

**International Symposium on Electronics and
Telecommunications
ISETC '12
Tenth Edition
Preliminary Program**

Thursday, November 15th

08⁰⁰-09³⁰ Registration – Main entry in Senate Hall (Rectorat – P-ta Victoriei no.2)

12⁰⁰-16³⁰ Registration – Faculty of Electronics and Telecommunications room A018

09³⁰ -12⁰⁰ Opening plenary session – Senate Hall (Rectorat – P-ta Victoriei no.1)

- Welcome speech - Prof. Dr. Eng. Marius Ottesteanu, Vice Rector of the “Politehnica” University of Timisoara
- Keynote speaker: Prof. Claude Berrou, Telecom Bretagne, **A mental information theory**
- Keynote speaker: Dr. Christian von Albrichsfeld, CEO Continental Automotive Timisoara
- Keynote speaker: Adrian Marina - Alcatel-Lucent

12⁰⁰-14⁰⁰ Lunch break

14⁰⁰-19³⁰ Afternoon sessions with a 15 minutes coffee break at 16⁴⁵.

20³⁰ Gala dinner - CPII Restaurant

Friday, November 16th

09⁰⁰-14⁰⁰ Morning session with a 15 minutes coffee break at 11³⁰.

Thursday, November 15th

Room A105 14⁰⁰ – 16⁴⁵ ELECTRONIC CIRCUITS

Chairmen:

Prof. Dr. Eng. Dorina Isar

Assoc. Prof. Dr. Eng. Daniel Belega

1. A Ultra Low Voltage Sigma Delta Modulator with Inverter Based Scalable Amplifier

Razvan Gabriel Vieru, Romeo Ghinea

2. SPICE parameters extraction methods of MOS transistors under ionizing irradiation action

Ionel Adrian Avram, Vitalie Rusanovschi, Mihail Rusanovschi

3. A Fully Integrated Pulse Charge Generator embedded in a 64-channel readout ASIC dedicated to a PET/CT detector module

Mohamed Walid Ben Attouch, Konin M.C. Koua, Sylvain Panier, Louis Arpin, Réjean Fontaine, Larissa Njejimana, Haithem Bouziri, Mouadh Abidi, Caroline Paulin, Roger Lecomte, Jean-François Pratte

4. Intelligent Tele-Management of Street Lighting Equiped with HID Lamps

Mircea Tomoroga, Ioan Jivet, Dan Nicoara

5. OTA Based Piecewise Linear Conductance

Manuela Mocanu, Arcadie Cracan, Liviu Goraş

6. Testing Reverse Polarity Energy Reserve Capacitor With The Automatic Crash Event Generator

Silviu Gavrilă, Ioan Lie

7. Study on the Effect of the Voltage Upon the Electrolytic Capacitors Mounted in Reverse Polarity

Silviu Gavrilă, Aurel Gontean

8. Using PIC16F870 as a Control Unit for Electrodermal Centers Analyzer

Petru Papazian, Mircea Babaita, Liana Dehelean

Room A116 14⁰⁰ – 16⁴⁵ COMMUNICATIONS 1

Chairmen:

Prof. Dr. Eng. Miranda Naorniță

Dr. Eng. Piotr Cholda

1. Performance of Trellis Termination Methods for RSC Component Codes of Turbo Codes

Maria Kovaci, Horia Balta

2. Hybrid-cladding Photonic Crystal Fiber with Novel Dispersion Properties

Yashar Esfahani Monfared, Amir Hossein Abbasi, Mehrdad Manaffar, Ali Masnavi

3. Design of irregular LDPC codes for nonparametric channels

Wolfgang Proß, Franz Quint, Marius Ottesteanu

4. A New ML Detector for Trellis Coded Spatial Modulation Using Hard and Soft Estimates

Calin Vladeanu, Alexandru Martian, Adrian Florin Paun, Safwan El Assad

5. Huffman Coding Inspired Peer-to-Peer Multicasting

Bartosz Polaczyk, Piotr Cholda, Andrzej Jajszczyk

6. Transition from analog to digital broadcasting - a spectral efficiency review

Emilia Zainea, Alexandru Martian, Ioana Marcu, Octavian Fratu

7. Data mining based wireless network traffic forecasting

Cristina Stolojescu

8. High-Order QAM Fast Carrier Synchronization by an Adaptive Decision-Directed EKF Algorithm

Andrei Campeanu, Janos Gal

9. MMSE detector using space-time diversity coding over Rayleigh fading channels

Cristinel Vasile, Simona Halunga, Carmen Voicu

Room IS 14⁰⁰ – 16⁴⁵ COMMUNICATIONS 2

Chairmen:

Prof. Dr. Eng. Monica Borda

Lect. Dr. Eng. Cornel Balint

1. An Optimize Particle Swarm Optimization Routing Algorithm for Data Transmission in Cognitive Radio Networks

Daniel Simion, Adrian Graur, Ali Haider Mahdi, Lavric Alexandru, Sfichi Stefan

2. TLS Protocol: Improvement Using Proxies

Raluca David, Monica Borda

3. LTE Network Time Synchronization

Andrei Vasile Iordache, Ion Marghescu

4. LTE Downlink Performance

Andrei Vasile Iordache, Ion Marghescu

5. Denoising Based Blind Estimation For Single carrier Frequency Division Multiplexing (SCFDM)

Jamal Mountassir, Daniel Bojneagu, Alexandru Isar

6. Study on inter- and intra-symbol interleaving succession in multi-binary turbo-codes

Horia Balta, Miranda Nafornta, Maria Balta

7. Hybrid PAPR Reduction Scheme using Walsh Hadamard Precoding and Signal Companding

Eugen Victor Cuteanu, -Dorina Isar

8. Towards Securing Client-Server Connections against Man-in-the-Middle Attacks

Mihai Ordean, Mircea Giurgiu

9. A Data Fusion Technique Designed For Multimodal Biometric Systems

Marius Daniel David, Monica Borda

10. Boolean functions generations with strong cryptographic properties used in cryptology

Roxana Milita, Dan Filip-Mihai Marin

Room A105 17⁰⁰ – 19³⁰ SIGNAL PROCESSING 1

Chairmen:

Prof. Dr. Eng. Alexandru Isar

Assoc. Prof. Dr. Eng. Constantin Paleologu

1. Compression of Magnetocardiograms Using the Discrete Wavelet Transform

Beatrice Arvinti, Ronny Stolz, Marius Costache

2. Some Aspects of Implementing a Cubic Spline Interpolation Algorithm on a DSP

Liliana Matiu-Iovan

3. B-Spline Digital Audio Equalizers with Arbitrary Magnitude Specifications

Lucian Stanciu

4. A Variable Step Size Modified Decorrelated NLMS Algorithm for Adaptive Feedback Cancellation in Hearing Aids

Marius Rotaru, Felix Albu, Henri Coanda

5. The Variable Step Size Regularized Block Exact Affine Projection Algorithm

Felix Albu, Danilo Comminiello, Marius Rotaru, Michele Scarpiniti, Dinu Coltuc

6. Variable Step Size Adaptive Nonlinear Echo Canceller

Cristian Contan, Marina Topa

7. Evaluation of Signal Distortion Methods for Stereophonic Acoustic Echo Cancellation

Marius Rotaru, Silviu Ciochina, Constantin Paleologu, Jacob Benesty

8. Into the ultrasound deconvolution using CLEAN algorithm - statistical analysis of scatters detection

Liviu-Teodor Chira, Jean-Marc Girault, Corneliu Rusu

9. A Robust Method for S1/S2 Heart Sounds Detection Without ECG Reference Based on Music Beat Tracking

Constantin Barabaşa, Maria Jafari, Mark Plumbley

10. Embedded Solution for Universal Acoustic Source Distance Localization Using Three Microphones

Flaviu Ilie Bob

Room IS 17⁰⁰ – 19³⁰ POWER ELECTRONICS & ROBOTICS

Chairmen:

Prof. Dr. Eng. Dan LASCU

Prof. Dr. Eng. Mirjana Filipovic

1. Thermoelectrical Energy Harvesting System: Modelling, Simulation and Implementation

Mihail-Octavian Cernaianu, Cosmin Carstea, Aurel-Stefan Gontean

2. A New Low-Stress High Efficiency Buck Converter

Aurel Ciresan, Dan Lascu

3. Validation system for power supply module part of automotive ECUs

Florin Prutianu, Ioana-Monica Pop-Calimanu, Viorel Popescu

4. Design and Simulation of DC/DC Boost Converter used for a Distributed Sensing System Based on a Multidrop Sensor Network with RS485 Interface

Ioana-Monica Pop-Calimanu, Florin Prutianu, Viorel Popescu

5. Dynamic Power Management through Adaptive Task Scheduling for Multi-Threaded SIMD Processors

Lucian Petrica

6. Fast and robust point cloud matching based on EM-ICP prepositioning

Markus Herrmann, Marc-Andre Otto, Marius Ottesteanu

7. Mobile robot control based on principles of Electrostatics

Ljubinko Kevac, Srđan Mitrović, Željko Đurović, Aleksandar Rodić

8. Future directions for implementation of aerial robot

Mirjana Filipovic, Ljubinko Kevac, Aleksandar Rodic

9. Automated Colored Object Sorting Application for Robotic Arms

Roland Szabo, Ioan Lie

Room A116 17⁰⁰ – 19³⁰ IMAGE PROCESSING 1

Chairmen:

Prof. Dr. Eng. Franz Quint

Lect. Dr. Eng. Corina Nafoarniță

1. A Complete Second Order Statistical Analysis of the Hyperanalytic Wavelet Transform

Corina Nafoarnita, Alexandru Isar

2. The Hyperanalytic Wavelet Packets – A Solution to Increase the Directional Selectivity in Image Analysis

Corina Nafoarnita, Alexandru Isar, Ioan Nafoarnita

3. Analysis of dynamic textures using a 3D approach for the Co-occurrence Matrix Features

Muguras Mocofan, Florin Alexa

4. Contrast Enhancement in Video Sequences Using Variable Block Shape Adaptive Histogram Equalization

Bernd Hillers, Vasile Gui, Axel Graeser

5. An Improved Algorithm for Dynamic Face Detection

Bogdan Goras, Radu Vieriu

6. A Robust Mathematical Model for Simulating Wrinkle Activity in 3D Facial Animations

Mihai Daniel Ilie

7. Salient Object Detection in Video Streams

Ruxandra Tapu, Bogdan Mocanu, Ermina Tapu

8. The effectiveness of change detection methods in floater pollutant evaluation for flowing waters

Gheza-Gavril Dohi-Trepszker, Vasile Gui, Corneliu Ioan Toma

Friday, November 16th

Room A105 09⁰⁰ – 11³⁰ IMAGE PROCESSING 2

Chairmen:

Prof. Dr. Eng. Vasile GUI

Assoc. Prof. Dr. Eng. Cătălin Căleanu

1. Automatic evaluation of steatosis by ultrasound image analysis

Dan Mihai Mihăilescu, Vasile Gui, Corneliu Ioan Toma, Alina Popescu, Ioan Sporea

2. Non-iterative Deblurring for Image Restoration

Ionut Mirel

3. Isotropic Edge Enhancement with Halo Control

Ionut Mirel

4. Statistical Modeling of Texture Wavelet Coefficients

Daniela-Ecaterina Cristea

5. Barycentric Distribution Estimation For Texture Clustering Based On Information-Geometry Tools

Aurélien Schutz, Yannick Berthoumieu, Flavius Turcu, Corina Nafornita, Alexandru Isar

6. Emotion Recognition of the SROL Romanian Database using Fuzzy KNN Algorithm

Marius Dan Zbancioc, Silvia Monica Feraru

7. A ToF 3D Database for Hand Gesture Recognition

Georgiana Simion, Catalin Căleanu

8. On the possibility of using Difference of Gaussians for texture classification

Puscasu Paul-Mihai, Ungureanu Paul

Room IS 09⁰⁰ – 11³⁰ COMMUNICATIONS 3

Chairmen:

Prof. Dr. Eng. Victor Croitoru

Assoc. Prof. Dr. Eng. Corina Botoca

1. Proposed Method of Automatic IP Addresses Calculation and Allocation

Constantin Viorel MARIAN, Victor CROITORU, Dan OPREA

2. Chanel Quality Prediction Using Neural Networks

Corina Botoca, Alexandru Patrascu

3. Computing Packets Priority In Diffserv Networks Using Cuda Technology

Sorin Zoican

4. Implementation and Evaluation of a Multilevel- Clustering Routing Algorithm for MANETs

Roxana Zoican

5. HCCA Support in IEEE 802.11 Networks: QoS and QoE Performance Evaluation

Andra Elena Iulia Pastrav, Emanuel Puschita, Tudor Palade

6. An OpenNetInf-Based Cloud Computing Solution for Cross-Layer QoS: Monitoring Part Using iOS Terminals

Flavius Stoicuta, Iustin Ivanciu, Emil Minzat, Andrei Bogdan Rus, Virgil Dobrota

7. Optical Spatial Modulation for Indoor Wireless Communications in Presence of Inter-Symbol Interference

Calin Vladeanu, Radu Lucaciu, Adrian Mihaescu

8. Wireless Sensor Network Node Localization via Second Order Cone Programming

Ruxandra-Ioana Rusnac, Maria Anastasia Jivulescu

9. A Flexible Switch-Router with Reconfigurable Forwarding and Linux-based Control Element

Pal Varga, Istvan Moldovan

10. Mobile networks planning strategy and development solutions

Popa Sorin

Room A108 09⁰⁰ – 11³⁰ SIGNAL PROCESSING 2

Chairmen:

Prof. Dr. Eng. Silviu Ciochină

Prof. Dr. Eng. Kazuki Shiogai

1. Passive Time Delay Estimation for Complex Noncircular Signals

Fei Wen, Qun Wan, Yipeng Liu

2. Signal Strength Prediction Using Digital Maps Interpolation

Calin Simu

3. Spatiotemporal Interpolation of Body Surface Potential Maps: Methods and Errors

Calin Simu

4. A Study on Cascaded Adaptive Notch Filter Utilizing Allpass Filter and Adaptive Line Enhancer

Kazuki Shiogai, Yasutomo Kinugasa, Naoto Sasaoka, Masaki Kobayashi, Yoshio Itoh

5. Algorithm for the Calculus of Virtual Time Instants Used in Prosodic Modifications

Amelia Ciobanu, Cristian Negrescu, Dumitru Stanomir

6. New Automatic SPI Decoding Algorithm

Roland Szabo, Ioan Lie

7. A Comparison Between Instantaneous Frequency Estimation Methods of Frequency Modulated Signals Covered with Gaussian Noise

Romulus Reiz

8. Discrete spectra frequency resolution improvement

Adrian Macaveiu

9. A Multiple Choice Greedy Algorithm for Resolution Improvement of Spectral Lines Identification

Anisia Florescu, Silviu Ciochina

10. A High Performance Fault Tolerant System for On-board Signal Processing

Ao Shen, Kang Xia, Yuzhuo Fu, Ting Liu, Jiang Jiang

**Room A105 11⁴⁵ – 14⁰⁰ INSTRUMENTATION AND
MEASUREMENT & MICROWAVES**

Chairmen:

Prof. Dr. Eng. Dan Stoiciu

Prof. Dr. Eng. Aldo De Sabata

1. Residential Smart Gas Meters

Laurentiu Gavra, Monica Sabina Crainic, Petru Pupsa, Gheorghe Popa

2. Thermoelectric Modules Thermal Conductance Measurement System

Mihai Cernaianu, Aurel Gontean

3. Semi-Automated power supply efficiency measuring system

Florin Prutianu, Ioana-Monica Pop-Calimanu, Viorel Popescu

4. Effect of Spectral Interference on the Normalized Sine-Wave Frequency Estimation by the Energy-Based Method

Daniel Belega, Dario Petri, Dominique Dallet

5. Descriptive Statistical Transport Stream Analyzer

Radu Andrei Alexe

6. On Using a Gyroscope to Measure the Angular Position

Septimiu Mischie

7. Educational PV System at the "Politehnica" University of Timișoara

Dumitru Toader, Ion Luminosu, Aldo De Sabata, Dan-Mihai Negrea

**Room A108 11⁴⁵ – 14⁰⁰ SPECIAL TOPICS IN SIGNAL
PROCESSING**

Chairmen:

Prof. Dr. Eng. Tudor Palade

Prof. Dr. Eng. Florin Alexa

1. Multiple Metallic Dipole Scattering Study Using the Wave Iterative Process

Nicolae LUCANU, Ion BOGDAN, Henri BAUDRAND

2. The Synthesis of Some NLFM Laws Using the Stationary Phase Principle

Iulian-Constantin Vizitiu, Lucian Anton, Gheorghe Iubu, Florin Popescu

3. Sidelobes Reduction Using Frequency Predistortioning Techniques on LFM Signals

Iulian Vizitiu, Lucian Anton, Gheorghe Iubu, Florin Popescu

4. A Matlab Implementation of FDTD Algorithm for Bidimensional Layers

Cora Iftode

5. Application of a Planar EBG Structure to Parallel-Plate Noise Suppression in High Speed Circuits

Aldo De Sabata, Ladislau Matekovits

6. A new method for interpolation of 3D antenna pattern from 2D plane patterns

Teodor Petrita, Alimpie Ignea

7. Adaptive Beamforming applied for signals estimated with Direction-of-arrival algorithms from the ESPRIT family

Arpad Iozsa

8. Derived Mixture Law for the Ferrite - Ferroelectric Nanocomposites with Controllable Properties

Daniela IONESCU, Maria KOVACI



