA

08:30 FREQUENCY OFFSET ESTIMATION BASED ON PHASE OFFSETS BETWEEN SAMPLE CORRELATIONS

Ivan Perisa, University of Ulm, Germany

08:50 GPS/GNSS RESIDUAL ANALYSIS VIA COMPETITIVE-GROWTH MODELING OF IONOSPHERE DYNAMICS

Kohji Kamejima, Osaka Institute of Technology, Japan

09:10 MAXIMUM A POSTERIORI ESTIMATION OF RADAR CROSS SECTION IN SAR IMAGES USING THE HEAVY-TAILED RAYLEIGH MODEL

Alin Achim, University of Bristol, United Kingdom; Ercan Kuruoglu, ISTI-CNR, Italy; Josiane Zerubia, INRIA, France

09:30 A PROBABILISTIC APPROACH TO BOUNDARY HANDLING

Anil Anthony Bharath, Jeffrey Ng, Imperial College London, United Kingdom

09:50 ROBUST DECONVOLUTION OF NOISY SIGNALS

Yonina Eldar, Technion, Israel

10:10 DETECTION AND TRACKING OF NON-STATIONARY TRANSIENT SIGNALS BASED ON THE INNOVATIONS FILTER

Maciej Lopatka, University of Paris XII and Wrocław University of Technology, France; Olivier Adam, Christophe Laplanche, Jean-François Motsch, University of Paris XII, France; Jan Zarzycki, Wrocław University of Technology, Poland

[top>>](#)

SPECIAL SESSION WedAmOR5: Methods to Improve and Measures to Assess Visual Quality of Images and Video

ORAL

SESSION ORGANIZERS AND CHAIRS: Ahmet Ekin, Philips, Netherlands; Radu Jasinschi, Philips, Netherlands

08:30 A NO-REFERENCE BLOCKING ARTIFACT MEASURE FOR ADAPTIVE VIDEO PROCESSING

Remco Muijs, Ihor Kirenko, Philips Research Eindhoven, Netherlands

08:50 CLOSED-LOOP VIDEO PROCESSING FOR OBJECTIVE QUALITY OPTIMIZATION

Jorge Caviedes, Ali Walid, Intel Corporation, United States

09:10 QUALITY ISSUES FOR RESOURCE CONSTRAINED SCALABLE VIDEO ALGORITHMS

Christian Hentschel, University of Technology Cottbus, Germany

09:30 QUALITY ENHANCEMENT IN STANDARD COMPLIANT FRAME RATE UP CONVERSION BY MOTION SMOOTHING

Gokce Dane, Truong Nguyen, University of California, San Diego, United States

09:50 VISUAL QUALITY ASSESSMENT OF LENTICULAR BASED 3D-DISPLAYS

Ralph Braspenning, Philips Research, Netherlands; Eric Brouwer, Eindhoven University of Technology, Netherlands; Gerard de Haan, Philips Research, Eindhoven University of Technology, Netherlands

10:10 EVALUATION OF THE QUALITY OF ULTRASOUND IMAGE COMPRESSION BY FUSION OF CRITERIA WITH A SUPPORT VECTOR MACHINE

Delgorte Cecile, Rosenberger Christophe, Laboratoire Vision & Robotique, France; Rakotomamonjy Alain, Laboratoire Perception Systèmes et Informations, France; Poisson Gérard, Vieyres Pierre, Laboratoire Vision & Robotique, France

[top>>](#)

SPECIAL SESSION WedAmOR6: Recent Advances in Restoration of Audio

ORAL

SESSION ORGANIZERS AND CHAIRS: James Hopgood, University of Edinburgh, United Kingdom; Simon Godsill, University of Cambridge, United Kingdom

08:30 PROBABILISTIC PHASE VOCODER AND ITS APPLICATION TO INTERPOLATION OF MISSING VALUES IN AUDIO SIGNALS

Ali Taylan Cemgil, Simon J. Godsill, University of Cambridge, United Kingdom

08:50 MODELS FOR BLIND SPEECH DEREVERBERATION: A SUBBAND ALL-POLE FILTERED BLOCK STATIONARY AUTOREGRESSIVE PROCESS

James Hopgood, The University of Edinburgh, United Kingdom

09:10 KALMAN FILTERING BASED NOISE POWER SPECTRAL DENSITY ESTIMATION FOR SPEECH ENHANCEMENT

Ivo Batina, Jesper Jensen, Richard Heusdens, TU Delft, Netherlands

09:30 A NEW METHOD FOR SEPARATION OF SPEECH SIGNALS IN CONVOLUTIVE MIXTURES

Mahmood Ferdosizadeh, Massoud Babaei-zadeh, Farrokh A.Marvasti, Sharif University of Technology, Iran

09:50 BLOCK-BASED SPEECH BANDWIDTH EXTENSION SYSTEM WITH SEPERATED ENVELOPE ENERGY RATIO ESTIMATION

Sheng Yao, Cheung-Fat Chan, City University of Hong Kong, Hong Kong

10:10 A SINGLE-MICROPHONE APPROACH FOR SPEECH SIGNAL DEREVERBERATION

Fernando Pacheco, Rui Seara, Federal University of Santa Catarina, Brazil

[top>>](#)

SESSION WedAmPO1: Adaptive Filters

POSTER

SESSION CHAIR: Aysin Ertuzun, Boğaziçi University, Turkey

ADAPTIVE LAGUERRE-VOLTERRA FILTERS OPTIMIZATION BASED ON LAGUERRE SPECTRA

Gérard Favier, Alain Yuwa Kibangou, Laboratoire I3S-CNRS-UNSA, France; Moha Hassani, LEI-FSSM-UCAM, Morocco

RFI CANCELLATION IN VDSL SYSTEMS USING A NOVEL COMPLEX

Fernando Hugo Gregorio, Helsinki University of Technology, Finland; Juan Edmundo Cousseau, Universidad Nacional del Sur, Argentina; Timo Laakso, Helsinki University of Technology, Finland

SET THEORETIC ADAPTIVE FILTERING: USING PERIODOGRAM AND PROJECTIONS ONTO CONVEX SETS.

Leonardo Rey Vega, Sara Tressens, Hernán Rey, Universidad de Buenos Aires, Argentina

FULLY AND PARTIALLY INTERPOLATED ADAPTIVE VOLTERRA FILTERS

Eduardo Batista, Orlando Tobias, Rui Seara, Federal University of Santa Catarina, Brazil

SQUARE-ROOT FORM BASED DERIVATION OF A NOVEL NLMS-LIKE ADAPTIVE FILTERING ALGORITHM

Mounir Bhouri, ISIMM, Tunisia

ON CONVEX VARIABLE STEP-SIZE ALGORITHM IMPLEMENTATION

Corneliu Rusu, Tampere University of Technology, Finland; Colin Cowan, Queen's University of Belfast, United Kingdom

TRACKING ANALYSIS OF VARIABLE XE-NLMF ALGORITHM IN THE PRESENCE OF BOTH RANDOM AND CYCLIC NONSTATIONARITIES

Muhammad Moinuddin, Azzedine Zerguine, KFUPM, Saudi Arabia

NEW DIRECT MULTICHANNEL ACTIVE NOISE CONTROL BY FREQUENCY-DOMAIN APPROACH

Masaki Kamata, Akira Sano, Keio University, Japan

A SYNCHRONIZED LEARNING ALGORITHM FOR NONLINEAR PART IN A LATTICE PREDICTOR BASED ADAPTIVE VOLTERRA FILTER

Kenji Nakayama, Akihiro Hirano, Hiroaki Kashimoto, Kanazawa University, Japan

[top>>](#)

SESSION WedAmPO2: Multirate filtering and filter banks

POSTER

SESSION CHAIR: Lutfiye Durak, KAIST, South Korea

MINIMUM-PHASE FIR FILTER DESIGN USING REAL CEPSTRUM

Soo-Chang Pei, Huei-Shan Lin, National Taiwan University, Taiwan

DESIGN OF UNEQUAL-LENGTH LINEAR-PHASE FILTER BANKS WITHOUT REDUNDANCY

Yuichi Tanaka, Akihiro Ochi, Masaaki Ikehara, Keio University, Japan

DESIGN OF CHANNEL-RESILIENT DFT BANK TRANSCEIVERS

Tzung-Hwui Luo, Chih-Hao Liu, See-May Phoong, National Taiwan University, Taiwan; Yuan-Pei Lin, National Chiao-Tung University, Taiwan

SPECIAL LOW-ORDER IIR FILTER BANK DESIGN

Zhisheng Duan, Peking University, China; Jingxin Zhang, Monash University, Australia; Cishen Zhang, Nanyang Technological University, Singapore; Edorado Mosca, Università di Firenze, Italy

PERFORMANCE OF NOISE-SHAPING IN OVERSAMPLED FILTER BANKS

Tania Leppert, Fabrice Labeau, Peter Kabal, McGill University, Canada

FREQUENCY SAMPLING DESIGN OF ARBITRARY LENGTH FILTERS FOR FILTER BANKS AND DISCRETE SUBBAND MULTITONE TRANSCEIVERS

Fernando Cruz-Roldán, Manuel Blanco-Velasco, Ángel M. Bravo, Dep. de Teoría de la Señal y Comunicaciones (UA), Spain; Juan Ignacio Godino-Llorente, Dep. de Ingeniería de Circuitos y Sistemas (UPM), Spain; Ignacio Santamaría-Caballero, Departamento de Ingeniería de Comunicaciones, Spain

EFFICIENT NON-UNIFORM FILTER-BANK EQUALIZER

Heinrich Wilhelm Löllmann, Peter Vary, IND, RWTH Aachen University, Germany

JOINT OVERSAMPLING FDM DEMULTIPLEXING AND PERFECTLY RECONSTRUCTING SBC FILTER BANK FOR TWO CHANNELS

Heinz G. Göckler, Mohammed N. Abdulazim, Ruhr-Universität Bochum, Germany

MULTIRATE LINEAR PREDICTION

Charles Therrien, Naval Postgraduate School, United States

FAST NEURAL NETWORKS FOR PATTERN DETECTION USING 2D-FFT

Hazem Mokhtar Mokhtar EL-Bakry, Faculty of Computer Science & Information Systems - Mansoura University, Egypt

THE OPTIMAL DIRECT DESIGN OF BANDPASS WAVE DIGITAL LADDER FILTERS FOR DISTINCTLY SPECIFIED AMPLITUDES IN THE TWO STOPBANDS

Mohamed Yaseen, University of Assiut, Egypt

EFFICIENT BIT ALLOCATION FOR HIGH QUALITY SUBBAND CODING USING NON-SELECTIVE FILTER BANKS UNDER QUANTIZATION NOISE CONSTRAINTS

Manuel Rosa-Zurera, Miguel Angel López-Carmona, Enrique Alexandre-Cortizo, Roberto Gil-Pita, Universidad de Alcalá, Spain

QUATERNIONIC APPROACH TO 8-CHANNEL GENERAL PARAUNITARY FILTER BANK

Marek Parfieniuk, Alexander Petrovsky, Bialystok Technical University, Poland

10:50-12:50

[top>>](#)

SESSION WedAmOR7: Filter Design and Structures

ORAL

SESSION CHAIR: T. Engin Tuncer, Middle East Technical University, Turkey

10:50 REDUCING NON-ZERO COEFFICIENTS IN FIR FILTER DESIGN USING POCS

H. Joel Trussell, NC state university, United States; David M. Rouse, NC State University, United States

11:10 EFFICIENT ECG BACKGROUND NORMALIZATION

Mohammad Hossein Sedaaghi, Sahand University of Technology, Iran

11:30 A NEW SHARPENED CASCADED COMB-COSINE DECIMATION FILTER

Gordana Jovanovic-Dolecek, INAOE, Mexico; Sanjit Mitra, UCSB, United States

11:50 CLOSED-FORM DESIGN OF DIGITAL FRACTIONAL-DELAY FILTERS WITH CONSTANT MAGNITUDE AND VARIABLE DELAY

Zhang Xiaojing, Timo Laakso, Martin Makundi, Signal Processing Laboratory, Helsinki University of Technology, Finland

12:10 ONE METHOD FOR IIR FILTER DESIGN BASED ON COMPLEX ALLPASS FILTERS

Alfonso Fernandez-Vazquez, Gordana Jovanovic-Dolecek, INAOE, Mexico

12:30 MODIFIED HERMITE FUNCTIONS FOR DESIGNING NEW OPTIMAL UWB PULSE-SHAPERS

Mourad Ouertani, Sys'Com Lab, ENIT, Tunisia; Hichem Besbes, Reseach Unit TECHTRA, SupCom, Tunisia; Ammar Bouallegue, Sys'Com Lab, ENIT, Tunisia

[top>>](#)

SPECIAL SESSION WedAmOR8: Space-Time Coding, MIMO Systems and Beamforming

ORAL

SESSION ORGANIZER AND CHAIR: Abbas Yongacoglu, University of Ottawa, Canada

10:50 AN EFFICIENT SVD UPDATE ALGORITHM AND APPLICATIONS TO MIMO COMMUNICATIONS

Tricia Willink, Communications Research Centre, Canada

11:10 COMBINED SPATIAL/BEAMFORMING AND TIME/FREQUENCY PROCESSING FOR BLIND SOURCE SEPARATION

Qiongfang Pan, Tyseer Aboulnasr, University of Ottawa, Canada

11:30 THE USE OF DECORRELATION AND CODE DIVISION MULTIPLEXED PILOTS FOR DS-CDMA SYSTEMS WITH MULTIAN TENNA RECEIVERS

Claude D'Amours, Naser Salam, University of Ottawa, Canada

11:50 A HIGH-ORDER-MODULATION SPACE-TIME RECEIVER WITH INCREASED PEAK RATE AND THROUGHPUT FOR WIDEBAND CDMA

Sofiène AFFES, INRS-ÉMT, Canada

12:10 ADAPTIVE RESOLUTION ANGLE OF ARRIVAL ESTIMATION

Gunes Karabulut, Abbas Yongacoglu, Tolga Kurt, University of Ottawa, Canada

12:30 LATTICE DECODING OF LAYERED VERTICAL SPACE-TIME CODES

Miguel Bazdresch, Instituto Tecnológico y de Estudios Superiores de Occidente, Mexico; Jorge Rodriguez-Guisantes, Ecole Nationale Supérieure des Telecommunications, France

[top>>](#)

SPECIAL SESSION WedAmOR9: Security of Data Hiding and Watermarking (II)

ORAL

SESSION ORGANIZERS AND CHAIRS: Kivanç Mihçak, Microsoft, United States; S. Voloshynovskiy, University of Geneva, Switzerland

10:50 THE METHOD OF TYPES AND ITS APPLICATION TO INFORMATION HIDING

Pierre Moulin, University of Illinois at Urbana-Champaign, USA

11:30 ON BLIND COMPRESSION OF ENCRYPTED DATA APPROACHING THE SOURCE

Daniel Schonberg, Stark Draper, Kannan Ramchandran, UC Berkeley, United States

11:50 JOINT SOURCE-CHANNEL CODING FOR LATTICE WATERMARKING

Abdellatif Zaidi, LSS/CNRS Supelec and ENST, France; Pierre Duhamel, LSS/CNRS, France

12:10 A PRACTICAL LATTICE QIM METHOD: TCQ-IS

Ersin Esen, Tübitak Bilten, Turkey; A. Aydin Alatan, Middle East Technical University, Turkey

12:30 INFORMED WATERMARK EMBEDDING IN THE FRACTIONAL FOURIER DOMAIN

Oktay Altun, Mark Bocko, Gaurav Sharma, University Of Rochester, United States

[top>>](#)

SPECIAL SESSION WedAmOR10: Recent Applications in Time-Frequency Analysis

ORAL

SESSION ORGANIZERS AND CHAIRS: Aydin Akan, Istanbul University, Turkey; Luis Chaparro, University of Pittsburgh, United States

10:50 IMPROVEMENT OF THE FAST MOVING TARGETS PRESENTATION IN ISAR BY USING THE S-METHOD

LJubisa Stankovic, University of Montenegro, Yugoslavia; Thayananthan Thayaparan, Defence Research and Development, Canada; Milos Dakovic, University of Montenegro, Yugoslavia

11:10 AN EFFICIENT ANALYSIS TECHNIQUE FOR DNA SEQUENCES USING MULTIWINDOW GABOR REPRESENTATIONS

Nagesh Subbanna, Y.Y. Zeevi, Technion - Israel Institute of Technology, Israel

11:30 GENERALIZATION OF TIME-FREQUENCY SIGNAL REPRESENTATIONS TO JOINT FRACTIONAL FOURIER DOMAINS

Lutfiye Durak, KAIST, South Korea; Ahmet Kemal Ozdemir, WesternGeco Ltd., United Kingdom; Orhan Arikan, Bilkent University, Turkey; lickho Song, KAIST, South Korea

11:50 INFORMATION-THEORETIC SIGNAL PROCESSING ON THE TIME-FREQUENCY PLANE AND APPLICATIONS

Selin Aviyente, Michigan State University, United States

12:10 DIGITAL COMPUTATION OF THE FRACTIONAL MELLIN TRANSFORM

Edip Biner, Olcay Akay, Dokuz Eylul University, Department of Electrical and Electronics Engineering, Turkey

12:30 CHANNEL MODELING AND ESTIMATION FOR ROBUST MC-SS SYSTEMS

Seda Senay, Yeditepe University, Turkey; Aydin Akan, Istanbul University, Turkey; Luis F. Chaparro, University of Pittsburgh, United States

[top>>](#)

SPECIAL SESSION WedAmOR11: Novel Representations of Visual Information for Analysis and Classification

ORAL

SESSION ORGANIZERS AND CHAIRS: Hamid Krim, North Carolina State University, United States; Beatrice Pesquet-Popescu, ENST, France

10:50 NONPARAMETRIC SHAPE PRIORS FOR ACTIVE CONTOUR-BASED IMAGE SEGMENTATION

Junmo Kim, Müjdat Çetin, Alan S. Willsky, Massachusetts Institute of Technology, United States

11:10 3D OBJECT REPRESENTATION WITH TOPO-GEOMETRIC SHAPE MODELS

Sajjad Baloch, Hamid Krim, North Carolina State University, United States; Dmitry Zenkov, Irina Kogan, North Carolina State University, United States

11:30 A GEOMETRICAL A PRIORI FOR CAPTURING THE REGULARITY OF IMAGES

Yann Gousseau, Francois Roueff, TSI - ENST, France

11:50 NON-PARAMETRIC INFORMATION GEOMETRY AND MULTI-SCALE MODELS OF TEXTURE

Washington Mio, Dennis Badyans, Xiuwen Liu, Florida State University, United States

12:10 ADAPTIVE WAVELETS FOR IMAGE REPRESENTATION AND CLASSIFICATION

Gemma Piella, Marine Campedel, Béatrice Pesquet-Popescu, GET-ENST, France

12:30 SEGMENTATION OF IMAGES PAINTED ON PARAMETRIC MANIFOLDS

Alon Spira, Ron Kimmel, Technion, Israel

[top>>](#)

SESSION WedAmPO3: Image Coding

POSTER

SESSION CHAIR: Thomas Sikora, Technical University of Berlin, Germany

A FULL-REFERENCE COLOR IMAGE QUALITY MEASURE IN THE DWT DOMAIN

Devon Gayle, Hazem Mahlab, Yuksel Ucar, Ahmet M Eskicioglu, CUNY Brooklyn College, United States

CRYPTO-COMPRESSSION OF MEDICAL IMAGES BY SELECTIVE ENCRYPTION OF DCT

William Puech, José Marconi Rodrigues, LIRMM, University of Montpellier, France

IMPROVING COMPRESSION RATIO FOR SATELLITE TRANSMISSION BY USE OF CLOUD EXTRACTION

Rusen Oktem, Atilim University, Turkey; Oguz Benderli, Neslin Ismailoglu, Tubitak, Bilten, Turkey

A MULTISCALE COLOR QUANTIZATION ALGORITHM FOR PRODUCING SCALABLE MEDIA

Yik-Hing Fung, Yuk-Hee Chan, Ka-Chun Lui, The Hong Kong Polytechnic University, Hong Kong, Hong Kong

LOSSLESS CODING USING VARIABLE BLOCK-SIZE ADAPTIVE PREDICTION OPTIMIZED FOR EACH IMAGE

Ichiro Matsuda, Nau Ozaki, Yuji Umezumi, Susumu Itoh, Science University of Tokyo, Japan

A LOSSLESS COMPRESSION ALGORITHM BASED ON PREDICTIVE CODING FOR VOLUMETRIC MEDICAL DATASETS

Mónica Díez-García, Carlos Alberola-López, Federico Simmross Wattenberg, LPI-UVA, Spain

LOSSLESS CONTOUR REPRESENTATION USING EFFICIENT MULTIPLE GRID CHAIN CODING

Heechan Park, Graham Martin, Andy Yu, University of Warwick, United Kingdom

A NEW MULTISTAGE LATTICE VQ (MLVQ) TECHNIQUE FOR IMAGE COMPRESSION

Mohd Fadzli Mohd Salleh, John Soraghan, University of Strathclyde, United Kingdom

CONTEXT-BASED PREDICTIVE LOSSLESS CODING FOR HYPERSPECTRAL IMAGES

Andrea De Giusti, Stefano Andriani, Gian Antonio Mian, Università di Padova, Italy

ERROR RESILIENT MULTIPLEXED CODING WITH RVLC

Xiaosong Wang, Tokunbo Ogunfunmi, Santa Clara University, United States

AN UNSUPERVISED SEGMENTATION-BASED CODER FOR MULTISPECTRAL IMAGES

Marco Cagnazzo, Luca Cicala, Giovanni Poggi, Luisa Verdoliva, Giuseppe Scarpa, Università di Napoli - Federico II, Italy

FAST ENCODING METHOD FOR IMAGE VECTOR QUANTIZATION BY USING PARTIAL SUM CONCEPT IN WALSH DOMAIN

Zhibin Pan, Koji Kotani, Tadahiro Ohmi, Tohoku University, Japan

EFFICIENT LOSSLESS COLOUR IMAGE CODING WITH SPECK

Fouad Khelifi, Ahmed Bouridane, Fatih Kurugollu, Queen's university, United Kingdom

ADAPTIVE DICTIONARIES FOR MATCHING PURSUIT WITH SEPARABLE DECOMPOSITION

Leszek Gorecki, Marek Domanski, Poznan University of Technology, Poland

[top>>](#)

SESSION WedAmPO4: Video Coding

POSTER

SESSION CHAIR: Fatih Kurugollu, Queen's university, United Kingdom

JOINT OPTIMIZATION OF SOURCE-CHANNEL VIDEO CODING USING THE H.264 ENCODER AND FEC CODES

Simone Milani, Gian Antonio Mian, University of Padova, Italy; Luca Celetto, STMicroelectronics, Italy

A LOW COMPLEXITY MOTION ESTIMATION ALGORITHM FOR VIDEO CODING APPLICATIONS

Kamran Virk, Nadeem Khan, Shahid Masud, Farooq Nasim, Lahore University of Management Sciences, Pakistan; Syed Idris, Lahore University of Management Sciences, Pakistan

AN EFFICIENT VIDEO RENDERING SYSTEM FOR REAL-TIME ADAPTIVE PLAYOUT BASED ON PHYSICAL MOTION FIELD ESTIMATION

Luca Piccarreta, Augusto Sarti, Stefano Tubaro, Politecnico di Milano, Italy

OPTIMAL BIT ALLOCATION STRATEGY BASED ON SPATIAL COMPLEXITY AND TEMPORAL CORRELATION

Seung-Hwan Kim, Geun-Yong Kim, Jin Heo, Yo-Sung Ho, Gwangju Institute of Science and Technology (GIST), South Korea

LOSSLESS VIDEO COMPRESSION USING A SPATIO-TEMPORAL OPTIMAL PREDICTOR

Stefano Andriani, Giancarlo Calvagno, Gian Antonio Mian, Università di Padova, Italy

SIMULATION AND APPLICATION OF DVB CHANNEL CODING ON MULTIMEDIA DSP DEVELOPMENT BOARD

Tomas Kratochvil, Brno University of Technology, Czech Republic

INTRA-ADAPTIVE MOTION-COMPENSATED LIFTED WAVELETS FOR VIDEO CODING

Oscar Divorra Escoda, Markus Flierl, Pierre Vandergheynst, ITS - EPFL, Switzerland

AN ADAPTIVE MOTION ESTIMATION SCHEME USING MAXIMUM MUTUAL INFORMATION CRITERIA

Jing Zhao, University of Florida, United States; Deniz Erdogmus, OHSU, United States; Cancan Huang, Dapeng Wu, Yuguang Fang, University of Florida, United States

SPIRAL SCAN IN VIDEO COMPRESSION

Lukasz Blaszak, Marek Domanski, Poznan University of Technology, Poland

LOSSLESS VIDEO CODING USING MULTI-FRAME MOTION COMPENSATION

Elias Sebastiano Giuseppe Carotti, DAUIN-Politecnico di Torino, Italy; Juan Carlos De Martin, IEIIT-CNR Politecnico di Torino, Italy

OPTIMAL BIT ALLOCATION IN SCALABLE MULTIPLE DESCRIPTION VIDEO CODING FOR PACKET LOSS RESILIENCE

Emrah Akyol, A. Murat Tekalp, M. Reha Civanlar, Koc University, Turkey

WHERE TO SPEND THE BITS? EFFICIENCY OF SOURCE AND CHANNEL CODING IN MBMS

Kemal Ugur, Stephan Wenger, Nokia Research Center, Finland; Dong Tian, Moncef Gabbouj, TUT, Finland

ANALYSIS OF THE RESPONSE TIME COMPENSATION SYSTEM FOR LIQUID CRYSTAL DISPLAYS

Sanjeev Kumar, Mainak Biswas, T.Q Nguyen, University of California, San Diego, United States

COMPRESSION OF VIDEOS CAPTURED VIA BAYER PATTERNED COLOR FILTER ARRAYS

Marco Carli, Fabio Gastaldi, Alessandro Neri, University of Roma TRE, Italy; Chin C. Koh, Sanjit K. Mitra, UCSB, United States

A CROSS-LAYER APPROACH FOR MINIMUM DELAY CONTENT ADAPTIVE VIDEO STREAMING OVER VARIABLE BITRATE CHANNELS

Tanir Ozcelebi, A. Murat Tekalp, M. Reha Civanlar, M. Oguz Sunay, Koc University, Turkey

CONSTRAINT TRANSLATIONAL AND ROTATIONAL MOTION FILTERING FOR VIDEO STABILIZATION

Marius Tico, Markku Vehvilainen, Nokia Research Center, Finland

FAST MODE DECISION ALGORITHM FOR H.264 BASED ON MOTION COST

Geun-Yong Kim, Seung-Hwan Kim, Hee-Soon Kim, Yo-Sung Ho, Gwangju Institute of Science and Technology (GIST), South Korea

H.264 FAST INTRA-PREDICTION MODE DECISION BASED ON FREQUENCY CHARACTERISTIC

Takeshi Tsukuba, Waseda University, Japan; Isao Nagayoshi, Tsuyoshi Hanamura, Media Glue Corp., Japan; Hideyoshi Tominaga, Waseda University, Japan

14:00-14:50

PLENARY LECTURE:

ADVANCES IN VIDEO COMPRESSION, Jens Rainer Ohm, University of Aachen, Germany

15:10-16:30

[top>>](#)

SESSION WedPmOR1: Speech Coding

ORAL

SESSION CHAIR: Peter Kabal, McGill University, Canada

15:10 A NEW CODING METHOD FOR SPEECH AND AUDIO SIGNALS

Ümit Güz, Hakan Gürkan, Isik University, Turkey; B. Siddik Yarman, Istanbul University, Turkey

15:30 DYNAMICALLY ADDING REDUNDANCY FOR IMPROVED ERROR CONCEALMENT IN PACKET VOICE CODING

Levent Tosun, Peter Kabal, McGill University, Canada

15:50 A SEQUENTIAL FEATURE SELECTION ALGORITHM FOR GMM-BASED SPEECH QUALITY ESTIMATION

Tiago Falk, Wai-Yip Chan, Queen's University, Canada

16:10 REALIZATION OF A PSYCHOACOUSTIC MODEL FOR MPEG 1 USING GAMMACHIRP WAVELET TRANSFORM

Samar Krimi, Kaïs Ouni, Nouredine Ellouze, Laboratory of Systems and Signal Processing (LSTS), National Engineering School of Tunis (ENIT), Tunisia

[top>>](#)

SESSION WedPmOR2: Bioinformatics

ORAL

SESSION CHAIR: Uğur Sezerman

15:10 A COMPARATIVE STUDY OF CROSS-CORRELATION METHODS FOR ALIGNMENT OF DNA SEQUENCES CONTAINING REPETITIVE PATTERNS

Andrzej Brodzik, MITRE Corporation, United States

15:30 HANDLING UPDATES OF A BIOLOGICAL SEQUENCE BASED ON HIDDEN MARKOV MODELS

Changjin Hong, University of Minnesota, United States

15:50 ROBUST BICLUSTERING ALGORITHM (ROBA) FOR DNA MICROARRAY DATA ANALYSIS

Alain Beaudelaire Tchagang, Ahmed Hossam Tewfik, University of Minnesota, United States

16:10 GRIDDING THE SPOT CENTERS OF MICROARRAY IMAGES

Jinn Ho, Wen-Liang Hwang, Academia Sinica, Taiwan, Taiwan; Henry Horn-Shing Lu, National Chiao Tung University, Taiwan, Taiwan; D.T. Lee, Academia Sinica, Taiwan, Taiwan

[top>>](#)

SESSION WedPmOR3: Array Signal Processing

ORAL

SESSION CHAIR: Yasemin Yardimci, Middle East Technical University, Turkey

15:10 WORST CASE ANALYSIS OF DECENTRALIZED KALMAN FILTERS UNDER COMMUNICATION CONSTRAINTS

Markus Stefan Schlosser, Kristian Kroschel, Universität Karlsruhe, Germany

15:30 CALIBRATION OF A LARGE DISTRIBUTED LOW FREQUENCY RADIO ASTRONOMICAL ARRAY (LOFAR)

Sebastiaan van der Tol, Delft University of Technology, Netherlands; Brian D. Jeffs, Brigham Young University, United States; Alle-Jan van der Veen, Delft University of Technology, Netherlands

15:50 BEARING AND RANGE ESTIMATION USING WIDE-BAND MUSIC METHOD

Saidi Zineb, IRENav (EA 3634) Ecole Navale, France; Bourennane Salah, Institut Fresnel, UMR CNRS 6133-EGIM, France; Guillon Laurent, IRENav EA 3634 Ecole Navale, France; Sanchez Patrick, LMA UPR 7051, France

16:10 NULL-STEERING BEAMSPACE TRANSFORMATION DESIGN FOR ROBUST DATA REDUCTION

Minghui Li, Yilong Lu, Nanyang Technological University, Singapore

[top>>](#)

SESSION WedPmOR4: Sensor Signal Processing

ORAL

SESSION CHAIR: Billur Barshan, Bilkent University, Turkey

15:10 STATISTICAL AND NEURAL TECHNIQUES FOR PROCESSING OF NONPARAMETRIC GEOPHYSICAL MINE DATA

Taskin Kocak, Matthew Draper, University of Central Florida, United States

15:30 EXTRACTION OF TARGET FEATURES USING INFRARED INTENSITY SIGNALS

Tayfun Aytac, Billur Barshan, Bilkent University, Turkey

15:50 A LOW-COST GPS AIDED INERTIAL NAVIGATION SYSTEM FOR VEHICLE APPLICATIONS

Isaac Skog, Peter Händel, Royal Institute of Technology, Sweden

16:10 FROM A PHYSICAL SCANNED MAP TO A DIGITAL ELEVATION MODEL USING THE LEGEND AND KRIGING

Carol Rus, Jaakko Astola, Corneliu Rusu, TICSP, Tampere University of Technology, Finland

[top>>](#)

SESSION WedPmOR5: VESTEL Session on Video Coding (I)

ORAL

SESSION CHAIR: Jens-Rainer Ohm, Aachen University of Technology, Germany

15:10 SEARCH WINDOW ESTIMATION ALGORITHM FOR FAST AND EFFICIENT H.264 VIDEO CODING WITH VARIABLE SIZE BLOCK CONFIGURATION

Gianluca Bailo, Ivano Barbieri, Massimo Bariani, Marco Raggio, University of Genova, Italy

15:30 IMPROVED SUPER-RESOLUTION METHOD AND ITS ACCELERATION

Libor Vasa, Ivo Hanak, Vaclav Skala, University of West Bohemia, Czech Republic

15:50 A FREQUENCY DOMAIN APPROACH TO INTRA MODE SELECTION IN H.264/AVC

Andy Yu, Graham Martin, HeeChan Park, University of Warwick, United Kingdom

16:10 FAST MULTI-FRAME REFERENCE VIDEO ENCODING WITH KEY FRAMES

Nukhet Ozbek, Ege University, Turkey; A. Murat Tekalp, Koc University, Turkey

[top>>](#)

SESSION WedPmOR6: Multimedia Communications and Networking

ORAL

SESSION CHAIR: M. Reha Civanlar, Koc University, Turkey

15:10 REAL-TIME NETWORK-AWARE OPTIMAL RATE CONTROL FOR VIDEO COMMUNICATION NETWORKS USING AN AUGMENTED STATE FEEDBACK CONTROLLER

Bulent Cavusoglu, Dan Schonfeld, Rashid Ansari, University of Illinois at Chicago, United States

15:30 JAVANETPHONE: A JAVA CLIENT FOR IP TELEPHONY APPLICATIONS IN AN MGCP FRAMEWORK

Susanna Spinsante, Franco Chiaraluce, Ennio Gambi, Universita' Politecnica delle Marche (DEIT), Italy; Aldo Vespasiani, Alessio Perotti, Selta Telematica S.p.A., Italy

15:50 CHARACTERIZATION, ESTIMATION AND DETECTION OF NETWORK APPLICATION TRAFFIC

Joel Trussell, Arne Nilsson, NC State University, United States; parita Patel, Yi Wang, North Carolina State University, United States

16:10 VARIABLE TIME-SCALE STREAMING FOR MULTIMEDIA TRANSMISSION OVER IP NETWORKS

Enrico Masala, Davide Quaglia, Politecnico di Torino, Italy; Juan Carlos De Martin, IEIT-CNR, Italy

[top>>](#)

SESSION WedPmPO1: Signal Processing for Communications

POSTER

SESSION CHAIR: Marco Luise, University of Pisa, Italy

PLM SEQUENCES FOR THE PERFORMANCE OPTIMIZATION OF LINEAR MULTIUSER DETECTORS

Khanfouci Mourad, Marcos Sylvie, Laboratoire des Signaux et Systèmes, France

MULTI-CHANNEL ADAPTIVE BIT ALLOCATION AND ERROR CONTROL FOR VIDEO TRANSMISSION OVER WIRELESS NETWORKS

Maria Manuela Pereira, Universidade da Beira Interior, Portugal; Marc Antonini, CNRS-I3S, France

ITERATIVE SOURCE CODED MODULATION: EXIT CHARTS, COMPLEXITY COMPARISONS AND NEW INDEX ASSIGNMENTS

Thorsten Clevorn, Peter Vary, RWTH Aachen University, Germany

UWB PRECISION GEOLOCATION USING FFT INTERPOLATION

Kutluyil Dogancay, University of South Australia, Australia; A. Rahim Leyman, Institute for Infocomm Research, Singapore

AN IMPROVED DOPPLER DIVERSITY TECHNIQUE FOR OFDM SYSTEMS IN TIME-VARYING MULTIPATH FADING CHANNELS

Hyunjoon Song, Daesik Hong, Yonsei University, South Korea

PERFORMANCE DEGRADATION DUE TO BLINDNESS IN SEPARATION OF MIMO-FIR SYSTEMS OVER COST207 CHANNELS

Sara Sandberg, James P. LeBlanc, Luleå University of Technology, Sweden

PERFORMANCES OF TURBO SAGE BASED EQUALIZER FOR MULTIUSER MULTICARRIER SPACE TIME BLOCK CODED SYSTEM

Guillaume Ferré, Mohamad Jamalulli Syed, Vahid Meghdadi, Cances Jean Pierre, Jean Michel Dumas, GESTE/ENSIL, France

FACTOR ANALYSIS OF NETWORK FLOW THROUGHPUT MEASUREMENTS FOR INFERRING CONGESTION SHARING

Dogu Arifler, Eastern Mediterranean University, Turkey; Brian Evans, The University of Texas at Austin, United States

NETWORK ADAPTIVE RATE CONTROL FOR TRANSCODER

Takayasu Takaoka, Waseda University, Japan; Isao Nagayoshi, Tsuyoshi Hanamura, Media Glue Corp., Japan; Hideyoshi Tominaga, Waseda University, Japan

OPTIMUM SPECTRAL SHAPING FOR DISCRETE MULTITONE DEMODULATION

Tomasz Twardowski, AGH University of Science and Technology, Poland

OPTIMUM CHAOTIC QUANTIZED SEQUENCES FOR ASYNCHRONOUS DS-CDMA SYSTEM

Calin Vladeanu, "Politehnica" University of Bucharest, Romania

PULSE SHAPE DESIGN USING ITERATIVE PROJECTIONS

H. Emre Guven, Aselsan Inc., Turkey; A. Enis Cetin, Bilkent University, Turkey

SIMULATION OF A DIGITAL COMMUNICATION SYSTEM

Alpaslan Gungor, Turk Telekom A.S., Turkey; Feza Arikan, Hacattepe University, Turkey; Orhan Arikan, Bilkent University, Turkey

ANALYSIS OF TIMING OFFSET ESTIMATION SCHEMES FOR UWB SIGNALS

Marina Marjanovic, José Manuel Páez Borrallo, Polytechnic University of Madrid, Spain

[top>>](#)

SESSION WedPmPO2: Image Analysis, Classification and Pattern Recognition

POSTER

SESSION CHAIR: Lale Akarun, Boğaziçi University, Turkey

COMPLEXITY REDUCTION IN NEURAL NETWORKS APPLIED TO TRAFFIC SIGN RECOGNITION TASKS

Raúl Vicen Bueno, Roberto Gil Pita, María Pilar Jarabo Amores, Francisco López Ferreras, Universidad de Alcalá, Spain

ADAPTIVE SOFT-SWITCHING FILTER FOR IMPULSIVE NOISE SUPPRESSION IN COLOR IMAGES

Bogdan Smolka, Silesian University of Technology, Poland

MULTITEMPORAL IMAGE CLASSIFICATION WITH AUTOMATIC BUILDING OF TREE-STRUCTURED MRF MODELS

Raffaele Gaetano, Giovanni Poggi, Giuseppe Scarpa, University Federico II of Naples, Italy

EXTRACTION OF HYDROGRAPHIC NETWORKS FROM SATELLITE IMAGES USING A HIERARCHICAL

MODEL WITHIN A STOCHASTIC GEOMETRY FRAMEWORK.

Caroline Lacoste, INSA, France; Xavier Descombes, Josiane Zerubia, INRIA, France; Nicolas Baghdadi, BRGM, France

VIDEO CLASSIFICATION BASED ON LOW-LEVEL FEATURE FUSION MODEL

Mickael Guironnet, Denis Pellerin, Michele Rombaut, Laboratoire des Images et des Signaux, France

A QUANTIZATION NOISE ROBUST SHAPE PREDICTION ALGORITHM

M. Khansari, H. R. Rabie, M. Asadi, Sharif University of Tech. (AICTC), Iran; M. Ghanbari, University of Essex & AICTC, United Kingdom

MAJORITY ORDERING FOR COLOUR MATHEMATICAL MORPHOLOGY

Alessandro Ledda, Wilfried Philips, Ghent University, Belgium

A NEW DISTANCE MEASURE EMPLOYING ELEMENT-SIGNIFICANCE FACTORS FOR ROBUST IMAGE CLASSIFICATION

Kunio Kawahara, Tadashi Shibata, The University of Tokyo, Japan

OFF-LINE SIGNATURE VERIFICATION AND RECOGNITION BY SUPPORT VECTOR MACHINE

Emre Ozgunduz, Tulin Senturk, Elif Karsligil, Yildiz Technical University, Turkey

16:50-18:10

[top>>](#)

SESSION WedPmOR7: Beamforming

ORAL

SESSION CHAIR: Fulvio Gini, University of Pisa, Italy

16:50 ROBUST ADAPTIVE BEAMFORMING BASED ON DOMAIN WEIGHTED PCA

Paul Daniel Baxter, John McWhirter, QinetiQ, United Kingdom

17:10 ROBUST SUBSPACE TECHNIQUE FOR JOINT ANGLE/DOPPLER ESTIMATION IN NON-GAUSSIAN CLUTTER

Hocine Belkacemi, Sylvie Marcos, LSS/SUPELEC, France

17:30 ON H-INFINITY BASED DIRECTION FINDING AND SOURCE DETECTION

Kiriakos Kiriakidis, Richard O'Brien, US Naval Academy, United States

[top>>](#)

SESSION WedPmOR8: Synchronization

ORAL

SESSION CHAIR: Erdal Panayirci, Isik University, Turkey

16:50 OPTIMUM PULSE SHAPING FOR DELAY ESTIMATION IN SATELLITE POSITIONING

Luca Giugno, Marco Luise, University of Pisa, Italy

17:10 PERFORMANCE EVALUATION OF FINE TIME SYNCHRONIZERS FOR WLANS

Maria Jose Canet, Vicenç Almenar, Javier Valls, Universidad Politecnica De Valencia, Spain; Ian Wassel, University Of Cambridge, United Kingdom

17:30 SYNCHRONISATION AND DC-OFFSET ESTIMATION FOR CHANNEL ESTIMATION USING DATA-DEPENDENT SUPERIMPOSED TRAINING

Enrique Alameda-Hernandez, Desmond C. McLernon, University of Leeds, United Kingdom; Aldo G. Orozco-Lugo, Manuel M. Lara, CINVESTAV-IPN, Mexico; Mounir Ghogho, University of Leeds, United Kingdom

17:50 DATA-AIDED TIMING RECOVERY IN THE PRESENCE OF DATA-DEPENDENT NOISE
Jamal Riani, Steven Van Beneden, Jan Bergmans, Eindhoven University of Technology, Netherlands

[top>>](#)

SESSION WedPmOR9: Radar

ORAL

SESSION CHAIR: Orhan Arikan, Bilkent University, Turkey

16:50 JOINT USE OF SUM AND DIFFERENCE CHANNELS FOR MULTIPLE RADAR TARGET DOA ESTIMATION

Maria Greco, Fulvio Gini, University of Pisa, Italy; Alfonso Farina, AMS, Italy

17:10 FAST MAXIMUM-LIKELIHOOD SEA CLUTTER PARAMETER LEARNING FROM THE OUTPUT OF THE ENVELOPE DETECTOR

Faruk Sari, Nursen Sari, Tübitak MAM BTAE, Turkey; Lamine Mili, Virginia Tech, Alexandria Research Institute, United States

17:30 DYNAMIC PROGRAMMING TECHNIQUES FOR SEQUENTIAL DETECTION AND TRACKING OF MOVING TARGETS IN RADAR SYSTEMS

Stefano Buzzi, Emanuele Grossi, Marco Lops, University of Cassino, Italy

17:50 A WEIGHTED FEATURE REDUCTION METHOD FOR POWER SPECTRA OF RADAR HRRPS

Lan Du, National Lab. of Radar Signal Processing, China

[top>>](#)

SESSION WedPmOR10: VESTEL Session on Video Coding (II)

ORAL

SESSION CHAIR: Jens-Rainer Ohm, Aachen University of Technology, Germany

16:50 ON THE EFFECTS OF ENCODER-DECODER CONCEALMENT MISMATCH ON VIDEO DISTORTION ESTIMATION

Fabio De Vito, Politecnico di Torino, Italy; Juan Carlos De Martin, IEIIT-CNR, Italy

17:10 WAVELET-BASED DISTRIBUTED SOURCE CODING OF VIDEO

James Fowler, Mississippi State University, United States; Marco Tagliasacchi, Politecnico di Milano, Italy; Beatrice Pesquet-Popescu, ENST Paris, France

17:30 MASKING VIDEO INFORMATION BY PARTIAL ENCRYPTION OF H.264/AVC CODING PARAMETERS

Susanna Spinsante, Franco Chiaraluce, Ennio Gambi, Universita' Politecnica delle Marche (DEIT), Italy

17:50 VIDEO CODING USING NON-MANIFOLD MESH

Nathalie Cammas, France Telecom R&D, France; Stéphane Pateux, France Télécom R&D, France; Luce Morin, IRISA-INRIA, France

[top>>](#)

SESSION WedPmOR11: Machine Learning

ORAL

SESSION CHAIR: Ercan Kuruoglu, ISTI-CNR, Italy

16:50 SUPPORT VECTOR MACHINE (SVM) CLASSIFICATION THROUGH GEOMETRY

Michael Mavroforakis, Sergios Theodoridis, University of Athens, Greece

17:10 A STRAIGHTFORWARD SVM APPROACH FOR CLASSIFICATION WITH CONSTRAINTS

Abdenour Bounsiar, Pierre Beuseroy, Edith Grall, University of Troyes, France

17:30 SENSITIVITY OF NEURAL NETWORKS WHICH APPROXIMATE THE NEYMAN-PEARSON DETECTOR TO THRESHOLD VARIATIONS

Pilar Jarabo-Amores, Roberto Gil-Pita, Manuel Rosa-Zurera, Francisco López-Ferrer, Universidad de Alcalá, Spain

17:50 A ROBUST METHOD TO IDENTIFY FAULTS IN CORRELATED SENSORS IN MACHINE CONDITION MONITORING

Zehra Cataltepe, Istanbul Technical University, Turkey; Chao Yuan, Claus Neubauer, Meltem Demirkus, Hans-Gerd Brummel, Siemens, United States

[top>>](#)

SESSION WedPmOR12: MUSCLE Session on Anthropocentric Multimedia Data Analysis

ORAL

SESSION CHAIR: Enis Çetin, Bilkent University, Turkey

TO BE ANNOUNCED...

[top>>](#)

SESSION WedPmPO3: Multiresolution and Time-Frequency Processing

POSTER

SESSION CHAIR: Nurgün Erdöl, Florida Atlantic University, United States

MULTIPATH EFFECT MITIGATION IN LPTV-BASED MULTIPLE ACCESS SYSTEM

Bogdan Cristea, Daniel Roviras, Benoit Escrig, ENSEEIHT/TeSA, France

WEIGHTED AVERAGE INSTANTANEOUS FREQUENCY BASED ON

Desmond McLernon, The University of Leeds, United Kingdom; Sedigheh Ghofrani, Islamic Azad University, Iran; Ahmad Ayatollahi, Iran University of Science and Technology, Iran

ALGORITHM FOR SIGNAL DECOMPOSITION BY USING THE S-METHOD

LJubisa Stankovic, University of Montenegro, Yugoslavia; Thayananthan Thayaparan, Defence Research and Development, Canada; Milos Dakovic, University of Montenegro, Yugoslavia

A NEW APPROACH TO MULTICHANNEL AUDIO SIGNAL ACQUISITION AND SUBBAND PROCESSING

Antonio Satué-Villar, Esc. Univ. Politécnica De Mataró, Spain; Juan Fernández-Rubio, E.T.S. Ing. Telecomunicación De Barcelona, Spain

A QUANTITATIVE COMPARISON OF NON-PARAMETRIC TIME-FREQUENCY REPRESENTATIONS

Luke Rankine, Nathan Stevenson, Mostefa Mesbah, Boualem Boashash, QUT, Australia

A TWO PARALLEL EXTENDED KALMAN FILTERING ALGORITHM FOR THE ESTIMATION OF CHIRP SIGNALS IN NON-GAUSSIAN NOISE

Mounir Djeddi, Laboratoire des Signaux et systemes, CNRS / Supelec, France; Messaoud Benidir, Laboratoire des signaux et systemes, CNRS / Supelec, France

ANALYSIS BANKS, SYNTHESIS BANKS, LPTV FILTERS: PROPOSITION OF AN EQUIVALENCE DEFINITION APPLICATION TO THE DESIGN OF INVERTIBLE LPTV FILTERS

Wilfried Chauvet, Bernard Lacaze, Daniel Roviras, TéSA, France; Alban Duverdier, CNES, France

THE USE OF WAVELET PACKETS FOR EVENT DETECTION

Marwa Chendeb, UTT, France; Mohamad Khalil, Lebanese University, Lebanon; Jacques Duchêne, UTT, France

ORTHONORMAL NON-UNIFORM B-SPLINE SCALING AND WAVELET BASES ON NON-EQUALLY SPACED KNOT SEQUENCE FOR MULTIREOLUTION SIGNAL APPROXIMATIONS

Najat Chihab, Anissa Zergainoh, Jean-Pierre Astruc, L2TI, Institut Galilée, Université Paris 13, France; Pierre Duhamel, LSS, Supelec, France

[top>>](#)

SESSION WedPmPO4: I) Machine Vision, II) Facial Feature Analysis

POSTER

SESSION CHAIR: Yucel Yemez, Koc University, Turkey

MODEL-FREE FACE DETECTION AND HEAD TRACKING WITH MORPHOLOGICAL HOLE MAPPING
Udo Ahlvers, Udo Zölzer, Helmut-Schmidt-University, Germany; Ruben Rajagopalan, Technical University Hamburg-Harburg, Germany

ORDER STATISTICS-BASED UNBIASED HOMOMORPHIC SYSTEM TO REDUCE MULTIPLICATIVE NOISE
Debashis Sen, M. N. S. Swamy, M. Omair Ahmad, Concordia University, Canada

A SUPERRESOLUTION APPROACH FOR BAR CODE READING
Rusen Oktem, Atilim University, Turkey; Levent Oktem, Synplicity Inc, Turkey

SUBSPACE BASED OBJECT RECOGNITION USING SUPPORT VECTOR MACHINES
Osman Gokhan Sezer, Aytul Ercil, Mehmet Keskinöz, Sabanci University, Turkey

PREDICTING FACES IN VIDEO SEQUENCES USING EIGENSPACE UPDATE ALGORITHMS
Héctor J. Pérez-Iglesias, Adriana Dapena, Universidad de La Coruña, Spain

SELF-LEARNING SYSTEM FOR SURFACE FAILURE DETECTION
Snjeana Rimac-Drlje, Alen Keller, Karlo Emanuel Nyarko, Faculty of Electrical Engineering, University of Osijek, Croatia

NON-LINEAR ACTIVE MODEL FOR MOUTH INNER AND OUTER CONTOURS DETECTION
Pierre Gacon, Pierre-Yves Coulon, LIS INPG, France; Gérard Bailly, ICP INPG, France

RANDOM MOTION FOR CAMERA CALIBRATION
Zoltan Szlavik, Tamas Sziranyi, CARI HAS, Hungary; Laszlo Havasi, Csaba Benedek, PPKE, Hungary

LOCAL APPEARANCE BASED FACE RECOGNITION USING DISCRETE COSINE TRANSFORM
Hazim Kemal Ekenel, Rainer Stiefelhagen, University of Karlsruhe, Germany

TWO-DIMENSIONAL GARCH MODEL WITH APPLICATION TO ANOMALY DETECTION
Amir Noiboar, Israel Cohen, Technion - Israel Institute of Technology, Israel

PLATFORM FOR EVALUATION OF EMBEDDED COMPUTER VISION ALGORITHMS FOR AUTOMOTIVE APPLICATIONS
Wilfried Kubinger, Stefan Borbely, Hannes Hemetsberger, Richard Isaacs, Seibersdorf Research, Austria

ACCURATE DEPTH-MAP ESTIMATION FOR 3D FACE MODELING
Giovanni Dainese, Marco Marcon, Augusto Sarti, Stefano Tubaro, Politecnico di Milano, Italy

EVALUATION OF THE DISCRIMINATION POWER OF FEATURES EXTRACTED FROM 2-D AND 3-D FACIAL IMAGES FOR FACIAL EXPRESSION ANALYSIS
Ioanna-Ourania Stathopoulou, George Tsihrintzis, University of Piraeus, Greece

ROBUST COLOR OBJECT DETECTION AND RECOGNITION
Maaoui Choubeila, Christophe Rosenberger, Sébastien Chabrier, Ecole Nationale Supérieure d'Ingénieurs de Bourges, France

PCA BASED CHOICE OF REPRESENTATIVE COLORS FOR SKIN DETECTION
Kamel Chenaoua, KFUPM, Saudi Arabia; Ahmed Bouridane, QUB, United Kingdom

A ROBUST SEAL IMPRINT VERIFICATION METHOD WITH ROTATION INVARIANCE
Takenobu Matsuura, Kenta Yamazaki, Tokai university, Japan

A SMART CAMERA APPROACH TO REAL-TIME TRACKING

Sven Fleck, Sven Lanwer, Wolfgang Straßer, University of Tübingen, Germany

8 September 2005, Thursday

08:30-10:30

[top>>](#)

SPECIAL SESSION ThuAmOR1: 3DTV (I)

ORAL

SESSION ORGANIZER AND CHAIR: Haldun Ozaktas, Bilkent University, Turkey

08:30 3D MODELING OF INDOOR ENVIRONMENTS BY A MOBILE PLATFORM WITH A LASER SCANNER AND PANORAMIC CAMERA

Peter Biber, Sven Fleck, Florian Busch, Michael Wand, University of Tübingen, WSI/GRIS, Germany; Tom Duckett, University of Örebro, AASS, Sweden; Wolfgang Strasser, University of Tübingen, WSI/GRIS, Germany

08:50 3D VIDEO OBJECTS FOR INTERACTIVE APPLICATIONS

Aljoscha Smolic, Fraunhofer HHI, Germany; Karsten Müller, Philipp Merkle, Matthias Kautzner, Thomas Wiegand, Fraunhofer-HHI, Germany

09:10 3D VIDEO OBJECTS AT SCALABLE LEVELS OF QUALITY

Christian Weigel, Marco Rittermann, Technische Universität Ilmenau, Germany

09:30 EFFICIENT MOTION ESTIMATION UTILIZING QUADRATURE FILTERS

Atanas Boev, Chavdar Kalchev, Atanas Gotchev, Tapio Saramäki, Karen Egiazarian, Tampere University of Technology, Finland

09:50 CARTOON-RECOGNITION USING VIDEO & AUDIO DESCRIPTORS

Ronald Glasberg, Amjad Samour, Khalid Elazouzi, Thomas Sikora, Technical University of Berlin, Germany

10:10 SOLVING FUNDAMENTAL MATRIX FOR UNCALIBRATED SCENE RECONSTRUCTION

Ugur Topay, Engin Tola, A. Aydin Alatan, Middle East Technical University, Turkey

[top>>](#)

SESSION ThuAmOR2: Performance Analysis, Optimization and Limits in Communications

ORAL

SESSION CHAIR: Umberto Mengali, University of Pisa, Italy

08:30 POWER RATIO DEFINITIONS AND ANALYSIS IN SINGLE CARRIER MODULATIONS

Yves Louët, Jacques Palicot, SUPELEC, France

08:50 OPTIMAL FAULT-TOLERANT EVENT DETECTION IN WIRELESS SENSOR NETWORKS

Xuanwen Luo, Ming Dong, Yinlun Huang, Wayne State University, United States

09:10 INVESTIGATION OF THE CHANNEL ESTIMATION ERROR ON THE MIMO SYSTEM PERFORMANCE

Lamia Berriche, Karim Abed-Meraim, Jean-Claude Belfiore, Ecole Nationale Supérieure des Télécommunications de Paris, France

09:30 WORST-CASE INTERFERENCE IN DSL SYSTEMS EMPLOYING DYNAMIC SPECTRUM MANAGEMENT

Mark H. Brady, John M. Cioffi, Stanford University, United States

09:50 ADAPTIVE INTERFERENCE CANCELLATION USING COMMON-MODE INFORMATION IN DSL

Thomas Magesacher, Per Ödling, Per Ola Börjesson, Lund University, Sweden

10:10 MIMO GENERALIZED DECORRELATING DISCRETE-TIME RAKE RECEIVER

Tuncer Baykas, Abbas Yongacoglu, University of Ottawa, Canada; Mohamed Siala, Cite Technologique des Communications, Tunisia

[top>>](#)

SESSION ThuAmOR3: Face Recognition

ORAL

SESSION CHAIR: Alice Caplier, LIS-INPG, France

08:30 NONLINEAR COMMON VECTORS FOR PATTERN CLASSIFICATION

Hakan Cevikalp, Marian Neamtu, Vanderbilt University, United States

08:50 COMBINING SVMs FOR FACE CLASS MODELING

Julien Meynet, EPFL-ITS-LTS5, Switzerland

09:10 SUPPORT VECTOR DATA DESCRIPTION BASED ON PCA FEATURES FOR FACE DETECTION

Verónica Vilaplana, Ferran Marqués, Technical University of Catalonia (UPC), Spain

09:30 FACE RECOGNITION USING COMMON MATRIX APPROACH

Umit Cigdem Turhal, Anadolu University, Turkey

09:50 LINEAR DISCRIMINANT FEATURE SELECTION TECHNIQUES IN ELASTIC GRAPH MATCHING

Stefanos Zafeiriou, Anastasios Tefas, Ioannis Pitas, Aristotle University Thessaloniki, Greece

10:10 MULTIPLE-RESOLUTION EDGE-BASED FEATURE REPRESENTATIONS FOR ROBUST FACE SEGMENTATION AND VERIFICATION

Yasufumi Suzuki, Tadashi Shibata, The University of Tokyo, Japan

[top>>](#)

SPECIAL SESSION ThuAmOR4: MIMO Receivers

ORAL

SESSION ORGANIZER AND CHAIR: Markus Rupp, Technical University of Vienna, Austria

08:30 QUASI-ORTHOGONAL SPACE TIME CODES: APPROACHING OPTIMALITY

Hans Weinrichter, Biljana Badic, Markus Rupp, TU Vienna, Austria

08:50 DYNAMIC VERSUS CONVENTIONAL LAYER SORTING FOR NULLING-AND-CANCELLING BASED MIMO DETECTION

Dominik Seethaler, Vienna University of Technology, Austria; Harold Artes, Stanford University, United States; Franz Hlawatsch, Vienna University of Technology, Austria

09:10 INTERPOLATION-BASED MULTI-MODE PRECODING FOR MIMO-OFDM SYSTEMS

Nadia Khaled, IMEC, Belgium; Robert Heath, The University of Texas at Austin, United States; Geert Leus, Delft University of Technology, Netherlands; Bishwarup Mondal, The University of Texas at Austin, United States; Frederik Petre, IMEC, Belgium

09:30 LINEAR PRECODING BASED ON A STOCHASTIC MSE CRITERION

Frank Dietrich, Peter Breun, Wolfgang Utschick, Munich University of Technology, Germany

09:50 NON-UNITARY EXTENSIONS OF DIFFERENTIAL MATRIX MODULATION

Gerhard Bauch, Anil Mengi, DoCoMo Euro-Labs, Germany

[top>>](#)

SPECIAL SESSION ThuAmOR5: Particle Filtering

ORAL

SESSION ORGANIZERS AND CHAIRS: Simon Godsill, Cambridge University, United Kingdom; Petar Djuric, SUNY at Stony Brook, United States

08:30 PARTICLE FILTERING FOR QUANTIZED SENSOR INFORMATION

Rickard Karlsson, Fredrik Gustafsson, Linköping University, Sweden

08:50 DECISION FUSION FOR DISTRIBUTED TARGET TRACKING USING COST REFERENCE PARTICLE FILTERING

Petar Djuric, Stony Brook University, United States; Joaquin Miguez, Universidad Carlos III, Spain; Monica Bugallo, Stony Brook University, United States

09:10 SENSOR VALIDATION FOR FLIGHT CONTROL BY PARTICLE FILTERING

Tao Wei, Yufei Huang, Philip Chen, The University of Texas at San Antonio, United States

09:30 ON THE USE OF PARTICLE FILTERING FOR MAXIMUM LIKELIHOOD PARAMETER ESTIMATION

Olivier Cappé, Centre National de la Recherche Scientifique, France; Eric Moulines, Ecole Nationale Supérieure des Télécommunications, France

09:50 ESTIMATION OF TIME-VARYING AUTOREGRESSIVE SYMMETRIC ALPHA STABLE PROCESSES BY PARTICLE FILTERS

Deniz Gencaga, Bogazici University, Turkey; Ercan E. Kuruoglu, ISTI, CNR, Pisa, Italy; Aysin Ertuzun, Bogazici University, Turkey

10:10 TRACKING VARIABLE NUMBER OF TARGETS USING SEQUENTIAL MONTE METHODS

William Ng, Jack Li, Simon Godsill, Jaco Vermaak, University of Cambridge, United Kingdom

[top>>](#)

SPECIAL SESSION ThuAmOR6: Geometric Compression

ORAL

SESSION ORGANIZER AND CHAIR: Atilla Baskurt, INSA Lyon, France

08:30 RECENT ADVANCES IN COMPRESSION OF 3D MESHES

Pierre Alliez, INRIA Sophia-Antipolis, France

08:50 PREDICTIVE VECTOR QUANTIZATION OF 3-D POLYGONAL MESH GEOMETRY BY REPRESENTATION OF VERTICES IN LOCAL COORDINATE SYSTEMS

Ulug Bayazit, Isik University, Turkey; Ozgur Orcay, Dogus University, Turkey; Umut Konur, Fikret Gurgen, Bogazici University, Turkey

09:10 HIGH RATE COMPRESSION OF 3D MESHES USING A SUBDIVISION SCHEME

Guillaume Lavoué, Florent Dupont, Atilla Baskurt, LIRIS UMR 5205, France

09:30 MSE APPROXIMATION FOR MODEL-BASED COMPRESSION OF MULTIREOLUTION SEMIREGULAR MESHES

Frederic Payan, Marc Antonini, I3S laboratory, CNRS, University of Nice-Sophia Antipolis, France

09:50 GEOMETRY COMPRESSION OF TETRAHEDRAL MESHES USING OPTIMIZED PREDICTION

Dan Chen, Yi-Jen Chiang, Nasir Memon, Xiaolin Wu, Polytechnic University, United States

10:10 EXTRACTION OF 3D NAVIGATION SPACE IN VIRTUAL URBAN ENVIRONMENTS

Türker Yilmaz, Ugur Gündükbay, Bilkent University, Turkey

[top>>](#)

SESSION ThuAmPO1: Speech, Speaker and Language Recognition

POSTER

SESSION CHAIR: Hasan Palaz, TUBITAK-UEKAE, Turkey

IMPROVEMENTS ON ISOLATED WORD RECOGNITION USING SUBSPACE METHODS

M.Bilginer Gulmezoglu, Osmangazi University, Turkey

ENHANCEMENT OF SPEAKER IDENTIFICATION USING SID-USABLE SPEECH

Saurabh Khanwalkar, Dr. Brett Smolenski, Dr. Robert Yantorno, Temple University, United States; Dr. Stanley Wenndt, Air Force Research Laboratory/IFEC, United States

AUDIO-VISUAL SPEECH RECOGNITION WITH A HYBRID SVM-HMM SYSTEM

Mihai Gurban, Jean-Philippe Thiran, Ecole Polytechnique Federale de Lausanne (EPFL), Switzerland

SVM SPEAKER VERIFICATION USING A NEW SEQUENCE KERNEL

Jérôme Louradour, Khalid Daoudi, IRIT - UPS, France

TURKISH DICTATION SYSTEM FOR BROADCAST NEWS APPLICATIONS

Ebru Arisoy, Levent Arslan, Bogazici University, Turkey

LONGER-LENGTH ACOUSTIC UNITS FOR CONTINUOUS SPEECH RECOGNITION

Annikka Hämäläinen, Johan de Veth, Louis Boves, Radboud University Nijmegen, Netherlands

A QUANTITATIVE METHOD FOR PERFORMANCE ANALYSIS OF AN ISOLATED WORD ASR SYSTEM

Michele Gubian, ICT University of Trento, Italy, Italy; Luigi Arnone, AST labs - STMicroelectronics - Agrate Brianza (MI), Italy; Sergio Brofferio, Politecnico di Milan, Italy

COMPARATIVE STUDY OF LETTER ENCODING FOR TEXT-TO-PHONEME MAPPING

Eniko Beatrice Bilcu, Jaakko Astola, Tampere University of Technology, Finland; Jukka Saarinen, Nokia Research Center, Finland

[top>>](#)

SESSION ThuAmPO2: Topics in Audio Processing**POSTER**

SESSION CHAIR: Thomas Sikora, TU Berlin, Germany

MAXMBROLA : A MAX/MSP MBROLA-BASED TOOL FOR REAL-TIME VOICE SYNTHESIS

Nicolas D'Alessandro, Raphaël Sebbe, Baris Bozkurt, Thierry Dutoit, Facult Polytechnique de Mons (FPMs), Belgium

A CENTRALIZED ACOUSTIC ECHO CANCELLER BASED ON PERCEPTUAL PROPERTIES

Hela Daassi-Gnaba, Université René Descartes - Paris V, France; Pascal Scalart, ENSSAT - LASTI, France; Claude Marro, France Télécom, France

DRUM TRANSCRIPTION WITH NON-NEGATIVE SPECTROGRAM FACTORISATION

Jouni Paulus, Tuomas Virtanen, Institute of Signal Processing, Tampere University of Technology, Finland

MODELING MUSICAL SOUNDS WITH AN INTERPOLATING STATE MODEL

Anssi Klapuri, Tuomas Virtanen, Marko Helén, Tampere University of Technology, Finland

PEAK TRACKING AND PARTIAL FORMATION OF MUSIC SIGNALS

Hamid Satar-Boroujeni, Bahram Shafai, Northeastern University, United States

SEPERATION OF EMPTY HAZELNUTS FROM FULLY DEVELOPED NUTS BY IMPACT ACOUSTICS

Enis Cetin, Ibrahim Onaran, Bilkent University, Turkey; Tom Pearson, Grain Marketting And Production Research Center, United States; Yasemin Yardimci, Middle East Technical University, Turkey; Berkan Dulek, Bilkent University, Turkey

AN EFFICIENT FAST STEREO ECHO CANCELER BY PAIRWISE OPTIMAL WEIGHT REALIZATION TECHNIQUE

Masahiro Yukawa, Noriaki Murakoshi, Isao Yamada, Tokyo Institute of Technology, Japan

IMPROVING ROBUSTNESS OF BLIND ADAPTIVE MULTICHANNEL IDENTIFICATION ALGORITHMS USING CONSTRAINTS

Md. Kamrul Hasan, Imperial College London, United Kingdom; Jacob Benesty, INRS-EMT, University of Quebec, Canada; Patrick A. Naylor, Darren B. Ward, Imperial College London, United Kingdom

LOW-POWER IMPLEMENTATION OF A SUBBAND FAST AFFINE PROJECTION ALGORITHM FOR ACOUSTIC ECHO CANCELLATION

David Hermann, Etienne Cornu, Tina Soltani, Hamid Sheikhzadeh, AMI Semiconductor, Canada

USING A SINES + WAVELETS MIXED DICTIONARY FOR IMPROVING MATCHING PURSUIT-BASED PARAMETRIC AUDIO CODING

Pedro Vera Candéas, Nicolas Ruiz Reyes, University of Jaen, Spain; Manuel Rosa Zurera, University of Alcalá, Spain; Juan Carlos Cuevas Martínez, University of Jaen, Spain; Jose Miguel Garcia Rubia, Motorola, Spain

ACOUSTIC FEEDBACK CANCELLATION FOR LONG ACOUSTIC PATHS USING A NONSTATIONARY SOURCE MODEL

Geert Rombouts, Toon van Waterschoot, KULeuven/ESAT-SCD, Belgium; Kris Struyve, Televis NV, Belgium; Marc Moonen, KULeuven/ESAT-SCD, Belgium

A SIMPLE ADAPTIVE MATRIXING SCHEME FOR EFFICIENT CODING OF STEREO SOUND

Maciej Bartkowiak, Tomasz Zernicki, Poznan University of Technology, Poland

NEW INSIGHTS INTO THE STATISTICAL SIGNAL MODEL AND THE PERFORMANCE BOUNDS OF ACOUSTIC ECHO CONTROL

Gerald Enzner, Peter Vary, Aachen University (RWTH), Germany

OPTIMIZATION OF CROSSOVER FREQUENCY AND CROSSOVER REGION RESPONSE FOR MULTICHANNEL ACOUSTIC APPLICATIONS

Sunil Bharitkar, Chris Kyriakakis, Audyssey Laboratories, Inc., United States

DOUBLE-TALK ROBUST ACOUSTIC ECHO CANCELLATION WITH CONTINUOUS NEAR-END ACTIVITY

Toon van Waterschoot, Marc Moonen, ESAT-SCD, Katholieke Universiteit Leuven, Belgium

A TALKER TRACKING METHOD USING TWO MICROPHONES BASED ON THE SOUND SOURCE LOCALIZATION

Kenji Suyama, Tokyo DENKI University, Japan; Kota Takahashi, The University of Electro-Communication, Japan

MULTIPLE-DESCRIPTION CODING OF LOGARITHMIC PCM

Kai Clüver, Thomas Sikora, Communication Systems Group, TU Berlin, Germany

COMPARATIVE STUDY OF TWO INFORMED EMBEDDING STRATEGIES FOR AUDIO SPREAD-SPECTRUM DATA HIDING SYSTEMS

Cléo Baras, Nicolas Moreau, GET - ENST, TSI Department, France; Przemyslaw Dymarski, Technical University of Warsaw, Poland

ROBUST AUDIO WATERMARK DECODING BY NONLINEAR CLASSIFICATION

Serap Kirbiz, Yusuf Yaslan, Bilge Günsel, Istanbul Technical University, Turkey

SPEECH STEGANALYSIS USING CHAOTIC-TYPE FEATURES

Osman Hilmi Kocal, Emrah Yuruklu, Ismail Avciabas, Uludag University, Turkey

A NEW STABLE ADAPTIVE IIR FILTER FOR ACTIVE NOISE CONTROL SYSTEMS

Allahyar Montazeri, Mohammad Hossein Kahaei, Javad Poshtan, Iran University of Science and Technology, Iran

ENVIRONMENT SIMULATOR FOR AUDIO SIGNALS

Antonio Satué-Villar, Esc. University Politecnica De Mataró, Spain; Juan Fernández-Rubio, E.T.S. Ing. Telecomunicación De Barcelona, Spain

10:50-12:50

[top>>](#)

SESSION ThuAmOR7: Statistical Signal Analysis

ORAL

SESSION CHAIR: William J. Fitzgerald, Cambridge University, United Kingdom

10:50 DENOISING WITH INFINITE MIXTURE OF GAUSSIANS

Teodor Iulian Alecu, Sviatoslav Voloshynovskiy, Thierry Pun, University of Geneva, Switzerland

11:10 EFFECT OF NORMALIZATION OF EIGENVECTORS ON THE PAST AND RP ALGORITHMS FOR PCA

Ronnie Landqvist, Abbas Mohammed, Blekinge Institute of Technology, Sweden

11:30 ASYMPTOTIC NORMALITY OF STATISTICAL-FUNCTION ESTIMATORS FOR GENERALIZED ALMOST-CYCLOSTATIONARY PROCESSES

Antonio Napolitano, Università di Napoli Federico II, Italy

11:50 A SEQUENTIAL PARTICLE ALGORITHM THAT KEEPS THE PARTICLE SYSTEM ALIVE

Francois Le Gland, IRISA / INRIA Rennes, France; Nadia Oudjane, Electricite de France RD, Clamart, France

12:10 MSE OPTIMUM ZONE AND MULTI-ZONE FILTERING

Metin Aktas, T. Engin Tuncer, Middle East Technical University, Turkey

12:30 FEATURE WEIGHTED MAHALANOBIS DISTANCE: IMPROVED ROBUSTNESS FOR GAUSSIAN CLASSIFIERS

Matthias Wölfel, Hazim Kemal Ekenel, Universität Karlsruhe (TH), Germany

[top>>](#)

SESSION ThuAmOR8: Image Watermarking

ORAL

SESSION CHAIR: Nasir Memon, Polytechnic University, United States

10:50 ROBUST DCT-SVD DOMAIN IMAGE WATERMARKING FOR COPYRIGHT PROTECTION: EMBEDDING DATA IN ALL FREQUENCIES

Alexander Sverdllov, CUNY, United States; Scott D Dexter, Ahmet M Eskicioglu, CUNY Brooklyn College, United States

11:10 ACHIEVABLE RATE ANALYSIS OF GEOMETRICALLY ROBUST DATA-HIDING CODES IN ASYMPTOTIC SET-UPS

Emre Topak, Sviatoslav Voloshynovskiy, Oleksiy Koval, Thierry Pun, CUI, University of Geneva, Switzerland

11:30 A TIME-FREQUENCY BASED PERCEPTUAL AND ROBUST WATERMARKING SCHEME

Mahmood Al-khassaweneh, Selin Aviyente, Michigan State University, United States

11:50 A CASCADE DWT-DCT BASED DIGITAL WATERMARKING SCHEME

Serkan Emek, Yildiz Teknik Üniversitesi, Turkey; Melih Pazarci, ITU, Turkey

12:10 IMPROVED EMBEDDING OF MULTIPLICATIVE WATERMARKS VIA SPACE-TIME BLOCK CODING

Irene Karybali, Kostas Berberidis, University of Patras, Greece

12:30 COMPLEXITY REGULARIZED VIDEO WATERMARKING VIA QUANTIZATION OF PSEUDO-RANDOM SEMI-GLOBAL LINEAR STATISTICS

Oztan Harmanci, University of Rochester, United States; M. Kivanc Mihcak, Microsoft Research, United States

[top>>](#)

SESSION ThuAmOR9: Source Localization

ORAL

SESSION CHAIR: Alper Tunga Erdogan, Koc University, Turkey

10:50 NEW BLIND SOURCE SEPARATION ALGORITHM FOR CYCLOSTATIONARY SIGNAL ESTIMATION BASED ON SECOND ORDER STATISTICS

N. Bouguerriou, C. Capdessus, M. Haritopoulos, LESI Chartres, France; S. Bretteil, LESI Orléans, France; L. Allam, LESI Chartres, France

11:10 3D PASSIVE LOCALIZATION IN THE PRESENCE OF LARGE BEARING NOISE

Kutluyil Dogancay, University of South Australia, Australia; Gokhan Ibal, Defence Science and Technology Organisation, Australia

11:30 BLIND SEPARATION OF A DYNAMIC IMAGE SOURCE FROM SUPERIMPOSED REFLECTIONS

Hilit Unger, Yehoshua Zeevi, Technion, Israel

11:50 INCORPORATING FREQUENCY WARPING INTO SPARSE COMPONENT ANALYSIS

Saeid Sanei, Savvas Constantinides, Clive Cheong Took, Binyang Song, Cardiff University, United Kingdom

12:10 A MOVING WINDOW ALGORITHM FOR L-INFINITY NORM BASED BLIND SOURCE SEPARATION APPROACH

Alper Tunga Erdogan, Koc University, Turkey

12:30 HISTOGRAM-BASED BLIND SOURCE SEPARATION OF MORE SOURCES THAN SENSORS USING A DUET-ESPRIT TECHNIQUE

Thomas Melia, Scott Rickard, Conor Fearon, University College Dublin, Ireland

[top>>](#)

SPECIAL SESSION ThuAmOR10: MIMO Hardware and Rapid Prototyping

ORAL

SESSION ORGANIZER AND CHAIR: Thomas Kaiser, Universitaet Essen, Germany

10:50 A FLEXIBLE MIMO TESTBED WITH REMOTE ACCESS

Christian Mehlführer, Stefan Geirhofer, Sebastian Caban, Markus Rupp, Vienna University of Technology, Austria

11:10 OPTIMIZED FFT ARCHITECTURE FOR MIMO APPLICATIONS

Ludwig Schwoerer, Ernst Zielinski, Nokia Research Center, Germany

11:30 DESIGN OF THE TRANSIT ACCESS POINT HARDWARE PLATFORM

Patrick Murphy, J. Patrick Frantz, Behnaam Aazhang, Rice University, United States

11:50 AN EXEMPLARY COMPARISON OF PER ANTENNA RATE CONTROL BASED MIMO-HSDPA RECEIVERS

Qipeng Cai, Andreas Wilzeck, Christoph Schindler, University Duisburg-Essen, Germany; Steffen Paul, Infineon Technologies AG, Germany; Thomas Kaiser, University Duisburg-Essen, Germany

12:10 MULTI-STANDARD DEVELOPMENT AND MEASURING PLATFORM FOR MIMO-SOFTWARE DEFINED RADIO

Georg Meindl-Pfeiffer, Reinhard Kloibhofer, Florian Kaltenberger, Gerhard Humer, ARC Seibersdorf research GmbH, Austria

12:30 LOW COMPLEXITY ITERATIVE RECEIVERS FOR SPACE-TIME BLOCK CODED MC-CDMA DOWNLINK SYSTEMS

Alberto Jiménez Pacheco, Mariano García Otero, Universidad Politécnica de Madrid, Spain

[top>>](#)

SPECIAL SESSION ThuAmOR11: BIOSECURE Session on Multimodal Biometrics (I)

ORAL

SESSION ORGANIZERS AND CHAIRS: Massimo Tistarelli, Università di Genova, Italy; Bernadette Dorizetti, Institut National des Telecommunications

10:50 LIP FEATURE EXTRACTION BASED ON AUDIO-VISUAL CORRELATION

Mehmet Emre Sargin, Engin Erzin, Yucel Yemez, A. Murat Tekalp, Koc University, Turkey

11:10 AN ONLINE BIOMETRIC AUTHENTICATION SYSTEM BASED ON EIGENFINGERS AND FINGER-GEOMETRY

Slobodan Ribaric, Ivan Fratric, Faculty of Electrical Engineering and Computing, University of Zagreb, Croatia

11:30 COMBINING 2D AND 3D FACE IMAGES FOR RELIABLE IDENTITY VERIFICATION

Sotiris Malassiotis, Informatics and Telematics Institute, Greece; Michael Strintzis, Aristotle University of Thessaloniki, Greece

11:50 MULTIMODALITY IN BIOSECURE : TOWARDS AN EVALUATION PROTOCOL ON VIRTUAL MULTI-MODAL DATABASES

Dorizzi Bernadette, INT, France; Sonia Garcia-Salicetti, Mohamed Anouar Mellakh, GET/INT, France

12:10 MEASURING DIFFERENCES BETWEEN FACES

Manuele Bicego, Enrico Grosso, Andera Lagorio, DEIR University of Sassari, Italy; Massimo Tistarelli, DAP University of Sassari, Italy

12:30 3D FACE RECOGNITION FOR BIOMETRIC APPLICATIONS

Lale Akarun, Berk Gokberk, Albert Ali Salah, Bogazici University, Turkey

[top>>](#)

SPECIAL SESSION ThuAmOR12: 3DTV (II)

ORAL

SESSION ORGANIZER AND CHAIR: Haldun Ozaktas, Bilkent University, Turkey

10:50 H.264/AVC-COMPATIBLE CODING OF DYNAMIC LIGHT FIELDS USING TRANSPOSED PICTURE ORDERING

Ulrich Fecker, André Kaup, University of Erlangen-Nuremberg, Germany

11:10 PROGRESSIVE VIEW-DEPENDENT TRANSMISSION OF 3D MODELS OVER LOSSY NETWORKS

Bugra Tari, Koç University, Turkey; Yücel Yemez, Koc University, Turkey; Öznur Özkasap, Reha Civanlar, Koç University, Turkey

11:30 A RECEIVER-DRIVEN MULTICASTING FRAMEWORK FOR 3DTV TRANSMISSION

Engin Kurutepe, Reha Civanlar, Ahmet Murat Tekalp, Koç University, Turkey

11:50 VIEW POINT TRACKING FOR 3D DISPLAY SYSTEMS

Gözde Bozdagi, Metu, Turkey

12:10 RECONSTRUCTION OF DAMAGED IMAGES USING RADIAL BASIS FUNCTIONS

Karel Uhlir, Skala Vaclav, Department of Computer Science and Engineering, University of West Bohemia in Pilsen, Czech Republic

12:30 SIGNAL PROCESSING ISSUES IN DIFFRACTION AND HOLOGRAPHIC 3DTV

Levent Onural, Haldun M. Ozaktas, Bilkent University, Turkey

[top>>](#)

SESSION ThuAmPO3: Biomedical Signal Processing (Human Neural System Analysis)

POSTER

SESSION CHAIR: Selim Eskiizmirli, INSERM U-742 (ANIM), University of Denis Diderot, France

USE OF ARTIFICIAL NEURAL NETWORKS TO STUDY CELL INTERACTIONS IN THE PRESENCE OF EM RADIATION

Özdemir Göl, M. P. Pathegama, University of South Australia, Australia

BAYESIAN INFERENCE OF INTRAVOXEL STRUCTURE IN DIFFUSION MRI

Haifang Ge, William J. Fitzgerald, Cambridge University, United Kingdom; Hadrian A. L. Green, Wolfson Brain Imaging Centre, Addenbrooke's Hospital and Cambridge University, United Kingdom

ESTIMATING COGNITIVE STATE USING EEG SIGNALS

Tian Lan, Andre Adami, Deniz Erdogmus, Michael Pavel, OHSU, United States

COMPARATIVE PERFORMANCE OF TIME--FREQUENCY BASED EEG SPIKE DETECTION TECHNIQUES

Hamid Hassanpour, Luke Rankine, Mostefa Mesbah, Boualem Boashash, Queensland University of Technology, Australia

AN EVALUATION OF BRAIN TISSUE CLASSIFICATION IN NON-COMPENSATED ULTRASOUND IMAGES

Ewout Vansteenkiste, Bruno Huysmans, Wilfried Philips, Ghent University, Belgium

IMPROVING THE ABILITY OF MATCHING PURSUIT ALGORITHM IN DETECTING SPIKES

Luke Rankine, Mostefa Mesbah, Boualem Boashash, Queensland University of Technology, Australia

DESIGN AND IMPLEMENTATION OF A PROGRAMMABLE APNEA MONITORING SYSTEM

Mustafa Cavusoglu, Middle East Technical University, Turkey; Osman Eroglu, GATA, Turkey; Ziya Telatar, Ankara University, Turkey

KALMAN FILTER PARAMETERS AS A NEW EEG FEATURE VECTOR FOR BCI APPLICATIONS

Amir Hossein Omidvarnia, Farid Atri, Seyed Kamaledin Setarehdan, Babak Najjar Arabi, University of Tehran, Iran

AUTOMATIC SLEEP SPINDLE DETECTION AND LOCALIZATION ALGORITHM

Fazil Duman, Baskent University, Turkey; Osman Eroglu, GATA, Turkey; Ziya Telatar, Ankara University, Turkey; Sinan Yetkin, GATA, Turkey

[top>>](#)

SESSION ThuAmPO4: Speech Enhancement and Noise Reduction

POSTER

SESSION CHAIR: Hiroshi Saruwatari, Nara Institute of Science and Technology, Japan

A NOVEL BWE SCHEME BASED ON SPECTRAL PEAKS IN G.729 COMPRESSED DOMAIN

Murali Mohan Deshpande, K.R.Ramakrishnan, Indian Institute of Science, India

NOISE POWER SPECTRAL DENSITY ESTIMATION FROM NOISY SPEECH USING ON-LINE TRAINED HIDDEN MARKOV MODELS

Karsten Vandborg Sørensen, Søren Vang Andersen, Aalborg University, Denmark

THE DISTORTING EFFECTS OF SCBA EQUIPMENT ON SPEECH AND ALGORITHMS FOR MITIGATION

William Kushner, Michelle Harton, Motorola, Motorola Labs, United States; Robert Novorita, Motorola CGISS Advanced Technology, United States

SMOOTHED SUBSPACE BASED NOISE SUPPRESSION WITH APPLICATION TO SPEECH ENHANCEMENT

Jesper Jensen, Technical University of Delft, Netherlands

AN OVERCOMPLETE WDFR SINUSOIDAL BASIS FOR PERCEPTUALLY MOTIVATED SPEECH ENHANCEMENT

Adam Borowicz, Alexander Petrovsky, Bialystok Technical University, Poland

ENHANCED OUTPUT-BASED PERCEPTUAL MEASURE FOR PREDICTING SUBJECTIVE QUALITY OF SPEECH

Abdulhussain Mahdi, Dorel Picovici, University of Limerick, Ireland

BARGE-IN FREE SPOKEN DIALOGUE INTERFACE USING NULLSPACE-BASED SOUND FIELD CONTROL AND BEAMFORMING

Shigeki Miyabe, Hiroshi Saruwatari, Kiyohiro Shikano, Nara Institute of Science and Technology, Japan; Yosuke Tatekura, Shizuoka University, Japan

CLASSIFIED HIGHBAND EXCITATION FOR BANDWIDTH EXTENSION OF TELEPHONY SIGNALS

Yasheng Qian, Peter Kabal, McGill University, Canada

ON THE FUNDAMENTAL LIMITATIONS OF SPECTRAL SUBTRACTION: AN ASSESSMENT BY AUTOMATIC SPEECH RECOGNITION

Nicholas W. D. Evans, John S. D. Mason, Wei M. Liu, Benoît Fauve, University of Wales Swansea, United Kingdom

FEATURE COMPENSATION WITH SECONDARY SENSOR MEASUREMENTS FOR ROBUST SPEECH RECOGNITION

Bhiksha Raj, Mitsubishi Electric Research Labs, United States; Rita Singh, Haikya Corp., United States

A NEW ITERATIVE SPEECH ENHANCEMENT SCHEME BASED ON KALMAN FILTERING

Chunjian Li, Søren V. Andersen, Aalborg University, Denmark

BANDWIDTH EXTENSION OF TELEPHONE SPEECH USING FRAME-BASED EXCITATION AND ROBUST

FEATURES

Ismail Uysal, Harsha Sathyendra, John G. Harris, University of Florida, United States

14:00-14:50

PLENARY LECTURE:

OPTICAL INFORMATION PROCESSING, Haldun Ozaktas, Bilkent University, Turkey

15:10-16:30

[top>>](#)

SESSION ThuPmOR1: Isolated Word Recognition

ORAL

SESSION CHAIR: M.Bilginer Gulmezoglu, Osmangazi University, Turkey

15:10 TREN- TURKISH SPEECH RECOGNITION PLATFORM

Hasan Palaz, Alper Kanak, TUBITAK-UEKAE, Turkey; Yucel Bicil, TUBITAK-UEKAE, Turkey; Mehmet Ugur Dogan, Tuba Islam, TUBITAK-UEKAE, Turkey

15:30 IMPROVED HMM ENTROPY FOR ROBUST SUB-BAND SPEECH RECOGNITION

Babak NaserSharif, Ahmad Akbari, Iran University of Science and Technology, Iran

15:50 ROBUST FEATURES FOR NOISY SPEECH RECOGNITION BASED ON FILTERING AND SPECTRAL PEAKS IN AUTOCORRELATION DOMAIN

Gholameza Farahani, Mohammad Ahadi, Amirkabir University of Technology, Iran

16:10 IMPROVEMENTS ON COMMON VECTOR APPROACH

Rifat Edizkan, M.Bilginer Gulmezoglu, Semih Ergin, Osmangazi University, Turkey; Atalay Barkana, Anadolu University, Turkey

[top>>](#)

SESSION ThuPmOR2: Biomedical Signal Analysis

ORAL

SESSION CHAIR: Burak Acar, Boğaziçi University, Turkey

15:10 SIMULTANEOUS TRIPLE-REGISTRATION OF ICTAL SPECT, INTERICTAL SPECT AND MR IMAGES FOR EPILEPSY STUDIES: METHOD AND VALIDATION

Erkan Unal Mumcuoglu, Fatih Nar, Yasemin Yardimci, Umut Kocak, Middle East Technical University, Turkey; Eser Lay Ergun, Belkis Erbas, Omer Ugur, Bilge Volkan Salanci, Nuclear Medicine Dep., Hacettepe University, Turkey

15:30 HYBRID SEGMENTATION OF THE HIPPOCAMPUS IN MR IMAGES

Wei Wei Lee, Iain Richardson, Yafan Zhao, Ken Gow, The Robert Gordon University, United Kingdom; Roger T. Staff, University of Aberdeen, United Kingdom

15:50 HEAT DIFFUSION BASED DETECTION OF COLONIC POLYPS IN CT COLONOGRAPHY

Ender Konukoglu, Burak Acar, Bogazici University, Turkey; David S. Paik, Christopher F. Beaulieu, Sandy Napel, Stanford University, United States

16:10 STRUCTURE PRESERVING REGULARIZATION OF DT-MRI VECTOR FIELDS BY NONLINEAR ANISOTROPIC DIFFUSION FILTERING

Erdem Yoruk, Burak Acar, Bogazici University, Turkey

[top>>](#)

SESSION ThuPmOR3: Multiuser Communications (I)

ORAL

SESSION CHAIR: Sofiene Affes

15:10 RATE-OPTIMAL MULTIUSER SCHEDULING WITH REDUCED FEEDBACK LOAD AND ANALYSIS OF DELAY EFFECTS

Vegard Hassel, NTNU, Norway; Mohamed-Slim Alouini, University of Minnesota, United States; Geir Egil Øien, NTNU, Norway; David Gesbert, Eurecom, France

15:30 ALTERNATING TIME-OFFSET DOWNLINK SDMA FOR LEGACY IEEE 802.11A/GMOBILE STATIONS

Alexandr Kuzminskiy, Hamid Reza Karimi, Lucent Technologies, United Kingdom; Constantinos Papadias, Lucent Technologies, United States

15:50 A NOVEL CARRIER ALLOCATION METHOD FOR MULTIUSER OFDM SYSTEM WITH AMPLIFIER NONLINEARITIES

Fernando Hugo Gregorio, Timo Laakso, Helsinki University of Technology, Finland

16:10 IMPROVED MULTIUSER DIVERSITY USING SMART ANTENNAS WITH LIMITED FEEDBACK

David Samuelsson, Mats Bengtsson, Björn Ottersten, KTH, Sweden

[top>>](#)

SESSION ThuPmOR4: Architecture and VLSI Hardware (I)

ORAL

SESSION CHAIR: Levent Oktem, Synplicity Inc, Turkey

15:10 SYNDEX EXECUTIVE KERNELS FOR FAST DEVELOPMENT OF APPLICATIONS OVER HETEROGENEOUS ARCHITECTURES

Mickael Raulet, Mitsubishi Electric ITE, France; Christophe Moy, IETR/Automatique & Communication Lab, France; Fabrice Urban, Jean François Nezan, Olivier Deforges, IETR/Image group Lab, France

15:30 NOVEL SYSTOLIC SCHEMES FOR SERIAL-PARALLEL MULTIPLICATION

Isidoros Sideris, Kostantinos Anagnostopoulos, Paraskevas Kalivas, Kiamal Pekmestzi, Technical University Of Athens, Greece

15:50 A PROGRAMMABLE SIMD-BASED MULTI-STANDARD RAKE RECEIVER ARCHITECTURE

Anders Nilsson, Eric Tell, Linkoping University, Sweden; Dake Liu, Linkoping University, Sweden

16:10 A NOVEL, OPTIMIZED CORDIC CORE FOR PHASE CORRELATION MOTION ESTIMATION

Andrea Molino, Fabrizio Vacca, Politecnico di Torino, Italy

[top>>](#)

SESSION ThuPmOR5: Signal Processing for Music

ORAL

SESSION CHAIR: Sergios Theodoridis, University of Athens, Greece

15:10 SEPARATION OF DRUMS FROM POLYPHONIC MUSIC USING NON-NEGATIVE MATRIX FACTORIZATION AND SUPPORT VECTOR MACHINE

Marko Helén, Tuomas Virtanen, Tampere University of Technology, Finland

15:30 SEGMENTATION OF PITCH TRACKS FOR MELODY DETECTION IN POLYPHONIC AUDIO

Rui Pedro Paiva, Teresa Mendes, Amílcar Cardoso, CISUC, Portugal

15:50 HIGH-RESOLUTION PARAMETRIC MODELING OF STRING INSTRUMENT SOUNDS

Matti Karjalainen, Tuomas Paatero, Helsinki University of Technology, Finland

16:10 MELODY SPOTTING IN RAW AUDIO RECORDINGS USING VARIABLE DURATION HIDDEN MARKOV MODELS

Aggelos Pikrakis, Sergios Theodoridis, University of Athens, Greece

[top>>](#)

SPECIAL SESSION ThuPmOR6: BIOSECURE Session on Multimodal Biometrics (II)

ORAL

SESSION ORGANIZERS AND CHAIRS: Massimo Tistarelli, Universita di Genova, Italy; Bernadette Dorizetti, Institut National des Telecommunications

15:10 ERROR HANDLING IN MULTIMODAL BIOMETRIC SYSTEMS USING RELIABILITY MEASURES

Krzysztof Kryszczuk, Jonas Richiardi, Plamen Prodanov, Andrzej Drygajlo, EPFL, Switzerland

15:30 SECURE BIOMETRICS

Marten van Dijk, Pim Tuyls, Philips Research Laboratories, Netherlands

15:50 MULTIMODAL BIOMETRIC SCORE FUSION: THE MEAN RULE VS. SUPPORT VECTOR CLASSIFIERS

Lorène Allano, Sonia Garcia-Salicetti, Mohamed Anouar Mellakh, Bernadette Dorizzi, Institut National des Télécommunications, France

16:10 SYNTHESIS OF IRIS IMAGES USING MARKOV RANDOM FIELDS

Sarvesh Makthal, Arun Ross, West Virginia University, United States

[top>>](#)

SESSION ThuPmPO1: SIMILAR Interfaces for Handicapped

DEMO SESSION

SESSION CHAIRS: Dimitris Tzovaras, Georgios Nikolakis, Informatics and Telematics Institute, Centre for Research and Technology Hellas, Greece

CUED SPEECH HAND GESTURES RECOGNITION TOOL

Thomas Burger, France Telecom, France; Alice Caplier, Stéphane Mancini, Laboratoire des Images et des Signaux, France

OBJECT RECOGNITION FOR THE BLIND

Georgios Nikolakis, Dimitrios Tzovaras, Michael G. Strintzis, Informatics and Telematics Institute, Centre for Research and Technology Hellas, Greece

ASSISTIVE MULTIMODAL SYSTEM BASED ON SPEECH RECOGNITION AND HEAD TRACKING

Andrey Ronzhin, Alexey Karpov, St. Petersburg Institute for Informatics and Automation of the Russian Academy of Sciences (SPIIRAS), Russia

REAL TIME GESTURAL INTERFACE FOR GENERIC APPLICATIONS

Cem Keskin, Oya Aran, Lale Akarun, Bogazici University, Turkey

TEXT-TO-SIGN LANGUAGE SYNTHESIS TOOL

Maria Papadogiorgaki, Nikos Grammalidis, Dimitrios Tzovaras, Michael G. Strintzis, Informatics and Telematics Institute, Centre for Research and Technology Hellas, Greece

GAZE DIRECTION ESTIMATION TOOL BASED ON HEAD MOTION ANALYSIS OR IRIS POSITION ESTIMATION

Alexandre Benoit, Alice Caplier, Laurent Bonnaud, Laboratoire des Images et des Signaux, France

SOFTWARE TOOLS FOR SPEECH THERAPY AND VOICE QUALITY MONITORING

Oytun Turk, Levent M. Arslan, Bogazici University

SIGN LANGUAGE TUTORING TOOL

Oya Aran, Cem Keskin, Lale Akarun, Bogazici University, Turkey

CANE SIMULATION FOR THE BLIND

Georgios Nikolakis, Dimitrios Tzovaras, Michael G. Strintzis, Informatics and Telematics Institute, Centre for Research and Technology Hellas, Greece

SYPOLE: A MOBILE ASSISTANT FOR THE BLIND

Vincent Gaudissart, Silvio Ferreira, Céline Thillou, Bernard Gosselin, Faculté Polytechnique de Mons, Belgium

[top>>](#)

SESSION ThuPmPO2: Multimedia Indexing and Retrieval**POSTER**

SESSION CHAIR: Moncef Gabbouj, Institute of Signal Processing, TUT, Finland

HIERARCHICAL CELLULAR TREE: AN EFFICIENT INDEXING METHOD FOR BROWSING AND NAVIGATION IN MULTIMEDIA DATABASES

Serkan Kiranyaz, Tampere University of Technology, Finland

AN ANTHROPOCENTRIC DESCRIPTION SCHEME FOR MOVIES CONTENT CLASSIFICATION AND INDEXING

Nicholas Vretos, Vassilios Solachidis, Ioannis Pitas, Aristotle University of Thessaloniki, Greece

SPATIOTEMPORAL INFORMATION FUSION FOR HUMAN ACTION RECOGNITION IN VIDEOS

Emmanuel Ramasso, Denis Pellerin, Laboratoire des Images et des Signaux (LIS), France; Costas Panagiotakis, University of Crete, Greece; Michèle Rombaut, Laboratoire des Images et des Signaux (LIS), France; George Tziritas, University of Crete, Greece; William Lim, Laboratoire des Images et des Signaux (LIS), France

CATEGORY PRUNING IN IMAGE DATABASES USING SEGMENTATION AND DISTANCE MAPS

Baris Sumengen, B. S. Manjunath, UC, Santa Barbara, United States

EVALUATION OF CLASSIFICATION TECHNIQUES FOR AUDIO INDEXING

José Anibal Arias, Julien Pinquier, Régine André-Obrecht, IRIT, France

A CONTEXTUAL MODEL FOR SEMANTIC VIDEO STRUCTURING

Bruno Janvier Janvier, Université de Geneve, Switzerland

CONTENT-BASED IMAGE INDEXING AND RETRIEVAL FRAMEWORK ON SYMBIAN BASED MOBILE PLATFORM

Olcay Guldogan, Nokia Corporation, Finland; Moncef Gabbouj, Institute of Signal Processing, TUT, Finland

MAPPING BY ADAPTIVE THRESHOLD METHOD FOR DIMENSION REDUCTION OF CONTENT-BASED INDEXING AND RETRIEVAL FEATURES

Esin Guldogan, Moncef Gabbouj, Institute of Signal Processing, TUT, Finland

16:50-18:10

[top>>](#)

SESSION ThuPmOR7: Architecture and VLSI Hardware (II)**ORAL**

SESSION CHAIR: Ediz Cetin, University of Westminster, United Kingdom

16:50 C- BASED RAPID PROTOTYPING FOR DIGITAL SIGNAL PROCESSING

Bertrand Le Gal, Emmanuel Casseau, Sylvain Huet, Pierre Bomel, LESTER Laboratory - UBS University, France; Christophe Jégo, ENST Bretagne, France; Eric Martin, LESTER Laboratory - UBS University, France

17:10 A DESIGN METHODOLOGY OF BUFFER-MEMORY ARCHITECTURES FOR FFT COMPUTATION

Chin-Liang Wang, Sheng-Ju Ku, National Tsing Hua University, Taiwan

17:30 A HIGH PERFORMANCE AND LOW POWER HARDWARE ARCHITECTURE FOR H.264 CAVLC ALGORITHM

Ilker Hamzaoglu, Esra Sahin, Sabanci University, Turkey

17:50 A HIGH PERFORMANCE AND LOW COST HARDWARE ARCHITECTURE FOR H.264 TRANSFORM AND QUANTIZATION ALGORITHMS

Ilker Hamzaoglu, Ozgur Tasdizen, Sabanci University, Turkey

[top>>](#)

SESSION ThuPmOR8: Multiuser Communications (II)

ORAL

SESSION CHAIR: Claude D'Amours, University of Ottawa, Canada

16:50 REDUCED COMPLEXITY NLMS ALGORITHM FOR BLIND ADAPTIVE MULTIUSER DETECTION

Kutluyil Dogancay, University of South Australia, Australia; Oguz Tanrikulu, Texas Instruments, United States

17:10 LINEAR MULTIUSER RECEIVERS FOR ASYNCHRONOUS MC-CDMA SYSTEMS

Tiziano Bianchi, Fabrizio Argenti, Enrico Barsali, University of Florence, Italy

17:30 BLIND MULTIUSER DETECTION BY ACCELERATED SUBSPACE TRACKING

Shohei Kikuchi, Akira Sano, Keio University, Japan; Bjorn Ottersten, Royal Institute of Technology, Sweden

[top>>](#)

SESSION ThuPmOR9: Communication Applications

ORAL

SESSION CHAIR: Gunes Karabulut, University of Ottawa, Canada

16:50 REAL-TIME END-TO-END SECURE VOICE COMMUNICATIONS OVER GSM VOICE CHANNEL

Nilantha Katugampala, Khaldoon Al-Naimi, Stephane Villette, Ahmet Kondo, University of Surrey, United Kingdom

17:10 AN RF-BASED SURVEILLANCE SYSTEM USING COMMERCIAL OFF-THE-SHELF WIRELESS LAN COMPONENTS

Jianjun Chen, Zoltan Safar, John Aasted Sørensen, Kåre Jelling Kristoffersen, IT University of Copenhagen, Denmark

17:30 EFFICIENT BYTE PERMUTATION REALIZATIONS FOR COMPACT AES IMPLEMENTATIONS

Tuomas Järvinen, Perttu Salmela, Panu Hämäläinen, Jarmo Takala, Tampere University of Technology, Finland

17:50 A MODIFIED STREAM GENERATOR FOR THE GSM ENCRYPTION ALGORITHMS A5/1 AND A5/2

Imran Erguler, Dogus University, Turkey; Emin Anarim, Bogazici University, Turkey

18:10 DISTRIBUTED AND CENTRALIZED POWER CONTROL ALGORITHMS FOR VERY HIGH-SPEED DIGITAL SUBSCRIBER LINES (VDSL) UPSTREAM TRANSMISSION

Adnan Rashdi, University of Engineering & Technology Lahore, Pakistan

[top>>](#)

SESSION ThuPmOR10: Astronomy

ORAL

SESSION CHAIR: Jose Luis Sanz, Instituto de Fisica de Cantabria, Spain

16:50 THE MEXICAN HAT WAVELET FAMILY. APPLICATION TO POINT SOURCE DETECTION IN COSMIC MICROWAVE BACKGROUND

Francisco Argüeso, J. González-Nuevo, Universidad de Oviedo, Spain; J. L. Sanz, Instituto de Fisica de Cantabria, Spain; L. Toffolatti, Universidad de Oviedo, Spain; P. Vielva, College de France, France; D. Herranz, M. Lopez-Caniego, Instituto de Fisica de Cantabria, Spain

17:10 LINEAR AND QUADRATIC FUSION OF IMAGES: DETECTION OF POINT SOURCES

Marcos Lopez-Caniego, Jose Luis Sanz, Diego Herranz, Rita Belen Barreiro, Instituto de Fisica de Cantabria, Spain; Joaquin Gonzalez-Nuevo, Universidad de Oviedo, Spain

17:30 WAVELET DOMAIN ASTRONOMICAL MULTIBAND IMAGE FUSION AND RESTORATION USING MARKOV QUADTREE AND COPULAS

Farid Flitti, Christophe Collet, ISIT, France; Eric Slezak, Observatoire de la Côte d'Azur, France

17:50 ROBUST MEAN ESTIMATION FOR REAL-TIME BLANKING IN RADIOASTRONOMY

Philippe Ravier, LESI Polytech'Orleans, France; Cedric Dumez-Viou, Station de Radioastronomie Nançay, France

18:10 SPECTRAL ESTIMATION OF RADIO ASTRONOMICAL SOURCES CORRUPTED BY DIGITAL MODULATED RADIO FREQUENCY INTERFERENCES

Rodolphe Weber, LESI/Polytech'Orleans, France; Stephanie Bretteil, LESI\Polytech'Orleans, France; Nouredine Bouguerriou, LESI\UT Chartres, France

[top>>](#)

SESSION ThuPmOR11: Face and Head Motion and Models

ORAL

SESSION CHAIR: Berk Gokberk, Boğaziçi University, Turkey

16:50 BIOLOGICAL APPROACH FOR HEAD MOTION DETECTION AND ANALYSIS

Alexandre Benoit, Alice Caplier, LIS-INPG, France

17:10 STEREO-BASED ELLIPTICAL HEAD TRACKING

Karthik Narayanan, John Gowdy, Raghunandan Kumaran, Clemson University, United States

17:30 A NEW METHOD FOR GENERATING 3-D FACE MODELS FOR PERSONALIZED USER INTERACTION

A. Tanju Erdem, Momentum A.S., Turkey

17:50 MULTIMODAL SYSTEM FOR HANDS-FREE PC CONTROL

Andrey Ronzhin, Alexey Karpov, Alexander Nechaev, Svetlana Chernakova, Saint-Petersburg Institute for Informatics and Automation of the Russian Academy of Sciences, Russian Federation

[top>>](#)

SPECIAL SESSION ThuPmOR12: Ultra wideband

ORAL

SESSION ORGANIZER AND CHAIR: Hakan Delic, Boğaziçi University, Turkey

16:50 ENHANCED POSITION LOCATION WITH UWB IN OBSTRUCTED LOS AND NLOS MULTIPATH ENVIRONMENTS

Syed Faisal Ali Shah, Ahmed Tewfik, University of Minnesota, United States

17:10 ON THE IMPLEMENTATION OF A TRANSMITTED-REFERENCE UWB RECEIVER

Mario Casu, Politecnico of Torino, Italy; Giuseppe Durisi, Istituto Superiore Mario Boella, Italy; Sergio Benedetto, Politecnico di Torino, Italy

17:30 BLIND SYNCHRONIZATION IN MULTIUSER TRANSMIT-REFERENCE UWB SYSTEMS

Relja Djapic, Geert Leus, Alle-Jan van der Veen, Antonio Trindade, Delft University of Technology, Netherlands

17:50 HIGHLIGHTS OF UWB IMPULSE BEAMFORMING

Sigmar Ries, Fachhochschule Südwestfalen, Germany

18:10 DESIGN AND PERFORMANCE ANALYSIS OF AN IMPULSE RADIO ULTRAWIDEBAND MULTIUSER

TRANSMISSION SCHEME FOR WIRELESS PERSONAL AREA NETWORKS APPLICATIONS

Jaouhar Ayadi, CSEM, Switzerland; Istvan Kovacs, CTIF, Denmark; Christoph Mecklenbräuker³, FTW, Austria; John Farserotu, CSEM, Switzerland

18:30 A TWO-STEP TIME OF ARRIVAL ESTIMATION ALGORITHM FOR IMPULSE RADIO ULTRA WIDEBAND SYSTEMS

Sinan Gezici, Princeton University, United States; Zafer Sahinoglu, Andreas F. Molisch, Mitsubishi Electric Research Laboratories, United States; Hisashi Kobayashi, H. Vincent Poor, Princeton University, United States

[top>>](#)