

Thursday, November 08th

8⁰⁰-9⁰⁰ Registration – Main Lobby of the Library – B-dul V. Pârvan No.2b

09⁰⁰ -11¹⁵ Opening Plenary Session – Polivalenta Conference Room of the Central Library - B-dul V. Pârvan No.2b

- Welcome speech - Prof. PhD. Eng. Marius Oteşteanu, Vice Rector of the Politehnica University of Timișoara
- **Invited speaker** - Prof.PhD. Alin Achim, Faculty of Engineering, University of Bristol, **Inverse Problems in Computational Ultrasound Imaging**
- **Invited speaker** - Prof.Ph.D. Alexey A. Basharin, National University of Science and Technology (MISIS), Department of Theoretical Physics and Quantum Technologies - **Multipoles contributions in electromagnetics**

11¹⁵ -11³⁰ Coffee Break

11³⁰ -13³⁰ Parallel Morning Session – Polivalenta Conference Room of the Central Library, Conference Room K1 of the Congress Centre, Conference Room K2 of the Congress Centre,

Invited speaker: Prof.PhD. Christof Jonietz, School of Engineering and Architecture, SRH University Heidelberg, - **Recent Advances in Verification Technologies for European Land Border Crossing Points – room K1 B-dul V. Pârvan No.2b**

14⁰⁰ -16⁰⁰ IEEE Young Professionals Group Meeting, CeL room C401

14⁰⁰ -16⁰⁰ Workshop - Satellite Communication -The Backhauling for Mobile next generation, room MULTIMEDIA 2 - Library Main Building Bd, V.Parvan 2B

15⁰⁰-17⁰⁰ Parallel Afternoon sessions – Polivalenta Conference Room of the Central Library, Conference Room K1 of the Congress Centre, Conference Room K2 of the Congress Centre

Invited speaker: Eng. Florin Ciocan, Ecosystem Manager NOKIA, - **5G - The Future X Network – room Polivalenta B-dul V. Pârvan No.2b**

17⁰⁰ -17¹⁵ Coffee Break

17¹⁵-18⁴⁵ Parallel Afternoon sessions – Polivalenta Conference Room of the Central Library, Conference Room K1 of the Congress Centre, Conference Room K2 of the Congress Centre, B-dul V. Pârvan No.2b

19³⁰-22⁰⁰ Gala Diner - Restaurant-Casa Politehnicii 2, B-dul Eminescu No.11

Friday, November 09th

09⁰⁰ -11⁰⁰ Parallel Morning Session – Polivalenta Conference Room of the Central Library, Conference Room K2 of the Congress Centre

10⁰⁰ -12⁰⁰ Plenary Session – Conference Room K1 of the Congress Centre

Honorary professor awarding ceremony - Prof. Ph.D. Pavol Bauer

Invited speaker: Dr. Peter van Duijsen, TU Delft / Simulation Research, The Netherlands,
- DC Grid architectures and their control and protection

11⁰⁰ -11¹⁵ Coffee Break

11¹⁵ -13³⁰ Morning sessions – Polivalenta Conference Room of the Central Library, Conference Room K1 of the Congress Centre, Conference Room K2 of the Congress Centre

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- Welcome speech - Prof. PhD. Eng. Marius Oteşteanu, Vice Rector of the Politehnica University of Timișoara
- Invited speaker - Prof.PhD. Alin Achim, Faculty of Engineering, University of Bristol, **Inverse Problems in Computational Ultrasound Imaging**
- Invited speaker: Prof.Ph.D. Alexey A. Basharin, National University of Science and Technology (MISIS), Department of Theoretical Physics and Quantum Technologies - **Multipoles contributions in electromagnetics**

11¹⁵ -11³⁰ Coffee Break**11³⁰ -13³⁰ Morning Session – Polivalenta Conference Room of the Central Library****Telecommunications 1 – Measurement Techniques, Materials and Communication Networks**

Chairmen:

Assoc.Prof.PhD.Eng. Ladislau Matekovits

Prof.PhD.Eng. Aldo De Sabata

1. Romania Monitoring Station Network to Support EGNOS Services in Eastern Europe
Corina Nafornta, Simon Buehler, Alexandru Isar, Marius Oteşteanu, Ioan Nafornta, Andrei Campeanu, Michel Monnerat, Frédéric Bauer, Àlex Ramonjoan, Mercedes Reche, Daniel Garcia, Vlad-Cosmin Vasile, Monica Borda, Daniela Tarniceriu,
2. Absorber Lined Shielded Enclosure Chamber Validation
Andrei-Marius Silaghi, Relu-Adrian Aipu, Aldo de Sabata, Florin Alexa,
3. Stripline Measurements in Automotive EMC: A Case Study
Petru-Adrian Buta, Cristian Pîrvu, Cătălin Bălan, Relu Aipu, Aldo De Sabata,
4. Performances of a metamaterial based on semiconductors for solar cell applications
Daniela Ionescu, Maria Kovaci,

5. Investigation of Wave Propagation in a Plasma Antenna using 3D FDTD
Selçuk Alparslan Avcı, Erkan Afacan,
6. Directional Measurement of HF Spectrum Occupancy
Cornel Balint, Aldo De Sabata,

**11³⁰ -13³⁰ Morning Session – Conference Room K1 of the Congress Centre –
Intelligent Electronic Systems – Pattern Recognition**

Chairmen:

Prof.PhD. Christof Jonietz

Assoc.Prof. Dr. Eng. Ioan Jivet

Invited speaker: Prof.PhD. Christof Jonietz, School of Engineering and Architecture, SRH University Heidelberg, - **Recent Advances in Verification Technologies for European Land Border Crossing Points**

1. Towards Global People Detection and Tracking using Multiple Depth Sensors
Johannes Wetzel, Samuel Zeitvogel, Astrid Laubenheimer, Michael Heizmann
2. Towards End-to-End 3D Human Avatar Shape Reconstruction from 4D Data
Samuel Zeitvogel, Astrid Laubenheimer
3. Touchless Fingerprint Capturing from RGB-D Images in Mobile Devices
Christof Jonietz, Ioan Jivet
4. Driver Drowsiness Detection Based on Eye Analysis
Oana Ursulescu, Betina Ilies, Georgiana Simion
5. Smart traffic sign detection on autonomous car
Maria-Adelina Sirbu, Andrei Baiasu, Razvan Bogdan, Mihaela Crisan-Vida

**11³⁰ -13³⁰ Morning Session – Conference Room K2 of the Congress Centre –
Signal processing 1 – Adaptive Signal Processing and Digital Signal
Processing Applications**

Chairmen:

Prof. Dr. Eng. Lăcrimioara Grama,

Prof. Dr. Eng. Constantin Paleologu

1. On the Reduced Complexity FFT Acquisition for Galileo E1 Signal.
Adrian Florin Paun, Alexandru Rusu Casandra

2. Regularized Recursive Least-Squares Algorithms for the Identification of Bilinear Forms
Camelia Elisei-Iliescu, Constantin Paleologu, Jacob Benesty, Cristian Stanciu,
Cristian Anghel, Silviu Ciochina
3. Adding audio capabilities to TIAGo service robot
Lacrimioara Grama, Corneliu Rusu
4. From bulky analog active filters to digital filters
Alexandru Lodin, Lacrimioara Grama, Corneliu Rusu
5. An Optimized LMS Algorithm for Bilinear Forms.
Laura-Maria Dogariu, Silviu Ciochină, Constantin Paleologu, Jacob Benesty,
Pablo Piantanida
6. A Modified 3EED Spectrum Sensing Algorithm Using an Adaptive Decision Threshold
Mahmood Jalal Ahmad Al Sammarraie, Alexandru Marțian, Călin Vlădeanu
7. Accuracy of Synchrophasor Estimation Returned by a Frequency-Domain Linear Least-Squares Algorithm
Daniel Belega, Dario Petri, Dominique Dallet,

14⁰⁰ -16⁰⁰ IEEE Young Professionals Group Meeting, CeL room 401, Congress Centre

14⁰⁰ -16⁰⁰ Workshop - Satellite Communication -The

15⁰⁰-17⁰⁰ Afternoon sessions – Polivalenta Conference Room of the Central Library

Telecommunications 2 – Software for Telecommunications

Chairmen:

Assoc. PhD. Eng. Georgeta Budura,

Prof. PhD. Eng. Virgil Dobrotă

Invited speaker: Eng. Florin Ciocan, Ecosystem Manager NOKIA, - **5G - The Future X Network**

1. Context-Based Routing Algorithm for SIP-Based Infotainment in a Smart Vehicle

Eduard-Florentin Luchian, Iustin-Alexandru Ivanciu, Adrian-Mircea Pop, Virgil Dobrotă

2. Blockchain and Consensus Algorithms in Internet of Things
Sorin Zoican, Marius Vochin, Roxana Zoican, Dan Galatchi
3. Improving Regional Radio Network through Design, Simulation and Implementation
Romeo Coşniţă
4. Development of a Road Tax Payment Application using the Ethereum Platform.
Daniel Zincă, Vlad-Andrei Negrean

15⁰⁰-17⁰⁰ Afternoon sessions – Conference Room K1 of the Congress Centre

Intelligent Electronic Systems – Instrumentation and Biomedical Electronics

Chairmen:

Prof. PhD. Eng. Mihaela Lascu

Lect. PhD. Eng. Raul Ionel

1. A Diversified Denoising System for Biomedical Images
Cristina Stolojescu-Crisan, Alexandru Isar
2. Interactive Adaptation Algorithm for Neurorehabilitation of Sensorimotor Function
Kashif Hussain, Abeer Alsadoon, P.W.C. Prasad, Amr Elchouemi
3. Extension of a Glycaemic Control Medical Application with New Functions and Ergonomic User Interface Elements
Brigitte Beatrix Schweisthal, Benyo Balazs, Akos Szlavecz, Mihaela Lascu
4. Stand for the functional testing automation of the electronic modules
Ana-Maria Bujanca, Cristina Georgiana Haiducu, Ioan Lie
5. Automatic testing of automotive electronic modules for cranking conditions
Cristina Georgiana Haiducu, Ana-Maria Bujanca, Ioan Lie
6. An overview of intelligent surveillance systems development
Ionel Adrian Avram, Ismet Porobic, Petru Papazian
7. A solution for integrating the Vector CANCase XL with the Teradyne Test Station ICT
Raul Ciprian Ionel, Petru Demian

15⁰⁰-17⁰⁰ Afternoon sessions – Conference Room K2 of the Congress Centre**Signal processing 2 – Image Processing and Statistical Signal Processing Applications**

Chairmen:

Prof. PhD. Eng. Franz Quint,

Prof. PhD. Eng. Alexandru Isar

1. Generating a Totally Focused Colour Image from Recordings of a Plenoptic Camera
Marcel Sutterlin, Niclas Zeller, Franz Quint
2. Face Detection and Recognition Based on General Purpose DNN Object Detector
Veta Ghenescu, Roxana Elena Mihaescu, Serban-Vasile Carata, Marian Traian Ghenescu, Eduard Barnoviciu, Mihai Chindea
3. Wavelet Shrinkage of Magnetocardiograms Using the Median Absolute Deviation
Beatrice Arvinti, Ronny Stolz, Marius Costache
4. Adaptive Thresholding Algorithm for Noisy Electrocardiograms using Reverse Biorthogonal Mother Wavelets
Beatrice Arvinti, Marius Costache
5. Wavelets Based Filter Banks for Real Time Spectrum Analysis,
Paul Gajitzki, Dorina Isar, Calin Simu
6. Forgery detection based on reverberation time estimation in multiple bands
Amelia Ciobanu, Valentin Adrian Nita, Victor Popa

17⁰⁰ -17¹⁵ Coffee Break**17¹⁵-18⁴⁵ Afternoon sessions – Polivalenta Conference Room of the Central Library****Telecommunications 2 – Software for Telecommunications**

Chairmen:

Prof.PhD.Eng. Victor Croitoru

Lect.PhD.Eng. Cornel Balint

1. A Comparison of Image Resizing Performance for Ubiquitous Software Platforms.
Radu Badea, Laura Vegh, Lucian Stanciu
2. Simulating the Dynamic Assignment of IPv4 Addresses in an AAA-RADIUS Solution Based on LDAP and Legacy Authentication Protocols
Gabriel-Cătălin Cristescu, Victor Croitoru, Vlad Sorici
3. Simulating the Dynamic Assignment of IPv4 Addresses in an AAA-RADIUS Solution Based on LDAP and EAP
Gabriel-Cătălin Cristescu, Victor Croitoru, Vlad Sorici,
4. 5G: An Overview on Challenges and Key Solutions
Gordana-Raluca Barb, Marius Oteşteanu
5. A Proposed Solution for Analyzing the Behavior of a WSN using a Secured Neural Network Approach
Valentin-Alexandru Vladuta, Ana-Maria Ghimes, Victor Valeriu Patriciu
6. A Character Prediction Approach in a Security Context using a Recurrent Neural Network
Ana-Maria Ghimes, Andrei-Marius Avram, Valentin-Alexandru Vladuta

17¹⁵-18⁴⁵ Afternoon sessions – Conference Room K1 of the Congress Centre
Intelligent Electronic Systems – Circuits and Systems

Chairmen:

Assoc. Prof.PhD.Eng. Septimiu Mischie

Lect.PhD.Eng. Roland Szabo

1. Power Dissipation Estimation of CMOS Digital Circuits at the Gate Level in VHDL
Verginia-Iulia-Maria Chereja, Adriana-Ioana Potarniche, Sergiu-Alex Ranga,
Botond Sandor Kirei, Marina Dana Topa
2. Effect of mixed-phase copper oxide on photovoltaic performance of p-type dye-sensitized solar cells
Daniel Ursu, Anamaria Dabici, Neli Camelia Bublea, Narcis Duteanu, Nicolae
Miclau
3. Implementation of Google Assistant on Raspberry Pi
Septimiu Mischie, Liliana Matiu-lovan, Gabriel Gasparesc

4. Enhancing the Output Current of a Simple Switcher Analysis
Aurel Gontean, Marius Ottesteanu, Mircea Babaita
5. Terrestrial Drone Creation from Rover Robotic Arm and Raspberry Pi
Roland Szabo
6. Capacitive Touch Sensor Used In Visually Impaired Aid Equipment's
Dragos Munteanu, Adrian Popovici
7. Analysis of a PM Generator with Inset Magnet
Marian Greconici

17¹⁵-18⁴⁵ Afternoon sessions – Conference Room K2 of the Congress Centre
Education and Learning Technologies

Chairmen:

Prof.PhD.Eng. Mihai Ivanovici

Prof. PhD.Eng. Radu Vasiu

1. VIPERA 1.0 - A Versatile Imaging Platform for Education, Research and Applications
Claudiu Man, Octavian Machidon, Mihai Ivanovici
2. VR for Education in Information and Technology: application for Bubble Sort
Stelian Nicola, Lacramioara Stoicu-Tivadar, Alexandru Patrascoiu
3. Developing Hybrid Mobile Applications for Learning
Victor Holotescu, Diana Andone, Radu Vasiu
4. Towards Document Flow Discovery in e-Government Systems
Dragos Repta, Ioan Stefan Sacala, Mihnea Moisescu, Ioan Dumitrache, Andrei Corneliu Nae
5. Using ICT support for STEM education in disadvantaged youth learning
Simina Maris, Stefan-Alfred Maris, Nicoleta Cojocariu, Maria Humita
6. Acquisition Modeling for Optimal Indoor Panoramic Imagery
Alina Pasca, Aurelia Ciupe, Serban Meza, Bogdan Orza

19⁰⁰-22⁰⁰ Gala Diner - Restaurant-Casa Politehnicii 2, B-dul Eminescu No.11

Friday, November 09th**09⁰⁰ -11⁰⁰ Morning Session – Polivalenta Conference Room of the Central Library****Communications – Wireless Applications and Security**

Chairmen:

Prof.Dr.Eng. Tudor Palade,

Lect. PhD. Eng. Cornel Balint

1. Retrieving Health and Environmental Data using secure IoT Cloud platform
George Suciu, Ioana Petre, Adrian Pasat
2. FPGA Implementation of a Chaos Based PRNG Targetting Secret Communication
Radu Hobincu, Octaviana Datcu,
3. Development of a ZettaJS driver for the ESP8266 IoT hardware
Daniel Zincă, Marcel-Olivian Popa,
4. Indoor localization using radio beacon technology
Șerban Georgică Obreja, Tarik Aboul-Hassna, Florin Daniel Mocanu, Alexandru Vulpe,
5. The Alphasat Experiment at Cluj-Napoca – Preliminary Results
Andra Păstrăv, Tudor Palade, Paul Dolea, Raluca Simedroni, Cristian Codău,
Emanuel Pușchiță,
6. MU-MIMO Precoding Performance Conditioned by Inter-user Angular Separation
Răzvan-Florentin Trifan, Andrei-Alexandru Enescu,
7. OFDM-Based Multi-Carrier Waveforms Performances in 5G
Cornel Balint, Georgeta Budura,

09⁰⁰ -11⁰⁰ Morning Session – Conference Room K2 of the Congress Centre**Signal processing 3 - Modern Image Processing Applications, Satellite and Radar
Signal Processing**

Chairmen:

Prof. PhD.Eng. Monica Borda,

Prof. PhD.Eng. Corina Nafornta

1. A DNA-based chaos algorithm for an efficient image encryption application
Augustin Ousmanou Ahgoue, Jean De Dieu Nkapkop, Joseph Yves Effa, Samuel Franz, Pierre Adelis, Monica Borda,
2. Images' Principal Component Analysis using Hyperanalytic Wavelet Packets
Georgiana-Alina Magu, Maria Kovaci,
3. The Evaluation of the Effect of NLOS Multipath Propagation in Case of GNSS Receivers
Corina Nafornta, Alexandru Isar, Marius Ottesteanu, Ioan Nafornta, Andrei Campeanu,
4. OSPA Metric for Radar Extended Object Tracker
Teodor Dehelean, Corina Nafornta, Alexandru Isar,
5. Comparative Study of Satellite Navigation Systems
Vlad-Cosmin Vasile, Corina Nafornta, Monica Borda,
6. EGNOS Performance Improvements Using Monitoring Stations in Romania
Vlad-Cosmin Vasile, Georgiana Magu, Romeo Cosnita, Corina Nafornta, Alexandru Isar, Monica Borda,
7. A Model Active Control System for Ankle Foot Orthotic
Zain Shami, M. Nabeel Anwar,

10⁰⁰ -12⁰⁰ Plenary Session – Conference Room K1 of the Congress Centre

Honorary professor awarding ceremony - Prof. Ph.D. Pavol Bauer

Invited speaker: Dr. Peter van Duijsen, TU Delft / Simulation Research, The Netherlands,
DC Grid architectures and their control and protection

11⁰⁰ -11¹⁵ Coffee Break

11¹⁵ -13³⁰ Morning sessions – Polivalenta Conference Room of the Central Library**Intelligent Electronic Systems – Machine Learning**

Chairmen:

Prof.PhD.Eng. Catalin Daniel Caleanu

Prof.PhD.Eng. Johannes Dornheim

1. Multiobjective Reinforcement Learning for Reconfigurable Adaptive Optimal Control of Manufacturing Processes
Johannes Dornheim, Norbert Link
2. Using the genetic algorithm to determine the parameter of photovoltaic cells and panels
Daniel Tudor Cotfas, Petru Adrian Cotfas, Angel Cataron
3. Bag of Features vs Deep Neural Networks for Face Recognition
Eliza Rebeca Tomodan, Catalin Daniel Caleanu
4. Dynamic programming optimization algorithm applied in test case prioritization
Ovidiu Banias
5. Evaluating hierarchical and non-hierarchical grouping for develop a smart system
Marina Adriana Mercioni, Stefan Holban
6. Performance Queues for Fault Tolerant Sessions
Stefano-Niko Orzen, Mircea Stratulat,

12⁰⁰ -14⁰⁰ Morning Session – Conference Room K1 of the Congress Centre**Intelligent Electronic Systems – Power Electronics**

Chairmen:

Prof. PhD. Peter van Duijsen,

Prof. PhD.Eng. Folker Renken

1. Comparison of Hexagonal and Square Coils for Use in Wireless Charging of Electric Vehicle Battery
Emrullah Aydin, Emin Yildiriz, M.Timur Aydemir
2. IEEE 1451 compliant magnetic rotary transducer with energy feedback channel
Tiberiu Muresan, Petru Papazian

3. A Comparison Between Single-Phase and Two-Phase Hybrid Boost-L Converter
Ioana-Monica Pop-Calimanu, Septimiu Lica , Folker Renken, Radu Mirsu,
Georgiana Simion, Ioan Lie
4. A New Hybrid Ąuk Converter
Septimiu Lica, Ioana-Monica Pop-Calimanu, Dan Lascu, Sorin Popescu, Mircea
Tomoroga, Aurel Ciresan
5. A General Approach for Deriving the Sliding Mode State-Space Equation in Second
Order CCM Operated DC-DC Converters
Evelyn-Astrid Lovasz, Dan Lascu
6. Test bench to optimize the Powertrain in Battery-Electric and Fuel-Cell Vehicles
Wensong Shen, Ioana-Monica Pop-Calimanu, Folker Renken

