

**International Symposium on Electronics and
Telecommunications
ISETC '16
Twelfth Edition**

Thursday, October 27th

**08⁰⁰-09⁰⁰ Registration – Main Lobby of the Congress Centre (building K) –
11⁰⁰- 16⁰⁰ B-dul V. Pârvan No.2b**

**09⁰⁰ -11⁰⁰ Opening Plenary Session – Conference Room K1 of the Central Library
B-dul V. Pârvan No.2b**

- Welcome speech - Prof. Dr. Eng. Marius Oteşteanu, Vice Rector of the Politehnica University of Timișoara
- Invited speaker - Assoc. Prof. Ph.D Ladislau Matekovits, Politehnica di Torino,
Towards a Contrast Formulation based Unified Multiphysics Theory for Cloaking
- Invited speaker: Ing. Florin Ciocan - **5G – The network for the Internet of Things**

11⁰⁰ -11¹⁵ Coffee Break

11¹⁵ -13⁰⁰ Morning Session

Conference Room K1 of the Central Library – B-dul V. Pârvan No.2b

[Communications – Applications](#)

**11¹⁵ -13⁰⁰ Morning Session – Room A116 of the Faculty of Electronics and
Telecommunications – B-dul V. Pârvan No.2**

[Signal processing – New Implementation](#)

**14⁰⁰-16³⁰ Afternoon sessions – Conference Room K1 of the Central Library
B-dul V. Pârvan No.2b**

[Modern Satellite Image Processing Methods](#)

- Invited speaker: Ph.D. Fabrice Collard, President OceanDataLab, Brest, France,
A multisensor constellation of remote sensing sentinels for ocean monitoring

14⁰⁰-16³⁰ Afternoon sessions – Conference Room K2 of the Central Library

B-dul V. Pârvan No.2b

[Automotive – Modelling simulation and testing](#)

- Speaker: ing. Lucian Dumitru, Comtest Romania ,
New Solutions for Automotive Industry from Keysight Technologies

14⁰⁰-16³⁰ Afternoon sessions – Room A116 of the Faculty of Electronics and Telecommunications

B-dul V. Pârvan No.2b

[Computational Intelligence, Power Electronics and Robotics](#)

16³⁰ -16⁴⁵ Coffee Break

**16⁴⁵-18³⁰ Afternoon sessions – Conference Room K2 of the Central Library
B-dul V. Pârvan No.2b**

[Communications – Networks](#)

**16⁴⁵-18³⁰ Afternoon sessions – Conference Room K1 of the Central Library
B-dul V. Pârvan No.2b**

[Signal processing – Innovative ideas](#)

- Invited speaker: Dr.Eng. Günter Hörcher, Research Strategy - Fraunhofer IPA,
Manufacturing Engineering

16⁴⁵-18³⁰ Afternoon sessions – Room A116 of the Faculty of Electronics and Telecommunications - B-dul V. Pârvan No.2b

[Electronic Circuits](#)

**19⁰⁰-22⁰⁰ Welcome Cocktail - Restaurant-Casa Politehnicii 2, B-dul Eminescu
No.11**

Friday, October 28th

**09⁰⁰ -10⁴⁵ Plenary Session – Conference Room K1 of the Central Library –
B-dul V. Pârvan No.2b**

- Invited speaker - Prof. Ph.D. Alin Albu-Schäffer, Technical University Munchen,
Robot for Interactions with Humans and Unknown Environments

- Invited speaker - Prof. PhD Uwe Stilla, Technical University of Munich, **Ultra high resolution radar remote sensing and 3D reconstruction of urban areas**

**09⁰⁰ -10⁴⁵ Plenary Session – Conference Room K2 of the Central Library –
B-dul V. Pârvan No.2b**

- Invited speaker - Ph.D. Thomas Schlegl, Head of Group Head of Group Energy System Analysis Fraunhofer-Institut für Solare Energiesysteme ISE, **Current and Future Cost of Photovoltaics**
- Invited speaker - Prof. Ph.D. Pavol Bauer, Delft University of Technology, Netherlands, **Grid Integration of Renewable Energy Sources and Electric Mobility (Storage) in LV DC distribution and Future DC Transmission Grid**

10⁴⁵ -11⁰⁰ Coffee Break

**11⁰⁰ -13³⁰ Morning sessions – Conference Room K1 of the Central Library
B-dul V. Pârvan No.2b**

[3D Image Processing](#)

**11⁰⁰ -13³⁰ Morning sessions – Room A116 of the Faculty of Electronics and
Telecommunications**

B-dul V. Pârvan No.2

[Communications – Software](#)

**11⁰⁰ -13³⁰ Morning sessions – Conference Room K2 of the Central Library
B-dul V. Pârvan No.2b**

[Educations – New Challenges in engineering education](#)

Thursday, October 27th**8⁰⁰-9⁰⁰ Registration – Main Lobby of the Congress Centre (building K) – B-dul V. Pârvan No.2b****09⁰⁰ -11⁰⁰ Opening Plenary Session – Conference Room K1 of the Central Library
B-dul V. Pârvan No.2b**

- Welcome speech - Prof. Dr. Eng. Marius Oteşteanu, Vice Rector of the Politehnica University Timişoara
- Invited speaker - Assoc. Prof. Ph.D Ladislau Matekovits, Politehnica di Torino, **Towards a Contrast Formulation based Unified Multiphysics Theory for Cloaking**
- Invited speaker: Ing. Florin Ciocan, Value Added Services – Device IOT – Product Line Manager, Nokia

5G – The network for the Internet of Things**11⁰⁰ -11¹⁵ Coffee Break****11¹⁵ -13⁰⁰ Morning Session – Conference Room K1 of the Central Library –
B-dul V. Pârvan No.2b****Communications – Applications**

Chairmen:

Prof. Dr. Eng. Ladislau Matekovits

Prof. Dr. Eng. Aldo DeSabata

1. Advanced Monitoring of the OpenStack NFV Infrastructure: A Nagios Approach Using SNMP
Eduard Florentin Luchian, Paul Docolin, Virgil Dobrota
2. Structure of Signal Received by Passive Ionospheric Sounding in the HF Band at the Location of Timisoara, Romania
Aldo De Sabata, Cornel Balint
3. GPStation-6 Employment for GNSS TEC Monitoring in SIRIUS Project
Andra Pastrav, Emanuel Puschita, Tudor Palade
4. High Order Sliding Mode Observers and Singular Value Decomposition in Communications
Octaviana Datcu, Robert Alexandru Dobre, Mihai Stanciu

5. Rapid Detection of Pesticide Residues based on Telemetry Platform
George Suciu, Cristina Butca, Radu Conu, Gabriela Hristea
6. Power line communication channel noise source detection using smart meters
Sebastian Avram
7. Performances of the racetrack memories of high density based on intermetallic compounds with high anisotropy in L10 phase
Daniela Ionescu, Maria Kovaci
8. Study of the spin valves based on materials with high magnetocrystalline anisotropy used in spintronics
Daniela Ionescu, Maria Kovaci

11¹⁵ -13⁰⁰ Morning Session – Room A116 of the Faculty of Electronics and Telecommunications –

B-dul V. Pârvan No.2

Signal processing – New Implementation

Chairmen:

Prof. Dr. Eng. Constantin Paleologu

Prof. Dr. Eng. Daniel Belega

1. Kalman and Butterworth filtering for GNSS/INS data
Florin-Daniel SANDRU, Sorin NANU, Ioan SILEA, Razvan-Catalin MICLEA
2. SONAR Images Restoration in the Wavelets Domain
Cristina Stolojescu-Crisan, Corina Botoca
3. FPGA Implementation of an Optimized NLMS Algorithm
Cristian Stanciu, Cristian Anghel, Constantin Paleologu, Silviu Ciocina, Jacob Benesty
4. Risk Assessment of Stability Loss, Experimental investigations for weak bus bars.
Helge Lorenzen, Saba Mylvaganam, Josef Timmerberg
5. Influence of Wideband Noise on Sinusoid Parameter Estimation Provided by the Two-Point Interpolated Odd-DFT Algorithm
Daniel Belega, Dario Petri, Dominique Dallet

**14⁰⁰-16³⁰ Afternoon sessions – Conference Room K1 of the Central Library
B-dul V. Pârvan No.2b**

Modern Satellite Image Processing Methods

Chairmen:

Prof. Dr. Eng. Monica Borda

Assoc.Prof. Dr. Eng. Corina Nafornta

Invited speaker: Ph.D. Fabrice Collard, President OceanDataLab, Brest, France,
A multisensor constellation of remote sensing sentinels for ocean monitoring

1. Denoising of Single Look Complex SAR Images using Hurst Estimation
Corina Nafornta, Alexandru Isar, James D.B. Nelson
2. PolSAR image denoising using directional diffusion
Romulus Terebes, Monica Borda, Raul Malutan, Christian Germain, Lionel Bombrun, Ioana Ilea
3. Sentinel 1 Stripmap GRDH Image Despeckling Using Two Stages Algorithms,
Alexandru Isar, Corina Nafornta
4. ICA Based PolSAR Image Denoising
Raul Malutan, Romulus Terebes, Mihaela Cislariu, Christian Germain
5. Ship Detection with the Holder Moments and SAR Dual-Pol Data
Ramona Pelich, Nicolas Longepe, Gregoire Mercier, Guillaume Hajduch, Rene Garelllo

**14⁰⁰-16³⁰ Afternoon sessions – Conference Room K2 of the Central Library
B-dul V. Pârvan No.2b**

Automotive – Modelling simulation and testing

Chairmen:

Assoc.Prof. Dr. Eng. Ioan Lie

Dr. Eng. Benjamin Dragoi

Speaker: ing. Lucian Dumitru, Keysight Technologies ,
New Solutions for Automotive Industry from Keysight Technologies

1. Competitiveness of Electric Vehicles
Ventsislav Keseev, Grigor Mihaylov, Elena Ivanova, Teodor Iliev

2. Lane Departure Warning System Implementation using the Blackfin Microcomputer
Sorin Zoican, Marius Vochin, Roxana Zoican, Dan Galatchi
3. Distribution fitting Approach to Application Fitness Assessment
Alexandra Iosub, Ingrid Kovacs, Andi Buzo, Jerome Kirscher, Georg Pelz, Liviu Goras
4. Compressive Sensing-based Noise Radar for Automotive Applications
Zora Slavik, Alexander Viehl, Thomas Greiner, Oliver Bringmann, Wolfgang Rosenstiel
5. Measurement of Radiated Emissions from an Automotive Cluster
Andrei-Marius Silaghi, Emanuela Tolan, Aldo De Sabata, Adrian Buta
6. Measurement of Radiated Immunity in the Automotive industry
Key concepts, Andrei-Marius Silaghi, Aldo De Sabata, Florin Alexa, Adrian Buta, Silviu Baderca
7. On Selecting a front-end DC-DC converter for automotive applications
Beniamin Dragoi
8. Embedded Radar Simulator
Horatiu Belei, Catalin Daniel Căleanu

14⁰⁰-16³⁰ Afternoon sessions – Room A116 of the Faculty of Electronics and Telecommunications

B-dul V. Pârvan No.2

Computational Intelligence, Power Electronics and Robotics

Chairmen:

Prof.Dr.Eng. Catalin-Daniel Căleanu

Prof.Dr.Eng. Nistor Daniel Trip

1. Synthesis of Universal Space Vector Modulator for Matrix Converters
Adrian Popovici, Mircea Babaita, Petru Papazian
2. Keyboard emulation with a voice interpreter of English to Romanian language users
Marian Ștefan Neicu, George Gustav Savii
3. Brain-Computer Interface Review
Szilárd BULÁRKA, Aurel Gontean
4. Steps in Deployment and Development of Convolutional Neural Network based Applications
Serban Maduta, Catalin-Daniel Căleanu

5. A Comparison between Single-Phase and Two-Phase Hybrid Buck L Converter
Ioana-Monica Pop-Călimanu, Folker Renken
6. Inductance of 3-Phase Transmission Lines of Different Layouts With Focus on Cables in Flat Formation
Josef Timmerberg, Saba Mylvaganam
7. Considerations on Efficiency Increase for Power Electronic Circuits that Interconnect Renewable Energy Sources to the Grid
Nistor Daniel Trip, Adrian Schiop
8. Power wire thickness influence on multicopters flight time
Ciprian-Ovidiu-Miron Dughir
9. Robotic Arm Joint Recognition in Space Using a Neural Network Trained with Pattern Matching in LabWindows/CVI with Vision Development Module
Roland Szabo, Aurel Gontean
10. Commanding a Robotic Arm on Serial Interface using Linux Operating System Running on FPGA
Roland Szabo, Aurel Gontean

16³⁰ -16⁴⁵ Coffee Break**16⁴⁵-18³⁰ Afternoon sessions – Conference Room K2 of the Central Library
B-dul V. Pârvan No.2b****Communications – Networks**

Chairmen:

Assoc.Prof.Dr.Eng. Georgeta Budura

Dr.Eng. Victor-Florin Crasmariu

1. Network characteristics and video transmission over LTE
Ventsislav Keseev, Grigor Mihaylov, Elena Ivanova, Teodor Iliev
2. 5G Propagation - Current Solutions and Future Proposals
Mihai-Virgil NICHITA, Petrica CIOTIRNAE, Robert-Lucian LUCA, Victor Nicolae PETRESCU
3. HetNet Performance Analysis from the eCIC Parameters Perspective
Georgeta Budura, Cornel Balint, Marius Ottesteanu, Ionel Petrut

4. Performance Analysis of the Singular Value Decomposition with Block-Diagonalization Precoding in Multi-User Massive MIMO Systems
Victor-Florin Crasmariu, Marius-Octavian Arvinte, Andrei-Alexandru Enescu, Silviu Ciochina
5. Waterfilling Power Allocation Applied in Block-Diagonalization Multi-User MIMO Precoding Technique
Victor-Florin Crasmariu, Marius-Octavian Arvinte, Andrei-Alexandru Enescu
6. Connectivity for Routing Persistent Connections
Stefano-Niko Orzen, Mircea Stratulat, Sorin Babii, Constantin Cosovan

**16⁴⁵-18³⁰ Afternoon sessions – Conference Room K1 of the Central Library
B-dul V. Pârvan No.2b**

Signal processing – Innovative ideas

Chairmen:

Prof.Dr.Eng. Dorina Isar

Prof.Dr.Eng. Mihnea Udrea

Invited speaker: Dr.Eng. Günter Hörcher, Research Strategy - Fraunhofer IPA,

Manufacturing Engineering

1. Continuous Polynomial Approach for the Design of Quadrature Mirror Filter
Lucian Stanciu, Valentin Stanciu, Mihnea Udrea
2. Pink Noise Generation Using Wavelets
Dorina Isar, Paul Gajitzki
3. Fast algorithm for detecting butt-spliced edits
Valentin Niță, Amelia Ciobanu, Cristian Negrescu, Dumitru Stanomir
4. HEVC Intra Partitioning and Mode Decision Using Histograms of Oriented Gradient
Cristina Claudia Oprea, Radu Mihnea Udrea, Ionut Pirnog
5. Model-based Estimation of the Cardiac Output in Exercise Scenario
Ana Maria Dan
6. On Some Properties of Positive Trigonometric Polynomials Related to One Dimensional Discrete Phase Retrieval Problem
Corneliu Rusu, Jaakko Astola

16⁴⁵-18³⁰ Afternoon sessions – Room A116 of the Faculty of Electronics and Telecommunications**B-dul V. Pârvan No.2****Electronic Circuits**

Chairmen:

Lect.Dr.Eng. Raul Ionel

Prof.Dr.Eng. Lidia Dobrescu

1. Usage of advanced algorithms for Thermoelectric Harvesting System Control
Alexandru Sfirat, Aurel Gontean
2. Power MOSFET Verilog Modelling
Lidia Dobrescu, Daniel Tudora, Dragoş Dobrescu
3. Current-mode Configurable Analog Block
Robert Groza, Mihaela Cirlugea
4. Design of a Bidirectional Coupling Unit for Narrowband Power Line Communications Channel Measurement
Raja Alaya, Rabah Attia
5. Voice-controlled Smart Assistive Device for Visually Impaired Individuals
Dragos Munteanu, Raul Ionel
6. Comparison of Four Design Environments Employed to Analyze a Switched-Capacitor DC-DC Converter
Alina-Teodora Grăjdeanu, Cristian Raducan, Cosmin-Sorin Plesa, Botond Sandor Kirei, Marius Neag
7. Fault Simulation Methods
Laszlo Molnar, Aurel Gontean
8. Functional Simulation Methods
Laszlo Molnar, Aurel Gontean
9. AMM system for residential consumers using PLC technology
Laurentiu Gavra, Monica-Sabina Crainic, Petru Stef, Alexandru Budisan

19⁰⁰-22⁰⁰ Welcome Cocktail - Restaurant-Casa Politehnicii 2, B-dul Eminescu No.11

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- Invited speaker - Prof. Ph.D. Pavol Bauer, Delft University of Technology, Netherlands, **Grid Integration of Renewable Energy Sources and Electric Mobility (Storage) in LV DC distribution and Future DC Transmission Grid**

10⁴⁵ -11⁰⁰ Coffee Break**11⁰⁰ -13³⁰ Morning sessions – Conference Room K1 of the Central Library
B-dul V. Pârvan No.2b****3D Image Processing**

Chairmen:

Prof.Dr.Eng. Franz Quint

Assoc.Prof.Dr.Eng. Corina Botoca

1. Investigating Mathematical Models for Focused Plenoptic Cameras
Niclas Zeller, Franz Quint, Uwe Stilla, Marcel Sütterlin
2. 3D building reconstruction and construction site monitoring from RGB and TIR image sets
Ludwig Hoegner, Sebastian Tuttas, Uwe Stilla

3. From Models to Hyper-Models of Physical Objects and Industrial Processes
Jürgen Pollak, Norbert Link
4. Fitting a Deformable 3D Human Body Model to Depth Images using Convolutional Neural Networks,
Samuel Zeitvogel, Astrid Laubenheimer
5. Video Retrieval Using Relevant Topics Extraction from Movie Subtitles
Bogdan MOCANU, Ruxandra TAPU, Ermina TAPU
6. Cellular Neural Network processing of CEUS examination. A pilot study
Corina Botoca, Mircea Botoca
7. Stray Dogs Behavior Detection in Urban Area Video Surveillance Streams
Marius Baba, Dan Pescaru, Vasile Gui, Ionel Jian

11⁰⁰ -13³⁰ Morning sessions – Room A116 of the Faculty of Electronics and Telecommunications

B-dul V. Pârvan No.2

Communications – Software

Chairmen:

Prof.Dr.Eng. Calin Vlădeanu

Assoc.Prof.Dr.Eng. Cosmin Striletschi

1. Implications of a Consistency-Oriented Sync API in an ERP to Cloud Integration Library – A Case Study
Sorin Popa, Cosmin Striletschi, Mircea-Florin Vaida
2. Chaos-based image encryption using the RSA keys management for an efficient web communication
Jean De Dieu Nkapkop, Joseph Yves Effa, Andrei Toma, Florentina Cociota, Monica Borda
3. Implementing an AAA-RADIUS Solution Based on Legacy Authentication Protocols
Gabriel-Cătălin Cristescu, Victor Croitoru, Vlad Sorici
4. Implementing an AAA-RADIUS Solution Based on EAP
Gabriel-Cătălin Cristescu, Victor Croitoru, Vlad Sorici
5. Multiplexed Communication for Online Game Plugin Messaging
Andrei-Victor Nicolae, Eduard-Cristian Popovici, Madalina Georgiana Berceanu, Octavian Fratu,

6. On the Compromise between Delay and Performance of the Three-Event Energy Detection Algorithm in Cognitive Radio Systems
Alexandru Martian, Calin Vlădeanu

**11⁰⁰ -13³⁰ Morning sessions – Conference Room K2 of the Central Library
B-dul V. Pârvan No.2b**

Educations – New Challenges in engineering education

Chairmen:

Prof.Dr.Eng. Radu VasIU

Lecturer.Dr.Eng. Botond Sandor Kirei

1. A General Procedure for Datapath and Control Design and Its Description in SystemVerilog
Botond Sandor Kirei, Marina Dana Topa, Sorin Hintea
2. Towards a Generic Gamification of Sorting Algorithms
Ciprian-Bogdan Chirila, Remy Raes, Arthur Roland
3. Modern Education on Renewable Energies by Using Finite Element Method for a Solar Powered Stirling Engine with Heat Transfer Simulations
Simona Ilie, Dumitru Toader, Floricica Barvinschi
4. A cross-platform solution for software plagiarism detection
Cosmin Strilețchi, Mircea Vaida, Ligia Chiorean, Sorin Popa
5. PID Control of a DC Motor Using Labview Interface for Common Embedded Platforms
Gabriel Gasparesc
6. On teaching Raspberry Pi for Undergraduate University Programmes
Septimiu Mischie
7. Measurement Experiments Performed Using the ASLK PRO Board
Daniel Belega, Robert Pazsitka, Dan Stoiciu
8. Didactic equipment for studying automation and applied informatics
Dan-Ciprian CRISTOLȚEAN, Ioan SILEA
9. Leap motion supporting medical education
Stelian Nicola, Lacramioara Stoicu-Tivadar, Ioan Virag, Mihaela Crisan-Vida