17th DSP 2011

International Conference on Digital Signal Processing

6-8 July 2011 ▪ Corfu ▪ Greece

Technical Program

IEEE EURASIP

17th DSP 2011

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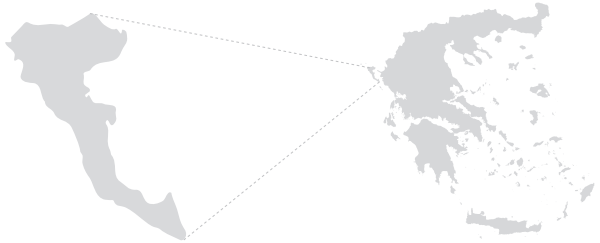
on Digital Signal Processing
6-8 July 2011
Corfu, Greece

IEEE
EURASIP
HELLENIC REPUBLIC IONIAN UNIVERSITY 1984
IEEE Signal Processing Society

Contents



Welcome to Greece and Corfu

Greece

Greece (Hellas) is the birthplace of democracy and modern conventions. Thousands of years ago, Hellas had already gained stature as a democratic nation. Democracy thrives on dialogue and on meetings as a forum for dialogue. Simply, conventions symbolise democracy and communication, past and present. It is only natural then, that the greatest sports gatherings of mankind, the "Olympics", originated in Hellas. The ancient Hellenic spirit of reverence for meetings has been passed on to contemporary Hellas.

Corfu

The island of Corfu, located just off the West coast of Greece, enjoys a mild Mediterranean climate, and offers a unique landscape combining a beautiful coastline with large forested areas.

Corfu is known for its Post War architectural style buildings, superbly maintained in the town of Corfu. There one can visit the Municipal Library, the only Museum of Asian Art in the country, an annex of the National Gallery, a Readers Society and an annex of the General State Archives, all of which keep the island's multicultural and intellectual tradition and history alive.

The Palace of Saint Michael and Saint George, decorated with themes inspired by the Ionian Islands, the Ancient and the New Fortresses, the unique Saint Spyridon's church, with influences from the Italian art, the Town Hall and the Achillion, which used to be a royal palace and now serves as a museum, will impress the visitor with their beauty and splendor.

Visiting the fortresses, the old mansions, the monasteries, passing time at cafes and village taverns, the visitor can enjoy a living culture, which is also evident in the charming personality of Corfiots.

Apart from its rich history and exceptional natural beauty, Corfu represents a cultural and intellectual centre for the academic community. In 1824 the Ionian Academy, the first Greek University, was founded in Corfu; the first School of Fine Arts was also founded in Corfu. Nowadays, the Ionian University continues to offer to the development of the academic community. Opened to students in 1985, the University has shown remarkable growth and progress so far, fostering a number of fresh academic departments and a staff of young scholars and skilful teachers.

History of Corfu

Corfu has a long and eventful history, marked by Greek, Roman, Venetian and French occupations, with two forts standing till this day, reminding to the visitor the glorious and difficult times passed. Corfu is mentioned in a number of myths and legends and has been associated with Hercules, Homer, Odysseus (Ulysses), and Jason with his Argonauts. Not surprisingly, Corfu Town is on the UNESCO World Heritage List, thus ensuring the protection and preservation of the architecture and monuments of the island.

Founded by the Corinthians in the eighth century BC, Corfu played a crucial role in the Persian and Peloponnesian Wars, but suffered later due to its position on the fringes of different empires.

Great mobility has been detected on the island through the ages. From the 12th century and on, Corfu and the Ionian Islands in general have followed a different historical path in relation to the rest of Greece. Having experienced Venetian, French and English rule, the Ionian Islands differ historically from most Greek provinces, which, after the fall of the Byzantine Empire in the 15th century, became part of the Ottoman Empire until the 19th century and the beginning of the 20th, when these territories gradually gained their freedom and joined the newly established Greek state. These different routes brought the Ionian Islands closer to the western European ways of life and thinking, which, in turn, left their mark on the urban and rural landscape of the islands, on the mentality of people and their customs.

After their Union, the Ionian Islands shared a common course with the rest of Greece, acknowledging the need for the formation of an atmosphere of inner coherence and uniformity among the provinces of the newly established State. As a consequence, the distinctive character of the Ionian Islands started to gradually fade away.

Nowadays, Corfu maintains its unique profile, with the impressive historical architecture, its cultural tradition in music, arts, and literature, and the charming dialect of its inhabitants. Nonetheless, it also displays a modern and dynamic profile indicating its dominance among the Ionian Islands.

Welcome Message
Steering Committee

On behalf of the Steering Committee, it is with great pleasure that I welcome you on the beautiful Greek island of Corfu, for the 2011 17th International Conference on Digital Signal Processing (DSP 2011).
This is the most longstanding Conference in the area of Digital Signal Processing, with 43 years of life. Almost half a century of the DSP history is recorded in its Conference Proceedings.
The international DSP series of events originated in London by Professor Anthony G. Constantinides (Imperial College London, UK) in 1968. Since then, this scientific journey continues by stopping over every two or three years in Florence (Italy), Nicosia (Cyprus), Lemesos (Cyprus), Cardiff (UK), Santorini (Greece) and currently in Corfu (Greece), the Faiakon island as referred to in Homer's Odyssey.
We do hope that the DSP Conferences will continue their scientific journey bringing about new research discoveries in the Digital Signal Processing area and spotlighting the technological advancements in the service of humanity.

Athanassios N. Skodras
DSP Conferences Steering Committee

Welcome Message
General Chair

On behalf of the Organizing Committee, it is my pleasure to welcome you to the 17th International Conference on Digital Signal Processing (DSP2011). This is a conference that has charted the path of all major developments in the field of Signal Processing for almost half a century - longer than most other events in the field – and is today acknowledged as an established top-quality forum rooted in a tradition of technical innovation and excellence but also looking confidently into the challenges of the future. This year we are privileged to be hosting it on the Ionian island of Corfu, a crossroads and a cultural hub of the Mediterranean basin, steeped in history and tradition and bathed in the extraordinary light, landscape and scenery that has inspired so many, from Homer to Gerald Durrell and beyond.
Sincere thanks are due to all our contributors; the Authors for entrusting us with the dissemination of the fruits of their research; the Special Session Organizers for enriching our Technical Program with extra flavor and new directions; the Reviewers who selflessly gave us their invaluable time and expertise; the technical co-sponsors, namely the IEEE and EURASIP, for their precious multi-faceted support and advice; finally the members of the Technical Program, Steering and Local Organizing Committees for tirelessly providing the backbone of the required infrastructure and operations.
We invite you to fully immerse in the experience in the hope that you will enjoy taking part in DSP 2011 as much as we enjoyed organizing it!!

Theodore Vlachos
General Chair, DSP2011

Welcome Message
Technical Program Committee Chairs

On behalf of the Programme Committee, we would like to welcome you to the 17th International Conference on Digital Signal Processing (DSP2011). This year the conference is held in Corfu, the principal town of the Corfu island located in the Ionian sea at the very north-west part of Greece.

We are pleased to announce that the 17th DSP conference has attracted a large number of high-quality contributions from all over the world. As a consequence, a rich technical programme has been formed, consisting of both special and regular session papers. More specifically, a total of 62 papers are included in 11 special sessions, listed below, organised by internationally recognised scientists and pioneers in a wide range of digital signal processing fields:

- Game Theory in Signal Processing for Communications, Daniel Palomar (Hong Kong UST) and Gesualdo Scutari (U. Rome)
- Sparsity-aware Signal Processing, George Giannakis and Daniele Angelosante (U. Minnesota)
- Signal Processing for Cognitive Radio, Sergio Barbarossa (U. Rome)
- Signal Processing for Radar, Marco Lops (U. Cassino) and Fulvio Gini (U. Pisa)
- Intelligent Digital Audio Effects - i-DAFx, Udo Zoelzer (Helmut Schmidt U., Hamburg)
- Biologically-inspired Digital Signal Processing, Steve McLaughlin (U. Edinburgh)
- Signal and Image Restoration, Michel Barlaud and Eric Debreuve (U. Nice-Sophia Antipolis)
- Multiview and 3D Video Coding, Marco Cagnazzo and B. Pesquet-Popescu (Telecom-ParisTech)
- Advanced SAR Processsing Techniques, Giorgio Franceschetti and Daniele Riccio (U. Naples)
- Signal Processing in Optical Remote Sensing, Gabriele Moser and Sebastiano Serpico (U. Genoa)
- Human 3D Perception and 3D Video Assessments, Y-J Jung (KAIST), Y-M Ro (KAIST) and K. Plataniotis (U. Toronto)

Apart from the contributions targeted to the above special sessions, we additionally received a large number (143) of submissions. Each of them was evaluated by at least two reviewers. Based on these reviews, 99 papers were included in the conference technical program for oral presentation, resulting in an acceptance rate of 69%. These papers were arranged in 20 oral sessions.

The technical program is also highlighted by four plenary lectures:

- Sampling in the Age of Sparsity by Martin Vetterli (Swiss Federal Institute of Technology, Lausanne)
- Signal Processing in the Encrypted Domain by Inald Lagendijk (Delft University of Technology)
- Signal Processing Challenges in Satellite Networks by Björn Ottersten (Royal Institute of Technology, Stockholm)
- Binaural Signal Processing by Jens Blauert (Ruhr-University, Bochum)

We would like to express our sincere gratitude to all the persons that contributed to the organization of such a complex event. First of all, the special session organisers, who were responsible for defining the specific topic of their session, inviting the speakers, and assessing the scientific impact and novelty of their submissions. Then, to all Programme Committee members and the large number of reviewers for offering their time to provide quality reviews. Special thanks are targeted to our keynote speakers who will touch themes of great interest for the signal processing community. Last, but not least, we would like to thank all the authors for their contributions that resulted in a high quality Technical Programme.

We hope that you will enjoy your stay in Corfu and that the DSP2011 conference will be a memorable event.

Andreas Floros and Giovanni Poggi
Technical Program Committee Chairs, DSP 2011

The 2011 International Conference on Digital Signal Processing (DSP 2011) is the 17th in a series of conferences organised in co-operation with IEEE Signal Processing Society and EURASIP. It covers all theoretical and experimental aspects of digital signal and image processing. Such conferences are possible only because of the continuing interest and support of the members of the above organisations, expressed both by their submission of papers of high quality and by their attendance at the Conference. The DSP 2011 Organising Committee is grateful to all authors, session chairs and session organisers for contributing to the success of the Conference.

Acknowledgements

We wish to thank the following for their contribution to the success of this conference:

Ionian University – Greece

Hellenic Open University (HOU) – Greece

Digital Systems and Media Computing Laboratory – HOU - Greece

IEEE Greece Section

IEEE Signal Processing Society

IEEE Signal Processing Greece Chapter

IEEE Circuits and Systems Greece Chapter

GoBroadBand – Corfu – Greece

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In addition to the members of the Program and Organising Committees, the following scientists kindly contributed to the reviewing of the DSP2011 contributions:

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Useful Information

Passport and Visa
A valid passport is required for entry in Hellas (Greece). An identity card is sufficient for citizens of the EU member countries. No visas are required for visitors from West European countries, USA, Japan, American countries and the British Commonwealth. For all other countries, visas are available on a reciprocal basis. Please consult the Hellenic Consulate nearest to you for specific details.

International Driver's License
If you wish to drive a car while in Greece, you must obtain a European or an International driver's license in your home country.

Clothing
Light summer clothes, short sleeves, sandals, swim wear, sunglasses.

Currency Exchange
The Greek currency unit is the Euro (€). One (1) € is about 1.46 USD, 0.89 GBP or 1.22 CHF at the time of writing. Foreign currency can be exchanged at the airport and the banks.

Insurance
All kinds of insurance, including medical coverage, is left to your responsibility. We recommend you discuss your insurance coverage with your travel agent.

Electricity
Three–pin flat electric (220 Volts, 50 Hz) outlets are provided.

Measurement System
All physical quantities are expressed in the metric system.

Credit cards
Most shops, hotels and restaurants accept Visa, MasterCard, Diners Club and American Express credit cards as well as Euro Cheques and Euro Cards.

Language
The official language of the Conference is English.

Climate
The climate of Corfu is quite different than on mainland of Greece, with infrequent periods of heavy rain resulting in particularly lush vegetation. During the summer months, Corfu can enjoy an extremely hot summer climate, with many holidaymakers choosing to sunbathe at the beaches, and cool down in the sea. During July and in the

daytime regularly temperatures of more than 31˚C / 88˚F can be observed; however, it is not uncommon to see highs topping 40˚C / 104˚F. Relative humidity is on average around 59%. The sun shines eleven to twelve hours per day and the water temperature is about 23˚C / 77˚F.

Useful Phone Numbers

Country Code (Greece):	+30
Area Code (Corfu):	26610
Corfu Airport:	89600
Corfu Harbor Master:	26613 65200
Tourist Police:	39503 / 30265
Taxi:	33811
Hospital (first aid):	26613 60400

Banking

Banking hours for the public are daily from 08:00 to 13:30 except the weekends. Centrally located banks provide "Afternoon Tourist Services", from Monday to Friday.

Business / Shopping hours

Shops are open Monday to Saturday from 09:00 to 21:00.

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TECHNICAL PROGRAM

TECHNICAL PROGRAM OVERVIEW

Tuesday - 5 July 2011

18:00 – 20:30	Registration

Wednesday - 6 July 2011

	Hall A	Hall B	Hall C
8:30 – 10:00	Registration		
10:00 – 10:30	Welcome Address		
10:30 – 11:30	Plenary 1: Sampling in the Age of Sparsity (Prof. Martin Vetterli)		
11:30 – 13:00	Signal Processing in Optical Remote Sensing (W1A)	Signal Processing for Communi-cations I (W1B)	Image Sequence and Stereoscopic Processing (W1C)
13:00 – 14:00	Lunch Break		
14:00 – 15:00	Plenary 2: Signal Processing in the Encrypted Domain (Prof. Inald Lagendijk)		
15:00 – 17:00	Game Theory in Signal Processing for Communi-cations (W2A)	Architectures and Implementations I (W2B)	Event and Object Detection (W2C)
17:00 – 17:30	Coffee Break		
17:30 – 19:00	Human 3D Perception and 3D Video Asse-ssments I (W3A)	Blind Signal Processing (W3B)	Recognition and Tracking (W3C)
20:30	Welcome Reception at Ionian Academy		

Special Session

Thursday - 7 July 2011

	Hall A	Hall B	Hall C
9:00 – 10:30	Human 3D Perception and 3D Video Assessments II (T1A)	Speech Processing and Enhancement (T1B)	Image and Video Coding I (T1C)
10:30 – 11:00	Coffee Break		
11:00 – 13:00	Intelligent Digital Audio Effects (T2A)	Signal Processing for Communications II (T2B)	Biomedical Image Processing (T2C)
13:00 – 14:00	Lunch Break		
14:00 – 15:00	Plenary 3: Binaural Signal Processing (Prof. Jens Blauert)		
15:00 – 17:00	Signal and Image Restoration (T3A)	Advanced SAR Processing Techniques (T3B)	Architectures and Implementations II (T3C)
17:00 – 17:30	Coffee Break		
17:30 – 19:00	Biologically-inspired Digital Signal Processing (T4A)	Image Processing Applications (T4B)	Signal Processing for Cognitive Radio (T4C)
20:30	Social Event		

Friday - 8 July 2011

	Hall A	Hall B	Hall C
9:00 – 10:30	Sparsity Aware Signal Processing I (F1A)	Biometrics (F1B)	Image and Video Coding II (F1C)
10:30 – 11:00	Coffee Break		
11:00 – 13:00	Signal Processing for Radar (F2A)	Speech and Audio Signal Processing (F2B)	Watermarking and Forensics (F2C)
13:00 – 14:00	Lunch Break		
14:00 – 15:00	Plenary 4: Signal Processing Challenges in Satellite Networks (Prof. Björn Ottersten)		
15:00 – 17:00	Multiview and 3D Video Coding (F3A)	Filtering and Spectral Estimation (F3B)	Image Analysis and Enhancement (F3C)
17:00 – 17:30	Coffee Break		
17:30 – 19:00	Sparsity Aware Signal Processing II (F4A)	Biomedical Signal Processing (F4B)	Signal Processing Applications (F4C)
19:00	Adjournment		

Special Session

Special Session

Session Notation

DzH.n

- **Rank of Presentetion**
- **Hall**
  - A: Hall A
  - B: Hall B
  - C: Hall C
- **Time zone**
  1. 9:00 - 10:30
  2. 11:00 - 13:00
  3. 15:00 - 17:00
  4. 17:30 - 19:00
- **Day**
  - W:Wednesday
  - T: Thursday
  - F: Friday

Wednesday - 6 July 2011

PLENARY 1
SAMPLING IN THE AGE OF SPARSITY
Martin Vetterli
(Swiss Federal Institute of Technology, Lausanne (EPFL))
Time: 10.30 – 11.30

PLENARY 2
SIGNAL PROCESSING IN THE ENCRYPTED DOMAIN
Inald Lagendijk (Delft University of Technology)
Time: 14.00 – 15.00

Thursday - 7 July 2011

PLENARY 3
BINAURAL SIGNAL PROCESSING
Jens Blauert (Ruhr-University, Bochum (RUB))
Time: 14.00 – 15.00

Friday - 8 July 2011

PLENARY 4
SIGNAL PROCESSING CHALLENGES
IN SATELITE NETWORKS
Björn Ottersten
(Royal Institute of Technology, Stockholm (KTH))
Time: 14.00 – 15.00

Wednesday - 6 July 2011

SESSION W1A
Signal Processing in Optical Remote Sensing
Type: Special Session
Time & Place: 11.30 – 13.00, Hall A
Chairpersons & Organisers: Gabriele Moser and Sebastiano Serpico (U. Genoa, Italy)

W1A.1 RESIDUAL STRIPING REDUCTION IN HYPERSPECTRAL IMAGES
Nicola Acito, Accademia Navale (Italy)
Giovanni Corsini, University of Pisa (Italy)
Marco Diani, University of Pisa (Italy)

W1A.2 JOINT CLASSIFICATION OF PANCHROMATIC AND MULTISPECTRAL IMAGES BY MULTIRESOLUTION FUSION THROUGH MARKOV RANDOM FIELDS AND GRAPH CUTS
Gabriele Moser, Sebastiano Serpico,
University of Genoa (Italy)

W1A.3 MORPHOLOGICAL ROAD SEGMENTATION IN URBAN AREAS FROM HIGH RESOLUTION SATELLITE IMAGES
Raffaele Gaetano, Telecom Paristech (France)
Josiane Zerubia, INRIA Sophia Antipolis (France)
Giuseppe Scarpa, University Federico II of Naples (Italy)
Giovanni Poggi, University Federico II of Naples (Italy)

W1A.4 IDENTIFICATION OF ROOFS PERIMETER FROM AERIAL AND SATELLITE IMAGES
Elena Angiati, Silvana Dellepiane,
University of Genoa (Italy)

W1A.5 AUTOMATIC AERIAL IMAGE SEGMENTATION BASED ON CHAN-VESE MODEL USING FEATURES OF COLOR AND TEXTURE
Parvin Ahmadi, Saeed Sadri, Rassoul Amirfattahi,
Niloofar Gheissari, Azam Taheri,
Isfahan University of Technology (Iran)

SESSION W1B
Signal Processing for Communications I
Type: Regular Session
Time & Place: 11.30 – 13.00, Hall B
Chairpersons: K. Slavakis (U. Peloponnese, Greece)
E. Jorswieck (Dresden U. Technology, Germany)

W1B.1 MMSE TRANSMIT DIVERSITY SELECTION FOR MULTI-RELAY COOPERATIVE MIMO SYSTEMS USING DISCRETE STOCHASTIC GRADIENT ALGORITHMS
Patrick Clarke, Rodrigo De Lamare, University of York (U.K.)

W1B.2 SECOND-ORDER MODELING FOR RAYLEIGH FLAT FADING CHANNEL ESTIMATION WITH KALMAN FILTER
Laurent Ros, Gipsa-Lab, University of Grenoble (France)
Eric-Pierre Simon, TELICE, Université de Lille 1 (France)

W1B.3 EXTENDED ORTHOGONAL SPACE-TIME BLOCK CODING SCHEME IN ASYNCHRONOUS TWO-WAY COOPERATIVE RELAY NETWORKS OVER FREQUENCY-SELECTIVE FADING CHANNELS
Faisal Alotaibi, Faied Abdurahman, Usama Mannai,
Jonathon Chambers, Loughborough University (U.K.)

W1B.4 SET-MEMBERSHIP CONSTRAINED CONJUGATE GRADIENT ADAPTIVE FILTERING ALGORITHM AND ITS APPLICATION TO BEAMFORMING
Lei Wang, Rodrigo De Lamare, University of York (U.K.)

SESSION W1C

Image Sequence and Stereoscopic Processing

Type: Regular Session
Time & Place: 11.30 – 13.00, Hall C
Chairpersons: F. Dufaux (Télécom ParisTech, France)
D. Androutsos (Ryerson U., Canada)

W1C.1 GUIDING OPTICAL FLOW ESTIMATION USING SUPERPIXELS
Theodosios Gkamas, Christophoros Nikou, University of Ioannina (Greece)

W1C.2 FAST ALGORITHM FOR LOCAL STEREO MATCHING IN DISPARITY ESTIMATION
Yu-Cheng Tseng, Tian-Sheuan Chang, National Chiao Tung University (Taiwan)

W1C.3 BANDWIDTH-CONSTRAINED MOTION ESTIMATION FOR REAL-TIME MOBILE VIDEO APPLICATION
Jui-Hung Hsieh, Tian-Sheuan Chang, National Chiao-Tung University (Taiwan)

W1C.4 MOTION VECTOR RECOVERY BASED COLOUR INFORMATION
Siriwhaddhanah Pongpadpinit, Assumption University (Thailand)

SESSION W2A

Game Theory in Signal Processing for Communications

Type: Special Session
Time & Place: 15.00 – 17.00, Hall A
Chairpersons & Organisers: Daniel Palomar (Hong Kong UST) and Gesualdo Scutari (U. Rome)

W2A.1 SINGLE TIMESCALE STOCHASTIC APPROXIMATION FOR STOCHASTIC NASH GAMES IN COGNITIVE RADIO SYSTEMS
Jayash Koshal, Angelia Nedich, Uday Shanbhag, University of Illinois at Urbana-Champaign (U.S.A.)

W2A.2 DISTRIBUTED MIN-MAX OPTIMIZATION IN NETWORKS
Kunal Srivastava, Angelia Nedich, Dusan Stipanovic, University of Illinois at Urbana-Champaign (U.S.A.)

W2A.3 SMART CARRIER SENSING FOR DISTRIBUTED COMPUTATION OF THE GENERALIZED NASH BARGAINING SOLUTION
Amir Leshem, Ephraim Zehavi, Bar Ilan University (Israel)

W2A.4 STABLE MATCHINGS FOR RESOURCE ALLOCATION IN WIRELESS NETWORKS
Eduard Jorswieck, Technical University Dresden (Germany)

W2A.5 A STOCHASTIC GAME FORMULATION OF ENERGY-EFFICIENT POWER CONTROL: EQUILIBRIUM UTILITIES AND PRACTICAL STRATEGIES
Francois Meriaux, Maël Letreust, Samson Lasaulce, Michel Kieffer, L2S - CNRS - SUPELEC - Univ Paris-Sud (France)

W2A.6 JOINT SENSING AND POWER ALLOCATION IN NONCONVEX COGNITIVE RADIO GAMES: QUASI-NASH EQUILIBRIA
Gesualdo Scutari, State University of New York (SUNY) at Buffalo (U.S.A.)
Jong-Shi Pang, University of Illinois at Urbana-Champaign (U.S.A.)

SESSION W2B

Architectures and Implementations I

Type: Regular Session
Time & Place: 15.00 – 17.00, Hall B
Chairpersons: G. Knittel (Max-Planck-Inst for Radio Astronomy, Germany) – D. Efstathiou (TEI Serres, Greece)

W2B.1 AN EFFICIENT BLIND TIMING SKEWS ESTIMATION FOR TIME-INTERLEAVED ANALOG-TO-DIGITAL CONVERTERS
Yuexian Zou, Bo Li, Xiao Chen, Shenzhen Graduate School of Peking University (China)

W2B.2 QTIB: QUICK BIT-REVERSED PERMUTATIONS ON CPUs
Guenter Knittel,
Max Planck Institute for Radio Astronomy (Germany)

W2B.3 A DIGITAL LOOP FILTER FOR A PHASE LOCKED LOOP
Dimitrios Efstathiou,
Technological Educational Institute of Serres (Greece)

W2B.4 AN FPGA IMPLEMENTATION AND PERFORMANCE EVALUATION OF THE SEED BLOCK CIPHER
Paris Kitsos, Athanassios Skodras,
Hellenic Open University (Greece)

W2B.5 A NEW HARDWARE EFFICIENT RECONFIGURABLE FIR FILTER ARCHITECTURE SUITABLE FOR FPGA APPLICATIONS
Asgar Abbaszadeh, East Azerbaijan Science and Technology Park (Iran)
Khosrov Dabbagh Sadeghipour, University of Tabriz (Iran)

SESSION W2C

Event and Object Detection

Type: Regular Session
Time & Place: 15.00 – 17.00, Hall C
Chairpersons: J. Chambers (Loughborough U., UK)
C. Nikou (U. Ioannina, Greece)

W2C.1 FALL DETECTION FOR THE ELDERLY IN A SMART ROOM BY USING AN ENHANCED ONE CLASS SUPPORT VECTOR MACHINE
Miao Yu, Adel Rhuma, Syed Naqvi,
Jonathon Chambers, Loughborough University (U.K.)

W2C.2 FACE DETECTION IN A COMPRESSED DOMAIN
Guido Manfredi, Djemel Ziou and Marie-Flavie Auclair-Fortier, Universite de Sherbrooke (Canada)

W2C.3 AN ABANDONED AND REMOVED OBJECT DETECTION ALGORITHM IN A REACTIVE SMART SURVEILLANCE SYSTEM
Gaetano Di Caterina, John James Soraghan,
University of Strathclyde (U.K.)

W2C.4 MULTIMODAL HUMAN DETECTION BY SPARSE FEATURE PURSUIT
Juanjuan Han, University of Siegen (Germany)

W2C.5 SHOT BOUNDARY DETECTION FROM VIDEOS USING ENTROPY AND LOCAL DESCRIPTOR
Junaid Baber, Nitin Afzulpurkar, Mattew Dailey,
Maheen Bakhtyar, Asian Institute of Technology (Thailand)

W2C.6 DETECTING HUMAN BEHAVIOR EMOTIONAL CUES IN NATURAL INTERACTION
George Caridakis, Stylianos Asteriadis,
Kostas Karpouzis, Stefanos Kollias,
National Technical University of Athens (Greece)

SESSION W3A

Human 3D Perception and 3D Video Assessments I

Type: Special Session
Time & Place: 17.30 – 19.00, Hall A
Chairpersons & Organisers: Sang-il Park (KCC), Y-J Jung (KAIST) and Y-M Ro (KAIST)

W3A.1 A COMPOUND DEPTH AND IMAGE QUALITY METRIC FOR MEASURING THE EFFECTS OF PACKET LOSS ON 3D VIDEOS
L.P. Yasakethu, S.T. Worrall, D.V.S.X. De Silva, W.A.C. Fernando, A.M. Kondoz. University of Surrey (U.K.)

W3A.2 STUDY ON VISUAL DISCOMFORT INDUCED BY STIMULUS MOVEMENT AT FIXED DEPTH ON STEREOSCOPIC DISPLAYS USING SHUTTER GLASSES
Jing Li, Marcus Barkowsky, Junle Wang, Patrick Le Callet, LUNAM Université, Université de Nantes (France)

W3A.3 ATTENTION MODEL-BASED VISUAL COMFORT ASSESSMENT FOR STEREOSCOPIC DEPTH PERCEPTION
Hosik Sohn, Yong Ju Jung, Seong-Il Lee, Hyun Wook Park, Yong Man Ro, KAIST (Korea)

W3A.4 INVESTIGATION OF THE EFFECT OF THREE-DIMENSIONAL SMOOTHING ON MULTIVIEW STEREO IMAGES
Alexander Babalis, Anastasios Venetsanopoulos, Dimitri Androutsos, Ryerson University (Canada)

SESSION W3B

Blind Signal Processing

Type: Regular Session
Time & Place: 17.30 – 19.00, Hall B
Chairpersons: S. Sanei (U. Surrey, UK)
M. Scarpiniti (U. Rome, Italy)

W3B.1 A NEW METHOD FOR BLIND SEPARATION OF THE FIRST AND SECOND HEART SOUND FROM PHONOCARDIOGRAM SIGNAL BY USING WAVELET TRANSFORM
Mahdi Kheirolahi, Rassoul Amirfattahi, Behzad Nazari, Azam Taheri, Isfahan University of Technology (Iran)

W3B.2 MISSING FEATURE MASK GENERATION IN BSS OUTPUTS USING PITCH FREQUENCY
Hasti Shabani, Mohammad Hussein Kahaei, Iran University of Science & Technology (Iran)

W3B.3 POST-PROCESSING FOR CROSSTALK CANCELLATION IN CONVOLUTIVE BSS OUTPUTS BASED ON PITCH FREQUENCY
Hasti Shabani, Tahereh Noohi, Mohammad Hussain Kahaei, Iran University of Science and Technology (Iran)

W3B.4 ADAPTIVE STEP SIZE INDEPENDENT VECTOR ANALYSIS FOR BLIND SOURCE SEPARATION
Yanfeng Liang, Syed Mohsen Naqvi, Jonathon Chambers, Loughborough University (U.K.)

Thursday - 7 July 2011

SESSION W3C
Recognition and Tracking
Type: Regular Session
Time & Place: 17.30 – 19.00, Hall C
Chairpersons: P. Vlamos (Ionian U., Greece)
N. Acito (Accademia Navale, Italy)

W3C.1 A COLLECTION OF BENCHMARK IMAGES FOR TRAFFIC SIGN RESEARCH
Xiaohong Gao, Middlesex University (U.K.)

W3C.2 PSYCHOMOTOR SKILLS ASSESSMENT IN LAPAROSCOPIC SURGERY USING AUGMENTED REALITY SCENARIOS
Vasileios Lahanas, Constantinos Loukas, University of Athens (Greece)

W3C.3 AMBIGUITY DETECTION METHODS FOR IMPROVING HANDWRITTEN MATHEMATICAL CHARACTER RECOGNITION ACCURACY IN CLASSROOM VIDEOS
Smita Vemulapalli, Monson H. Hayes, Georgia Institute of Technology (U.S.A.)

W3C.4 HUMAN TRACKING IN CROWDED ENVIRONMENT WITH STEREO CAMERAS
King Shan Cheung, Kam Tim Woo, HKUST (Hong Kong)

W3C.5 SOLVE JIGSAW PUZZLE PROBLEMS WITH CO-NORMALIZATION
Shaoze Lei, Changshui Zhang, Tsinghua University (China)

SESSION T1A
Human 3D Perception and 3D Video Assessments II
Type: Special Session
Time & Place: 9.00 – 10.30, Hall A
Chairpersons & Organisers: K. Plataniotis (U. Toronto) and Y-J Jung (KAIST)

T1A.1 STEREOSCOPIC VISUAL FATIGUE MEASUREMENT BASED ON FUSIONAL RESPONSE CURVE AND EYE-BLINKS
Donghyun Kim, Yonsei University (Korea)
Sunghwan Choi, Yonsei University (Korea)
Sangil Park, KCC - Korea Communications Commission (Korea)
Kwanghoon Sohn, Yonsei University (Korea)

T1A.2 HUMAN BRAIN RESPONSE TO VISUAL FATIGUE CAUSED BY STEREOSCOPIC DEPTH PERCEPTION
Dongchan Kim, Yong Ju Jung, Eunwoo Kim, Yong Man Ro, Hyun Wook Park, KAIST (Korea)

T1A.3 SUBJECTIVE EVALUATION OF TONE-MAPPING METHODS ON 3D IMAGES
Zicong Mai, Colin Doutre, Panos Nasiopoulos, Rabab Ward, University of British Columbia (Canada)

T1A.4 CORRESPONDENCE NORMAL DIFFERENCE: AN ALIGNED REPRESENTATION OF 3D FACES TO APPLY DISCRIMINANT AANALYSIS METHODS
Narges Mohammadzade, Dimitrios Hatzinakos, University of Toronto (Canada)

SESSION T1B

Speech Processing and Enhancement

Type: Regular Session
Time & Place: 9.00 – 10.30, Hall B
Chairpersons: N. Fonseca (Polytech Inst Leiria, Portugal)
A. Spanias (ASU, USA)

T1B.1 A PARALLEL CEPSTRAL AND SPECTRAL MODELING FOR HMM-BASED SPEECH ENHANCEMENT
Hadi Veisi, Hossein Sameti, Sharif University of Technology (Iran)

T1B.2 A SCALABLE FREQUENCY DOMAIN-BASED LINEAR CONVOLUTION ARCHITECTURE FOR SPEECH ENHANCEMENT
Christelle Yemdji, EURECOM (France)
Moctar Mossi I., EURECOM (France)
Nicholas Evans, EURECOM (France)
Christophe Beaugeant, Intel Mobile Communications (France)

T1B.3 SPEECH ENHANCEMENT USING SPEAKER DEPENDENT CODEBOOKS
D. Hanumantha Rao Naidu,
Sri Sathya Sai Institute of Higher Learning (India)
G. V. Prabhakara Rao,
Sri Sathya Sai Institute of Higher Learning (India)
Sriram Srinivasan, Philips Research (The Netherlands)

T1B.4 VECTOR QUANTIZATION WITH RENORMALIZED SPLITS FOR WIDEBAND SPEECH
Miguel Arjona Ramírez, University of São Paulo (Brazil)

SESSION T1C

Image and Video Coding I

Type: Regular Session
Time & Place: 9.00 – 10.30, Hall C
Chairpersons: Y. Andreopoulos (UCL, UK)
I. Deliyiannis (Ionian U. Greece)

T1C.1 A LOW-COMPLEXITY CLOSED-LOOP H.264/AVC TO QUALITY-SCALABLE SVC TRANSCODER
Sebastiaan Van Leuven, Gent University - IBBT - (Belgium)
Jan De Cock, Gent University - IBBT - (Belgium)
Glenn Van Wallendael, Gent University - IBBT - (Belgium)
Rik Van De Walle, Gent University - IBBT - (Belgium)
Rosario Garrido-Cantos,
University of Castilla-La Mancha (Spain)
José Luis Martínez, Complutense University (Spain)
Pedro Cuenca, University of Castilla-La Mancha (Spain)

T1C.2 A MODEL-BASED ANALYSIS OF SCALABLE MULTIPLE DESCRIPTION CODING
Shahid Mahmood Satti, Nikos Deligiannis,
Adrian Munteanu, Peter Schelkens, Jan Cornelis,
Vrije Universiteit Brussel (Belgium)

T1C.3 JOINT DC COEFFICIENT BAND DECODING AND MOTION ESTIMATION IN WYNER-ZIV VIDEO CODING
Nikos Deligiannis, Vrije Universiteit Brussel-IBBT (Belgium)
Marc Jacobs, Vrije Universiteit Brussel-IBBT (Belgium)
Joeri Barbarien, Vrije Universiteit Brussel-IBBT (Belgium)
Frederik Verbist, Vrije Universiteit Brussel-IBBT (Belgium)
Jozef Skorupa, Ghent University-IBBT (Belgium)
Rik Van De Walle, Ghent University-IBBT (Belgium)
Athanassios Skodras, Hellenic Open University (Greece)
Peter Schelkens, Vrije Universiteit Brussel-IBBT (Belgium)
Adrian Munteanu, Vrije Universiteit Brussel-IBBT (Belgium)

T1C.4 AN EFFICIENT MODE PRE-SELECTION ALGORITHM FOR H.264/AVC SCALABLE VIDEO EXTENSION FRACTIONAL MOTION ESTIMATION
Gwo-Long Li, Tian-SheuanChang,
National Chiao-Tung University (Taiwan)

SESSION T2A

Intelligent Digital Audio Effects

Type: Special Session
Time & Place: 11.00 – 13.00, Hall A
Chairperson & Organiser: Udo Zoelzer (Helmut Schmidt U., Germany)

T2A.1 CONCATENATIVE SINGING VOICE RESYNTHESIS
Nuno Fonseca, CIIC/ESTG/Polytechnic Institute of Leiria (Portugal)
Anibal Ferreira, University of Porto (Portugal)
Ana Paula Rocha, LIACC/FEUP/University of Porto (Portugal)

T2A.2 INTELLIGENT SYSTEMS FOR MIXING MULTICHANNEL AUDIO
Joshua D. Reiss, Queen Mary University of London (U.K)

T2A.3 A SYSTEM FOR SYNTHESIS OF BACKING VOCALS BY INTELLIGENT HARMONIZATION
Adrian Von Dem Knesebeck, Sebastian Kraft, Udo Zölzer, Helmut Schmidt University (Germany)

T2A.4 PREDICTING THE PERCEIVED LEVEL OF LATE REVERBERATION USING COMPUTATIONAL MODELS OF LOUDNESS
Christian Uhle, Jouni Paulus, Jürgen Herre, Fraunhofer IIS (Germany)

T2A.5 UPMIXING FROM MONO - A SOURCE SEPARATION APPROACH
Derry Fitzgerald, Dublin Institute of Technology (Ireland)

T2A.6 SPATIAL ENHANCEMENT FOR IMMERSIVE STEREO AUDIO APPLICATIONS
Andreas Floros, Ionian University (Greece)
Nicolas - Alexander Tatlas, Technological Educational Institute of Piraeus (Greece)

SESSION T2B

Signal Processing for Communications II

Type: Regular Session
Time & Place: 11.00 – 13.00, Hall B
Chairpersons: D. Pados (SUNY, USA) – L. Ros (Gipsa-Lab, France)

T2B.1 COMPARISON OF DISTRIBUTED SPACE FREQUENCY BLOCK CODING SCHEMES IN BROADBAND MULTI-NODE COOPERATIVE RELAY NETWORKS WITH PAPR REDUCTION
Masoud Eddaghel, Jonathon Chambers, Loughborough University (U.K.)

T2B.2 IMPROVED TOMLINSON-HARASHIMA PRECODING WITH INTERFERENCE OPTIMIZATION
Christos Masouros, Mathini Sellathurai, Tharm Ratnarajah, Queen's University Belfast (U.K.)

T2B.3 EFFICIENT BURST ERROR CORRECTION METHOD FOR APPLICATION IN LOW FREQUENCY CHANNELS AND DATA STORAGE UNITS
Nikolaos Bardis, Hellenic Army Academy (Greece)
Nikolaos Doukas, Hellenic Army Academy (Greece)
Olexander Markovskyy, National Technical University of Ukraine (Ukraine)

T2B.4 THREE-DIMENSIONAL SPATIAL CORRELATION CHARACTERISTICS OF CONCENTRIC RING ANTENNA ARRAY SYSTEMS
Ju-Hong Lee, National Taiwan University (Taiwan)
Shou-I Li, National Taiwan University (Taiwan)

T2B.5 REDUCTION DESIGN FOR DISTRIBUTED ESTIMATION IN CERTAIN INHOMOGENEOUS SCENARIOS
Jun Fang, Hongbin Li, Stevens Institute of Technology (U.S.A.)

T2B.6 ROBUST ADAPTIVE BEAMFORMING USING WORST-CASE OPTIMIZATION WITH CONSTRAINED CONSTANT MODULUS CRITERION
Lukas Landau, Ilmenau University of Technology (Germany)
Rodrigo C. De Lamare, University of York (U.K.)
Martin Haardt, Ilmenau University of Technology (Germany)

SESSION T2C
Biomedical Image Processing
Type: Regular Session
Time & Place: 11.00 – 13.00, Hall C
Chairpersons: C. Stamoulis (Harvard Med. School, USA)
A. Skodras (TUC, Technical U. Greece)

T2C.1 STATISTICAL ANALYSIS OF THE IMPACT OF DISTORTION (CORRECTION) ON AN AUTOMATED CLASSIFICATION OF CELIAC DISEASE
Michael Liedlgruber, Salzburg University (Austria)
Andreas Uhl, Salzburg University (Austria)
Andreas Vécsei, St. Anna Children's Hospital, Vienna (Austria)

T2C.2 CELL NUCLEI SEGMENTATION BY LEARNING A PHYSICALLY BASED DEFORMABLE MODEL
Marina Plissiti, Christophoros Nikou,
University of Ioannina (Greece)

T2C.3 VARIATIONAL LEVEL SET METHOD WITH SHAPE CONSTRAINT AND APPLICATION TO OEDEMA CARDIAC MAGNETIC RESONANCE IMAGE
Kushsairy Kadir, University of Strathclyde (U.K.)
Hao Gao, University of Strathclyde (U.K.)
Alex Payne, University of Glasgow (U.K.)
Colin Berry, University of Glasgow (U.K.)
John Soraghan, University of Strathclyde (U.K.)

T2C.4 AUTOMATIC SEGMENTATION OF PULMONARY ARTERY (PA) IN 3D PULMONARY CTA IMAGES
Yousef Ebrahimdoost, Kingston University (U.K.)
Salah D. Qanadli, University of Lausanne (Switzerland)
Alireza Nikravan, Kingston University (U.K.)
Tim J. Ellis, Kingston University (U.K.)
Zahra Falah Shojaee, Brunel University (U.K.)
Jamshid Dehmeski, Kingston University (U.S.A.)

T2C.5 SPOT DETECTION AND SEGMENTATION IN 2D GEL ELECTROPHORESIS IMAGES
Eirini Kostopoulou, Eleni Zacharia, Dimitris Maroulis,
National and Kapodistrian University of Athens (Greece)

T2C.6 ESTIMATION OF DIRECTIONAL BRAIN ANISOTROPY FROM EEG SIGNALS USING THE MELLIN TRANSFORM AND IMPLICATIONS FOR SOURCE LOCALIZATION
Catherine Stamoulis, Bernard Chang,
Harvard Medical School (U.S.A.)

SESSION T3A

Signal and Image Restoration

Type: Special Session

Time & Place: 15.00 – 17.00, Hall A

Chairpersons & Organisers: Michel Barlaud and Eric Debreuve (U. Nice-Sophia Antipolis)

T3A.1 WITHDRAWN

T3A.2 THE BIDIMENSIONAL EMPIRICAL MODE DECOMPOSITION WITH 2D-DWT FOR GAUSSIAN IMAGE DENOISING
Faten Ben Arfia, National Eng. School of SFax (Tunisia)
Sabri Abdelouahed, Dhar El Mahraz FES (Morocco)
Mohamed Ben Messaoud, (Tunisia)

T3A.3 EXEMPLAR-BASED IMAGE INPAINTING WITH PATCH SHIFTING SCHEME
Sarawut Tae-O-SotAkinori Nishihara, Tokyo Institute of Technology (Japan)

T3A.4 COLOR DEMOSAICING WITH CONTOUR STENCILS
Pascal Getreuer, CMLA, ENS Cachan (France)

T3A.5 A COMBINATION OF TWO NLMS FILTERS IN AN ADAPTIVE LINE ENHANCER
Tõnu Trump, Tallinn University of Technology (Estonia)

SESSION T3B

Advanced SAR Processing Techniques

Type: Special Session

Time & Place: 15.00 – 17.00, Hall B

Chairpersons & Organisers: Giorgio Franceschetti and Daniele Riccio (U. Naples, Italy)

T3B.1 ULTRANARROW-BAND SYNTHETIC APERTURE RADAR IMAGING FOR ARBITRARY FLIGHT TRAJECTORIES
Ling Wang, Nanjing University of Aeronautics and Astronautics (China)
Birsen Yazici, Rensselaer Polytechnic Institute (U.S.A.)

T3B.2 SPARSE RECONSTRUCTION TECHNIQUES FOR SAR TOMOGRAPHY
Xiao Xiang Zhu,
Technische Universität München (Germany)
Richard Bamler, TUM, DLR (Germany)

T3B.3 POLARIMETRIC SAR IMAGES SEGMENTATION INCORPORATING TEXTURE FEATURES
Assia Kourgli, USTHB, (Algeria)
Youcef Oukil, USTHB, (Algeria)
Azziz Hirche, USTHB, (Algeria)
Mounira Ouarzeddine, USTHB, (Algeria)

T3B.4 SPECTRAL PROCESSING FOR THE EXTRACTION OF FRACTAL PARAMETERS FROM SAR DATA
Gerardo Di Martino, Giorgio Franceschetti, Daniele Riccio, Ivana Zinno, Università di Napoli Federico II (Italy)

T3B.5 BISTATIC SAR SIMULATION: TIME AND FREQUENCY DOMAIN APPROACHES
Giorgio Franceschetti, Antonio Iodice, Antonio Natale, Daniele Riccio, Università di Napoli Federico II (Italy)

SESSION T3C

Architectures and Implementations II

Type: Regular Session
Time & Place: 15.00 – 17.00, Hall C
Chairpersons: A. Kakarountas (TEI Ionian Islands, Greece)
R. De Lamare (U. York, UK)

T3C.1 HIGH-THROUGHPUT ASIC IMPLEMENTATION OF AN ENCRYPTION CORE FOR SECURING SHARED STORAGE MEDIA
Athanasios Kakarountas, Technological Educational Institute of Ionian Islands (Greece)
Epameinontas Hatzidimitriou, University of Patras (Greece)
Athanasios Milidonis, Technological Educational Institute of Athens (Greece)

T3C.2 A WIENER MODEL FOR MEMORY HIGH POWER AMPLIFIERS USING B-SPLINE FUNCTION APPROXIMATION
Xia Hong, Yu Gong, Sheng Chen, University of Reading (U.K.)

T3C.3 THROUGHPUT-PRECISION COMPUTATION FOR GENERIC MATRIX MULTIPLICATION: TOWARD A COMPUTATION CHANNEL FOR HIGH-PERFORMANCE DIGITAL SIGNAL PROCESSING
Anastasia Davide, Yiannis Andreopoulos,
University College London (U.K.)

T3C.4 A SYNDROME-BASED LDPC DECODER WITH VERY LOW ERROR FLOOR
Ioannis Tsatsaragkos, Nikolaos Kanistras, Vassilis Paliouras, University of Patras (Greece)

T3C.5 MULTIPLE LDPC DECODER OF VERY LOW BIT-ERROR RATE
Ioannis Tsatsaragkos, Nikolaos Kanistras,
Vassilis Paliouras, University of Patras (Greece)

T3C.6 NOVEL INTENTIONAL PUNCTURING SCHEMES FOR FINITE-LENGTH IRREGULAR LDPC CODES
Jingjing Liu, Rodrigo de Lamare, University of York (U.K.)

SESSION T4A

Biologically-Inspired Digital Signal Processing

Type: Special Session
Time & Place: 17.30 – 19.00, Hall A
Chairperson: Elias Aboutanios, (U. New South Wales, Australia)
Organiser: Steve McLaughlin (U. Edinburgh, UK)

T4A.1 AN INSTANTANEOUS FREQUENCY BASED ALGORITHM FOR THE PROCESSING OF NMR DATA
Elias Aboutanios,
University of New South Wales (Australia)
Yannis Kopsinis, University of Athens (Greece)

T4A.2 BIO-INSPIRED SONAR
Yan Pailhas, Chris Capus, Keith Brown,
Heriot Watt University (U.K.)

T4A.3 EXTRACTION OF ECG FROM SINGLE CHANNEL EMG SIGNAL USING CONSTRAINED SINGULAR SPECTRUM ANALYSIS
Saeid Sanei, Ahmadreza Hosseini-Yazdi,
University of Surrey (U.K.)

T4A.4 ANALYTE DETECTION USING AN ION-CHANNEL SENSOR ARRAY
Prasanna Sattigeri, Karthikeyan Ramamurthy, Jayaraman Jayaraman Thiagarajan, Andreas Spanias, Michael Goryll, Trevor Thornton,
Arizona State University (U.S.A.)

SESSION T4B

Image Processing Applications

Type: Regular Session
Time & Place: 17.30 – 19.00, Hall B
Chairpersons: P. Agathoklis (U. Victoria, Canada)
D. Maroulis (U. Athens, Greece)

T4B.1 CUDA ACCELERATED ILLUMINATION PREPROCESSING ON GPUS
Nicholas Vandal, Marios Savvides, Carnegie Mellon University (U.S.A.)

T4B.2 ADVANCED STATISTICAL AND ADAPTIVE THRESHOLD TECHNIQUES FOR MOVING OBJECT DETECTION AND SEGMENTATION
Lakis Christodoulou, Cyprus University of Technology (Cyprus)
Takis Kasparis, Cyprus University of Technology (Cyprus)
Oge Marques, Florida Atlantic University (U.S.A.)

T4B.3 SEAMLESS STITCHING OF IMAGES BASED ON A HAAR WAVELET 2D INTEGRATION METHOD
Ioana Sevcenco, Peter Hampton and Pan Agathoklis, University of Victoria (Canada)

T4B.4 A NEW APPROACH FOR ANCIENT INSCRIPTIONS' WRITER IDENTIFICATION
Panayiotis Rousopoulos, NTUA (Greece)
Michail Panagopoulos, Ionian University (Greece)
Constantin Papaodysseus, NTUA (Greece)
Fivi Panopoulou, NTUA (Greece)
Dimitris Arabadjis, NTUA (Greece)
Stephen Tracy, Institute of Advanced Research, Princeton (U.S.A.)
Fotios Giannopoulos, NTUA (Greece)
Solomon Zannos, NTUA (Greece)

SESSION T4C

Signal Processing for Cognitive Radio

Type: Special Session
Time & Place: 17.30 – 19.00, Hall C
Chairperson: Sergio Barbarossa (U. Rome, Italy)

T4C.1 CENSORED TRUNCATED SEQUENTIAL SPECTRUM SENSING FOR COGNITIVE RADIO NETWORKS
Sina Maleki, Geert Leus, TU Delft (The Netherlands)

T4C.2 LONG-TERM ENERGY CONSTRAINTS AND POWER CONTROL IN COGNITIVE RADIO NETWORKS
Francois Meriaux, LSS (France)
Yezekael Hayel, Lab. d'Informatique d'Avignon (France)
Samson Lasaulce, CNRS / Supélec (France)
Andrey Garnaev, V.I.Zubov Research Institute of Computational Mathematics & Control Processes (Russian Federation)

T4C.3 ADMISSION AND POWER CONTROL FOR COGNITIVE RADIO NETWORKS BY SEQUENTIAL GEOMETRIC PROGRAMMING
Emiliano Dall'Anese, Seung-Jun Kim, Georgios B. Giannakis, University of Minnesota (U.S.A.)

T4C.4 A BIO-INSPIRED FAST SWARMING ALGORITHM FOR DYNAMIC RADIO ACCESS
Paolo Di Lorenzo, Sapienza University of Rome, DIET (Italy)
Sergio Barbarossa, Sapienza University of Rome, DIET (Italy)
Ali H. Sayed, University of California, Los Angeles (U.S.A.)

Friday - 8 July 2011

SESSION F1A
Sparsity Aware Signal Processing I
Type: Special Session
Time & Place: 9.00 – 10.30, Hall A
Chairpersons & Organisers: George Giannakis and Daniele Angelosante (U. Minnesota, U.S.A.)

F1A.1 MAXIMUM A POSTERIORI ESTIMATION APPROACH TO SPARSE RECOVERY
Md Mashud Hyder, Kaushik Mahata, University of Newcastle (Australia)

F1A.2 MULTI-COSET SAMPLING FOR POWER SPECTRUM BLIND SENSING
Dyonisius Dony Ariananda, Geert Leus, Delft University of Technology (The Netherlands)
Zhi Tian, Michigan Technological University (U.S.A.)

F1A.3 REDUCED COMPLEXITY ONLINE SPARSE SIGNAL RECONSTRUCTION USING PROJECTIONS ONTO WEIGHTED L1 BALLS
Yannis Kopsinis, University of Athens (Greece)
Konstantinos Slavakis, University of Peloponnese (Greece)
SergiosTheodoridis, University of Athens (Greece)
Steve Mclaughlin, University of Edinburgh (U.K.)

F1A.4 MOTION COMPENSATION AS SPARSITY-AWARE DECODING IN COMPRESSIVE VIDEO STREAMING
Ying Liu, Ming Li, Kanke Gao, Dimitris A. Pados, State University of New York at Buffalo (U.S.A.)

SESSION F1B
Biometrics
Type: Regular Session
Time & Place: 9.00 – 10.30, Hall B
Chairpersons: S. Kollias (NTUA, Greece) – M. Savvides (CMU, USA)

F1B.1 TOWARDS ROBUST BIOHASH GENERATION FOR DYNAMIC HANDWRITING USING FEATURE SELECTION
Andrey Makrushin, Tobias Scheidat, Claus Vielhauer, Otto-von-Guericke University of Magdeburg (Germany)

F1B.2 INFORMATION THEORETIC CAPACITY ANALYSIS FOR BIOMETRIC HASHING METHODS
Cagatay Karabat, Tubitak Bilgem (Turkey)
Hakan Erdogan, Sabanci University (Turkey)
Mehmet Kivanc Mihcak, Bogazici University (Turkey)

F1B.3 FEASIBILITY STUDY OF PHOTOPLETHYSMOGRAPHIC SIGNALS FOR BIOMETRIC IDENTIFICATION
Petros Spachos, Jiexin Gao, Dimitrios Hatzinakos, University of Toronto (Canada)

F1B.4 ROBUST PERIOCULAR BIOMETRIC RECOGNITION USING MULTI-LEVEL FUSION OF VARIOUS LOCAL FEATURE EXTRACTION TECHNIQUES
Felix Juefei-Xu, Miriam Cha, Marios Savvides, Carnegie Mellon University (U.S.A.)
Saad Bedros, Jana Trojanova, Honeywell (U.S.A.)

SESSION F1C

Image and Video Coding II

Type: Regular Session

Time & Place: 9.00 – 10.30, Hall C

Chairpersons: J. Barbarien (VUB, Belgium) – A. Gotchev (TUT, Finland)

F1C.1 A PROBABILISTIC PREDICTOR FOR SIDE INFORMATION GENERATION IN DISTRIBUTED VIDEO CODING
Frederik Verbist, Nikos Deligiannis, Marc Jacobs, Joeri Barbarien, Peter Schelkens, Jan Cornelis, Adrian Munteanu, Vrije Universiteit Brussel-IBBT (Belgium)

F1C.2 A FACE IMAGE HASHING METHOD BASED ON OPTIMAL LINEAR TRANSFORM UNDER COLORED GAUSSIAN NOISE ASSUMPTION
Cagatay Karabat, Tubitak Bilgem (Turkey)
Hakan Erdogan, Sabanci University (Turkey)
Mehmet Kivanc Mihcak, Bogazici University (Turkey)

F1C. 3 CHROMA INTERPOLATION USING WINDOWED KRIGING FOR COLOR-IMAGE COMPRESSION-BY-NETWORK WITH GUARANTEED DELAY
Mauritz Panggabean, Leif Arne Rønningen, NTNU (Norway)

F1C.4 EDGE-BASED PREDICTIVE SCANNING SCHEME OF DCT COEFFICIENTS FOR INTER-FRAME VIDEO
Xingyu Zhang, Oscar Au, Feng Zou, Run Cha, Jiali Li, HKUST (Hong Kong)

SESSION F2A

Signal Processing for Radar

Type: Special Session

Time & Place: 11.00 – 13.00, Hall A

Chairpersons & Organisers: Marco Lops (U. Cassino, Italy) - Fulvio Gini (U. Pisa, Italy)

F2A.1 OPTIMAL WAVEFORM DESIGN FOR MIMO RADAR WITH LOW PROBABILITY OF INTERCEPTION
Songbai Wang, Jian Wang, Jianshu Chen, Xiuming Shan, Tsinghua University (China)

F2A.2 A JOINT SPARSE SIGNAL REPRESENTATION PERSPECTIVE FOR TARGET DETECTION USING BISTATIC MIMO RADAR SYSTEM
Md Mashud Hyder, Kaushik Mahata, University of Newcastle (Australia)

F2A.3 WALL CLUTTER MITIGATION BASED ON EIGEN-ANALYSIS IN THROUGH-THE-WALL RADAR IMAGING
Fok Hing Chi Tivive, University of Wollongong (Australia)
Moeness G. Amin, Villanova University (U.S.A.)
Abdesselam Bouzerdoum, University of Wollongong (Australia)

F2A.4 MIN-MAX WAVEFORM DESIGN FOR MIMO RADARS UNDER UNKNOWN CORRELATION OF THE TARGET SCATTERING
Emanuele Grossi, Marco Lops, Luca Venturino, Universita' degli Studi di Cassino (Italy)

F2A.5 SPECTRAL ESTIMATION OF MIGRATING TARGETS IN WIDEBAND RADAR
Francois Deudon, Stéphanie Bidon, Olivier Besson, University of Toulouse – ISAE (France)
Jean-Yves Tourneret, University of Toulouse - IRIT/ENSEEIHT (France)

F2A.6 ADAPTIVE RADAR DETECTION AND LOCALIZATION OF A POINT-LIKE TARGET IN HOMOGENEOUS ENVIRONMENT
Giuseppe Ricci, Danilo Orlando, University of Salento (Italy)

SESSION F2B

Speech and Audio Signal Processing

Type: Regular Session
Time & Place: 11.00 – 13.00, Hall B
Chairpersons: J. Mourjopoulos (U. Patras, Greece)
J. Reiss (QMUL, UK)

F2B.1 BINAURAL SOUND SOURCE LOCALIZATION IN THE PRESENCE OF REVERBERATION
Cecilia Zannini, Raffaele Parisi, Aurelio Uncini, University of Rome "La Sapienza" (Italy)

F2B.2 COMPARISON OF HAMMERSTEIN AND WIENER SYSTEMS FOR NONLINEAR ACOUSTIC ECHO CANCELERS IN REVERBERANT ENVIRONMENTS
Michele Scarpiniti, Danilo Comminiello, Raffaele Parisi, Aurelio Uncini, "La Sapienza" University of Rome (Italy)

F2B.3 THE ROLE OF VOICE ACTIVITY DETECTION IN FORENSIC SPEAKER VERIFICATION
Francesco Beritelli, Andrea Spadaccini, University of Catania (Italy)

F2B.4 SINGLE CHANNEL SPEECH MUSIC SEPARATION USING NONNEGATIVE MATRIX FACTORIZATION AND SPECTRAL MASKS
Emad M. Grais and Hakan Erdogan, Sabanci University (Turkey)

F2B.5 SPEECH DEREVERBERATION BASED ON A RECORDED HANDCLAP
Alexandros Tsilfidis, Eleftheria Georganti, Elias Kokkinis, John Mourjopoulos, University of Patras (Greece)

F2B.6 MODELING OF A 'WHAT YOU HEAR IS WHAT YOU SPEAK' (WYHIWYS) DEVICE
Karthik Mahesh Varadarajan, Vienna University of Technology (Austria)

SESSION F2C

Watermarking and Forensics

Type: Regular Session
Time & Place: 11.00 – 13.00, Hall C
Chairpersons: C. Vielhauer (Bradenburg U. Applied Sciences, Germany)
B. Cornelis (ETRO VUB, Belgium)

F2C.1 DISTORTION MEASURE OF WATERMARKING 2D VECTOR MAPS IN THE MESH-SPECTRAL DOMAIN
Andrey Davydov, Anton Kovalev, St. Petersburg State University (Russian Federation)
Konstantin Izyurov, University of Geneva & St. Petersburg State University (Russian Federation)

F2C.2 REVERSIBLE WATERMARKING WITH DIGITAL SIGNATURE CHAINING FOR PRIVACY PROTECTION OF OPTICAL CONTACTLESS CAPTURED BIOMETRIC FINGERPRINTS – A CAPACITY STUDY FOR FORENSIC APPROACHES
Ronny Merkel, Christian Kraetzer, Jana Dittmann, Otto-von-Guericke-University Magdeburg (Germany)
Claus Vielhauer, Brandenburg University of Applied Sciences (Germany)

F2C.3 PRNU-BASED DETECTION OF SMALL-SIZE IMAGE FORGERIES
Giovanni Chierchia, Sara Parrilli, Giovanni Poggi, Carlo Sansone, Luisa Verdoliva, University of Naples Federico II (Italy)

F2C.4 A HIGH CAPACITY REVERSIBLE MULTIPLE WATERMARKING SCHEME FOR MEDICAL IMAGES
Behrang Mehrbany Irany, Xin Cindy Guo, Dimitrios Hatzinakos, University of Toronto (Canada)

F2C.5 BENCHMARKING CONTACT-LESS SURFACE MEASUREMENT DEVICES FOR FINGERPRINT ACQUISITION IN FORENSIC INVESTIGATIONS: RESULTS FOR A DIFFERENTIAL SCAN APPROACH WITH A CHROMATIC WHITE LIGHT SENSOR
Mario Hildebrandt, Ronny Merkel, Marcus Leich, Stefan Kiltz, Jana Dittmann, Claus Vielhauer, Otto-von-Guericke-University Magdeburg (Germany)

F2C.6 BLIND COPY MOVE IMAGE FORGERY DETECTION USING DYADIC WAVELET TRANSFORM
Ghulam Muhammad, Muhammad Hussain, Khalid Khawaji, King Saud University (Saudi Arabia)
George Bebis, University of Nevada (U.S.A.)

SESSION F3A

Multiview and 3D Video Coding

Type: Special Session

Time & Place: 15.00 – 17.00, Hall A

Chairpersons & Organisers: Marco Cagnazzo and B. Pesquet-Popescu (Telecom-ParisTech, France)

F3A.1 SUPPORT VECTOR MACHINE BASED FUSION FOR MULTI-VIEW DISTRIBUTED VIDEO CODING
Frederic Dufaux, Telecom ParisTech (France)

F3A.2 GLOBAL VIEW AND DEPTH FORMAT FOR FTV
Takashi Ishibashi, Tomohiro Yendo,
Mehrdad Panahpour Tehrani, Nagoya University (Japan)
Toshiaki Fujii, Tokyo Institute of Technology (Japan)
Masayuki Tanimoto, Nagoya University (Japan)

F3A.3 FLOATING POLYGON SOUP
Thomas Colleu, IETR / INSA (France)
Luce Morin, IETR / INSA (France)
Stéphane Pateux, Orange Labs (France)
Claude Labit, INRIA Rennes Bretagne atlantique (France)

F3A.4 VIEW AND RATE SCALABLE MULTIVIEW IMAGE CODING WITH DEPTH-IMAGE-BASED RENDERING
Vladan Velisavljevic,
Deutsche Telekom Laboratories (Germany)
Vladimir Stankovic, University of Strathclyde (U.K.)
Jacob Chakareski, EPFL (Switzerland)
Gene Cheung, National Institute of Informatics (Japan)

F3A.5 SOURCE AND CHANNEL CODING RECIPES FOR MOBILE 3D TELEVISION
Atanas Gotchev, Tampere
University of Technology (Finland)
Dominik Strohmeier,
Ilmenau University of Technology (Germany)
Karsten Mueller, Fraunhofer HHI (Germany)
Gozde Bozdagi Akar,
Middle East Technical University (Turkey)
Venceslav Petrov, MM Solutions AD (Bulgaria)

F3A.6 DEPTH MAP CODING BY DENSE DISPARITY ESTIMATION FOR MVD COMPRESSION
Marco Cagnazzo and Béatrice Pesquet-Popescu,
Institut TELECOM, TELECOM-ParisTech (France)

SESSION F3B

Filtering and Spectral Estimation

Type: Regular Session
Time & Place: 15.00 – 17.00, Hall B
Chairpersons: T. Trump (Tallinn U. Technology, Estonia)
T. Kida (Tokyo Inst. Technology, Japan)

F3B.1 A NOVEL SUPER-RESOLUTION MUSIC-BASED PSEUDO-BISPECTRUM
Walid Zgallai, University of West London (U.K.)

F3B.2 FAST GENERALIZED SLIDING WINDOW RLS RECURSIONS FOR IIR RECURRENCE RELATED BASIS FUNCTIONS
Ricardo Merched,
Universidade Federal do Rio de Janeiro (Brazil)

F3B.3 HIGH-RESOLUTION ESTIMATION OF MULTIDIMENSIONAL SPECTRA FROM UNEVENLY SAMPLED DATA
Naveed Butt, Center for Mathematical Sciences, Lund University (Sweden)
Andreas Jakobsson, Lund University (Sweden)

F3B.4 EFFICIENT IMPLEMENTATION OF THE IAA-BASED MAGNITUDE SQUARED COHERENCE ESTIMATOR
Kostas Angelopoulos, George-Othon Glentis,
University of Peloponnese (Greece)
Andreas Jakonsson, Lund University (Sweden)

F3B.5 THE OPTIMUM RECONSTRUCTION OF VECTOR SIGNALS USING MULTI-INPUT MULTI-OUTPUT FILTER BANKS
Yuichi Kida, Ohu University (Japan)
Takuro Kida, Tokyo Institute of Technology (Japan)

SESSION F3C

Image Analysis and Enchancement

Type: Regular Session
Time & Place: 15.00 – 17.00, Hall C
Chairpersons: J. Cornelis (VUB, Belgium)
V. Chatzis (TEI Kavala, Greece)

F3C.1 A 2D BIVARIATE EMD ALGORITHM FOR IMAGE FUSION
Foteini Agrafioti, Jiexin Gao, Hoda Mohammadzade,
Dimitrios Hatzinakos, University of Toronto (Canada)

F3C.2 A NOVEL WORKSPACE FOR IMAGE CLUSTERING
Michail Krinidis, Stelios Krinidis, Vassilios Chatzis,
Technological Institute of Kavala (Greece)

F3C.3 IMPROVING TEXTURES DISCRIMINATION IN THE LOCAL BINARY PATTERNS TECHNIQUE BY USING SYMMETRY & GROUP THEORY
Sergio Alejandro Orjuela Vargas, Rolando Quinones,
Benhur Ortiz Jaramillo, Filip Rooms, Robain De Keiser,
Wilfried Philips, Ghent University (Belgium)

F3C.4 MORPHOLOGICAL WAVELETS FOR 3D VOLUME IMAGE DECORRELATION
Dragana Sandić-Stanković, IRITEL AD BEOGRAD (Serbia)

F3C.5 ALTERNATING LINE HIGH DYNAMIC RANGE IMAGING
Seungki Cho, Hyun Seok Hong, Heechul Han,
Yanglim Choi, Samsung Electronics (Korea)

F3C.6 RESOLUTION ENHANCEMENT BASED ON WAVELET ATOMIC FUNCTIONS
Volodymyr Ponomaryov, Francisco Gomeztagle Supelveda,
National Polytechnic Institute of Mexico (Mexico)
Victor Kravchenko,
Russian Academy of Sciences (Russian Federation)

SESSION F4A

Sparsity Aware Signal Processing II

Type: Special Session
Time & Place: 17.30 – 19.00, Hall A
Chairpersons & Organisers: George Giannakis and Daniele Angelosante (U. Minnesota, U.S.A.)

F4A.1 GROUP LASSOING CHANGE-POINTS IN PIECEWISE-STATIONARY AR SIGNALS
Daniele Angelosante, ABB Schweiz (Switzerland)
Georgios B. Giannakis, University of Minnesota (U.S.A.)

F4A.2 COMPRESSED CHANNEL SENSING : IS THE RESTRICTED ISOMETRY PROPERTY THE RIGHT METRIC?
Anna Scaglione, Xiao Li, University of California Davis (U.S.A.)

F4A.3 ENERGY PRESERVING MATCHING OF SENSOR NETWORK TOPOLOGY TO DEPENDENCY GRAPH OF THE OBSERVED FIELD
Stefania Sardellitti, Sergio Barbarossa,
University of Rome La Sapienza (Italy)

F4A.4 BLIND IDENTIFICATION OF SPARSE CHANNELS AND SYMBOL DETECTION VIA THE EM ALGORITHM
Gerasimos Mileounis, Nicholas Kalouptsidis,
University of Athens (Greece)
Behtash Babadi, Vahid Tarokh,
Harvard University (U.S.A.)

F4A.5 DETERMINISTIC PILOT SEQUENCES FOR SPARSE CHANNEL ESTIMATION IN OFDM SYSTEMS
Lorne Applebaum, Princeton University (U.S.A.)
Waheed Bajwa, Duke University (U.S.A.)
Robert Calderbank, Princeton University (U.S.A.)
Jarvis Haupt, University of Minnesota (U.S.A.)
Robert Nowak, University of Wisconsin–Madison (U.S.A.)

SESSION F4B

Biomedical Signal Processing

Type: Regular Session
Time & Place: 17.30 – 19.00, Hall B
Chairpersons: A. Giannakoulopoulos (Ionian U., Greece)
W. Zgallai (U. West London, UK)

F4B.1 A PLOYCOHERENCE-BASED ECG SIGNAL NON-LINEARITY DETECTOR
Walid Zgallai, University of West London (U.K.)

F4B.2 MUSIC PSEUDO-BISPECTRUM DETECTS ECG ISCHAEMIA
Walid Zgallai, University of West London (U.K.)

F4B.3 AN ENHANCED EMD ALGORITHM FOR ECG SIGNAL PROCESSING
Foteini Agrafioti, Dimitrios Hatzinakos,
University of Toronto (Canada)

F4B.4 COMPUTATION TIME STUDY IN BIOMEDICAL SIGNAL PROCESSING WITH EMPIRICAL MODE DECOMPOSITION: THE CASE OF ELECTROCARDIOGRAM
Alexandros Karagiannis, Philippos Constantinou,
National Technical Universi

SESSION F4C

Signal Processing Applications

Type: Regular Session

Time & Place: 17.30 – 19.00, Hall C

Chairpersons: M. Panagopoulos (Ionian U., Greece)
I. Kyprianidis (AUTH, Greece)

F4C.1 AUGMENTING VIRTUAL-REALITY ENVIRONMENTS WITH SOCIAL-SIGNAL BASED MUSIC CONTENT
Ioannis Karydis, Ionian University (Greece)
Ioannis Deliyannis, Andreas Floros,
Ionian University (Greece)

F4C.2 AN APPLICATION OF SPARSE INVERSION ON THE CALCULATION OF THE INVERSE DATA SPACE OF GEOPHYSICAL DATA
Christos Saragiotis, King Abdullah University of Technology and Science (Saudi Arabia)
Panos Doulgeris, Eric Verschuur, Delft University of Technology (The Netherlands)

F4C.3 MITIGATE HIGH POWER INTERFERECE NOISE IN CHIRP RADAR SYSTEMS USING EMD-FRFT FILTERING
Sherif Elgamel, John Soraghan,
University of Strathclyde (U.K.)

F4C.4 THE MEMRISTOR AS AN ELECTRIC SYNAPSE. SYNCHRONIZATION PHENOMENA
Christos Volos, University of Military Education (Greece)
Ioannis Kyprianidis, Ioannis Stouboulos,
Aristotle University of Thessaloniki (Greece)

F4C.5 ON THE USE OF DOUBLE-LSB AND SIGNED-LSB ENCODINGS FOR RNS
Evangelos Vassalos, University of Patras (Greece)
Dimitris Bakalis, University of Patras (Greece)
Haridimos Vergos, University of Patras (Greece)

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