

ISSPIT 2016

Limassol, Cyprus

The 16th IEEE International
Symposium on Signal Processing and
Information Technology

Conference Programme

Monday, December 12

Tuesday, December 13

Wednesday, December 14

Time/Day	Monday, December 12	
	Registration/ Support Desk hours (08:00 – 13:00 & 14:00 - 17:00)	
08:45-09:00	Room: Panorama	
	Opening Remarks Chair: Andreas Pitsillides	
09:00-10:30	Room: Panorama	Room: Megaron G
	AASP Audio, Acoustic Signal Processing	SPTM 1 Signal Processing Theory & Methods 1
10:30-11:00	Coffee Break	
11:00-13:00	Room: Panorama	
	T1 Tutorial 1: Commercial Wireless Communication Microwave Links as a Virtual Sensor Network for Precipitation Mapping – A Real Life IoT application	
13:00-14:30	Lunch	
14:30-16:00	Room: Panorama	Room: Megaron G
	BSMC 1 Bayesian/Sequential Monte Carlo Methods 1	SPTM 2 Signal Processing Theory & Methods 2
16:00-16:30	Coffee Break	
16:30-18:00	Room: Panorama	Room: Megaron G
	BSIP 1 Biological Signal and Image Processing 1	SPCOMN 1 Signal Processing for Communications & Networks 1
19:00-20:00	Welcome Reception	

08:45 - 09:00

Opening Remarks (Panorama)

Chair: Andreas Pitsillides (University of Cyprus, Cyprus)

09:00 - 10:30

AASP: Audio, Acoustic Signal Processing (Panorama)

Chair: Yousef A Alotaibi (King Saud University, Saudi Arabia)

Application of I-Vector in Speech and Music Classification

Hao Zhang, Xu-Kui Yang, Wei-Qiang Zhang, Wen-Lin Zhang, Jia Liu

A Speech Enhancement Algorithm Using Computational Auditory Scene Analysis with Spectral Subtraction

Cong Guo, Like Hui, Wei-Qiang Zhang and Jia Liu

Classical Arabic Phoneme Contextual Analysis Using HMM Classifiers

Yousef A Alotaibi, Ali H. Meftah, Sid-Ahmed Selouani

Improved Dialect Recognition for Colloquial Arabic Speakers

Rania R Ziedan, Michael Michael, Abdelwahab Alsammak, Mona Mursi, Adel S Elmaghraby

SPTM 1: Signal Processing Theory & Methods 1 (Megaron G)

Chair: Dr. Marios Lestas (Frederick University, Cyprus)

Frequency-Domain Characterization of Singular Spectrum Analysis Eigenvectors

Michel Leles, Adriano Cardoso, Mariana Moreira, Homero Guimarães, Cristiano M. Silva, Andreas Pitsillides

Performance Comparison of Subjective Assessment Methodologies for Light Field Displays

Subbareddy Darukumalli, Peter Kara, Attila Barsi, Maria G. Martini, Tibor Balogh, Ahmed Chehaibi

An Application of Using Embedded Underwater Computing Architectures

Reda Ammar

A Subspace-based Manifold Separation Technique for Array Calibration

Minqiu Chen, Xi Chen, Xing-peng Mao

10:30 - 11:00

Coffee Break

11:00 - 13:00

T1: Tutorial 1: Commercial Wireless Communication Microwave Links as a Virtual Sensor Network for Precipitation Mapping – A Real Life IoT application (Panorama)

Chair: Dr. Marios Lestas (Frederick University, Cyprus)

Dr. Hagit Messer, Dr. Jonatan Ostrometzky (School of Electrical Engineering, Tel-Aviv University)

13:00 - 14:30

Lunch

14:30 - 16:00

BSMC 1: Bayesian/Sequential Monte Carlo Methods 1 (Panorama)

Chair: Paris Kaimakis (University of Central Lancashire, Cyprus)

Controlled Airspace Infringements and Warning System

Yusra Almathami, Reda Ammar

A Novel Computationally Efficient SMC-PHD Filter Using Particle-measurement Partition

Rui Sun, Lingling Zhao, Xiaohong Su

Soccer Player Tracking Using Particle Filters

Paris Kaimakis, Panagiotis Petsas

PCA-Kalman Based Load Forecasting of Electric Power Demand

Lucas D X Ribeiro, Jayme Milanezi, Jr., Joao Paulo Carvalho Lustosa da Costa, William F Giozza, Ricardo Kehrle Miranda, Marcos Vinicius Vieira da Silva

SPTM 2: Signal Processing Theory & Methods 2 (Megaron G)

Chair: Victor Parque (Waseda University, Japan)

Informed Split Gradient Non-negative Matrix Factorization Using Huber Cost Function for Source Apportionment

Robert Chreiky, Gilles Delmaire, Matthieu Puigt, Gilles Roussel, Antoine B. Abche

Asymptotically Optimal Search of Unknown Anomalies

Bar Hemo, Kobi Cohen, Qing Zhao

On k-Subset Sum Using Enumerative Encoding

Victor Parque, Tomoyuki Miyashita

Transport Services Within the IoT Ecosystem Using Localisation Parameters

Zacharenia Garofalaki, Dimitrios Kallergis, Georgios Katsikogiannis, Ioannis Ellinas, Christos Douligeris

16:00 - 16:30

Coffee Break

16:30 - 18:00

BSIP 1: Biological Signal and Image Processing 1 (Panorama)

Chair: Christos Photiou (University of Cyprus, Cyprus)

Extracting Dispersion Information from Optical Coherence Tomography Images

Christos Photiou; Evgenia Bousi; Ioanna Zouvani; Costas Pitris

Unsupervised Phase Detection for Respiratory Sounds Using Improved Scale-Space Features

Feng Jin; Farook Sattar

SPCOMN 1: Signal Processing for Communications & Networks 1 (Megaron G)

Chair: Raed Mesleh (German Jordanian University, Jordan)

Relay Selection for Full-Duplex FSO Relays Over Turbulent Channels

Mohamed Abaza, Raed Mesleh, Ali Mansour, El-Hadi Aggoune

LOS Millimeter-Wave Communication with Quadrature Spatial Modulation

Raed Mesleh, Abdelhamid Younis

BER Performance of Superposed ACO-OFDM in Multi-Path Fading Channel

Tomoyuki Kozu, Kouji Ohuchi

On Blind Estimation with Reduced Complexity in CSS-OFDM Systems

Takahiro Kitazawa, Kouji Ohuchi

Time/Day	Tuesday, December 13	
	Registration/ Support Desk hours (08:30 – 13:00 & 14:00 - 17:00)	
09:00-10:30	Room: Panorama	
	Keynote Speech Keynote Speakers: Prof Danilo Mandic and Prof Anthony Constantinides Title: Complexity Science for Ultrawearable Physiological Sensing	
10:30-11:00	Coffee Break	
11:00-13:00	Room: Panorama	
	T2 Tutorial 2: Multi-way Communication and Cooperation	
13:00-14:30	Lunch	
14:30-16:00	Room: Panorama	Room: Megaron G
	SA Security Applications	SPCOMN 2 Signal Processing for Communications & Networks 2
16:00-16:30	Coffee Break	
16:30-18:00	Room: Panorama	Room: Megaron G
	BSIP 2 Biological Signal and Image Processing 2	BSMC 2/SPTM 3 Bayesian/Sequential Monte Carlo Methods 2 & Signal Processing Theory & Methods 3
18:45-22:00	Conference Dinner Departure from St. Raphael Resort (venue) at 18:45	

09:00 - 10:30

Keynote Speech (Panorama)

Keynote Speakers: Prof Danilo Mandic and Prof Anthony Constantinides

Title: Complexity Science for Ultrawearable Physiological Sensing

Chair: Dr. Christos Douligeris (Department of Informatics, University of Piraeus, Greece)

10:30 - 11:00

Coffee Break

11:00 - 13:00

T2: Tutorial 2: Multi-way Communication and Cooperation (Panorama)

Chair: Vicky Papadopoulou Lesta (European University Cyprus, Cyprus)

Dr. Aydin Sezgin, Dr. Anas Chaaban (Ruhr-Universitat Bochum, KAUST)

13:00 - 14:30

Lunch

14:30 - 16:00

SA: Security Applications (Panorama)

Chair: Antonia Gogoglou (Aristotle University of Thessaloniki & SignalGeneriX, Greece)

An Identity and Access Management Approach for SOA

Georgios Katsikogiannis, Sarandis Mitropoulos, Christos Douligeris

Early Malicious Activity Discovery in Microblogs by Social Bridges Detection

Antonia Gogoglou, Zenonas Theodosiou, Anastasis Kounoudes, Athena Vakali, Yannis Manolopoulos

Combination of Multiple Detectors for Credit Card Fraud Detection

Addisson Salazar, Gonzalo Safont, Alberto Rodriguez, Luis Vergara

Phase Based Forgery Detection of JPEG anti Forensics

Gamal El-Din Fahmy, Rolf P. Wertz

13:00 - 14:30

Lunch

14:30 - 16:00

RSP: Radar Signal Processing (Panorama)

Chair: Qing Zhang (University of Electronic Science and Technology of China, P.R. China)

Dynamic Data Driven Image Reconstruction Using Multiple GPUs

Adeesha Wijayasiri, Tania Banerjee, Sanjay Ranka, Sartaj Sahni, Mark Schmalz

BI-GESPAR:A Fast SAR Imaging Algorithm for Phase Noise Mitigation

Qing Zhang

An FPGA Architecture for Velocity Independent Backprojection in FMCW-based SAR Systems

Fabian Cholewa, Matthis Wielage, Peter Pirsch, Holger Blume

Off-grid Compressed Sensing for WiFi-based Passive Radar

Ji Wu, Yang Lu, Wei Dai

SPCOMN 3 : Signal Processing for Communications & Networks 3 (Megaron G)

Chair: Mohamad Khattar Awad (Kuwait University, Kuwait & Engineering, Canada)

Spectrum Sensing Enhancement Using Principal Component Analysis

Abbas Nasser, Ali Mansour, Koffi-Clement Yao, Hani Abdallah, Mohamad Chaitou, Hussein Charara

A Greedy Power-aware Routing Algorithm for Software-defined Networks

Mohamad Khattar Awad, Yousef Rafique, Sarah Alhadlaq, Dunya Hassoun, Asmaa Alabduhadi, Sheikha Thani

Code-Aided Interference Suppression for Communication System with MSK Modulation

Yangyong Zhang, Zhongtao Luo, Huan Zheng, Kui Ding, Ling Wang, Zi-Shu He

Performance Investigation on BCH Codec Implementations

Dejan Azinovic, Klaus Tittelbach-Helmrich, Zoran Stamenkovic

16:00 - 16:30

Coffee Break

16:30 - 18:00

IVMDSP 2 : Image, Video, and Multidimensional SP 2 (Panorama)

Chair: Huseyin Kusetogullari (Karlskrona, Sweden)

Multi-Frame Motion Compensation Using Extrapolated Frame by Optical Flow for Lossless Video Coding

Yusuke Kameda, Hiroyuki Kishi, Tomokazu Ishikawa, Ichiro Matsuda, Susumu Itoh

Handwriting Image Enhancement Using Local Learning Windowing, Gaussian Mixture Model and K-Means Clustering

Huseyin Kusetogullari, Hakan Grahn, Niklas Lavesson

Flexible Image Watermarking in JPEG Domain

Mehdi Fallahpour, David Megias

DISPS: Design & Implementation of SP Systems (Megaron G)

Chair: Zhilbert Tafa (University of Belgrade, Montenegro)

Poster Session

Novel Active PID Controller Employing VDTA

Dinesh Prasad, Mayank Srivastava, Laxya Singla, Farah Jabin, Ghania Fatima, Saif Ali Khan, Safa Tanzeem

Integrating Machine Learning in Embedded Sensor Systems for Internet-of-Things Applications

Jongmin Lee, Michael Stanley, Andreas Spanias, Cihan Tepedelenlioglu

An FPGA Design for the Two-Band Fast Discrete Hartley Transform

Lampros Pyrgas, Paris Kitsos, Athanassios N. Skodras

SPTM 5 : Signal Processing Theory & Methods 5 (Megaron G)

Chair: Zhilbert Tafa (University of Belgrade, Montenegro)

Poster Session

The Use of Adaptive Erblet Transform with Application to Ecological Data

Farook Sattar, Sarika Cullis-Suzuki, Feng Jin

Data Mining Using Probabilistic Grammar

Aljoharah Algwaiz, Sanguthevar Rajasekaran, Reda Ammar

Categorizing Hardware Failure in Large Scale Cloud Computing Environment

Moataz Khalil, Walaa Sheta, Adel S Elmaghraby

Classifying Children with Reading Difficulties From Non-Impaired Readers Via Symbolic Dynamics and Complexity Analysis of MEG Resting-State Data

Stavros I Dimitriadis, Panagiotis Simos, Nikolaos Laskaris, Spiros Fotopoulos, Jack Fletcher, Andrew Papanicolaou