



# ICCC-CONTI 2010

## IEEE International Joint Conferences on Computational Cybernetics and Technical Informatics

*IEEE 8<sup>th</sup> International Conference on Computational Cybernetics  
and 9<sup>th</sup> International Conference on Technical Informatics*



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Timișoara, Romania  
May 27-29, 2010

# Final Program

## ICCC-CONTI 2010 CONFERENCE PROCEEDINGS

The ICCC-CONTI 2010 conference proceedings will be provided to all registrants in CD-ROM format.

<http://conf.uni-obuda.hu/iccc-conti2010>

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## Welcome from the General Chairs

It is our great honour and pleasure to welcome you at the launching of the IEEE International Joint Conferences on Computational Cybernetics and Technical Informatics (ICCC-CONTI 2010). It was a special moment when we decided to merge the two successful conference series of ICCC and CONTI to establish a new initiative. Our aim was to cooperate advantageously rather than compete. We are convinced that this way we can produce an overall better result than separately. We acknowledge the idea of the Founding Honorary Chair Professor Imre J. Rudas.

The aim of the ICCC-CONTI 2010 conference is to provide researchers and practitioners from industry and academia with a platform to report on recent developments in the areas of computational cybernetics, technical informatics, computer science and engineering. ICCC-CONTI 2010 focuses on the applications of state-of-the-art intelligent techniques to engineering systems. We intend to follow and deepen the traditions and best practices of both ICCC and CONTI.

We would like to acknowledge the efforts of the Technical Program Chairs, the Organizing Committee Chairs, the Technical Program Committee members and all those persons responsible for the background activities from local arrangements to conference secretariat. We also want to thank many volunteers who have contributed lots of time and effort to bring ICCC-CONTI 2010 to you.

Our pleasant duty is to gratefully acknowledge the support provided by the sponsors of the conference. The event could not be organized without the full support of Óbuda University and "Polytechnica" University of Timișoara.

We do hope that all in attendance at ICCC-CONTI 2010 will find this event intellectually stimulating and professionally rewarding. We wish you fruitful work and pleasant time during the conference.



Prof. Dr. János Fodor



Prof. Dr. Octavian Proștean

# ICCC-CONTI 2010

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Timișoara, Romania  
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## Final Program

### General Information

#### **Date and Place**

The ICCC-CONTI 2010 will take place on May 27-29, 2010, at Faculty of Automation and Computers, “Politehnica” University of Timișoara, Romania.

#### **Official Language**

The official language of the conference is English. All presentations, including discussions and submissions, must be made in the official language. No translation will be provided.

#### **Proceedings**

Each accepted paper reaching us in time will be published in the Volume of CD Proceedings that will be distributed at the conference registration desk to everyone who has paid the registration fee.

#### **Cancellation and Refund**

Cancellation regarding registration fee is possible in written form received no later than May 20, 2010. In this case 90% of the received sum will be transferred back. No reimbursement is possible after this deadline.

#### **Opening Hours of the Registration Desk**

The registration desk will be open during the conference.

#### **Presentation**

All the presentations can be made by using OHP or Power Point. All authors are kindly asked to take their presentation on CD or USB drive. To present the paper it is not allowed to use own computer. All conference rooms are supplied with OHP and data projector with PC.

#### **Smoking**

Please, be so kind to your lungs and your colleagues by not smoking in the building and social events of the conference.

# ICCC-CONTI 2010 Technical Program

May 27, 2010, Thursday

8:30 – 14:00 **Registration**

Room A107

10:00 – 10:15 **Opening Ceremony**

Room D1

10:15 – 11:00 **Plenary Session I**

Room D1

Session Chair: **Vladimir Cretu**  
"Politehnica" University of Timișoara, Romania

**Grid Computing an Optimistic Survey**

**Nicolae Tapus**  
Politehnica University of Bucharest, Romania

11:00 – 11:15 **Coffee Break**

11:15 – 12:45 **Parallel Sessions**

11:15 – 12:30 **Session on Systems Analysis, Modeling and Identification**

Room A115

Session Chairs: **Gyula Hermann**  
Óbuda University, Budapest, Hungary  
**Vladimir Răsvan**  
University of Craiova, Romania

11:15 **Retrofitting a Length Measuring Machine for Linear Scale Calibration**

**Gyula Hermann\***, **Kálmán Tomanyiczka\*\***  
\*Óbuda University, Budapest, Hungary  
\*\*Hungarian Trade Licensing Office Metrology Division

11:30 **PIO II - a Unifying Point of View**

**Vladimir Răsvan, Daniela Danciu**  
University of Craiova, Romania

11:45 **Continuous Time Nonlinear Systems Identification in Real Generalized Fock Space**

**C. Marin, D. Selisteanu, D. Sendrescu, V. Finca, R. Zglimbea**  
University of Craiova, Romania

12:00 **An Interpolative-based Dynamical Model for the Vestibular Nucleus**

**V. Ceregan, A. Korodi, T. L. Dragomir, A. Codrean**  
"Politehnica" University of Timișoara, Romania

12:15 **Observer-based Safe Operation of the <sup>13</sup>C Cryogenic Separation Column**

**Cl. Festila\***, **E. H. Dulf\***, **A. Baldea\*\***  
\*Technical University of Cluj-Napoca, Romania  
\*\* National Institute of Research and Development for Isotopes and Molecular Technologies, Cluj Napoca, Romania



**11:15 – 12:45 Session on Intelligent Systems I**

Room A110

**Session Chairs: *László Horváth***

Óbuda University, Budapest, Hungary

***Stefan Preitl***

"Politehnica" University of Timișoara, Romania

**11:15 Human Controlled Intelligence at Contextual Definition of Engineering Objects*****László Horváth, Imre J. Rudas***

Óbuda University, Budapest, Hungary

**11:30 A Comparative Study of Various Evolutionary Algorithms Used for Fuzzy Rule-based Inference and Learning Systems*****Zsolt Dányádi\*, Krisztián Balázs\*, László T. Kóczy\*,\*\****

\* Budapest University of Technology and Economics, Hungary

\*\* Széchenyi István University, Győr, Hungary

**11:45 Takagi-Sugeno Fuzzy Controller for a Magnetic Levitation System Laboratory Equipment*****Claudia-Adina Dragos\*, Stefan Preitl\*, Radu-Emil Precup\*, Raul-Gherasim Bulzan\*, Claudiu Pozna\*\*,\*\*\*, József K. Tar\*\*\*\****

\* "Politehnica" University of Timișoara, Romania

\*\* Transilvania University of Brasov, Romania

\*\*\* Széchenyi István University, Győr, Hungary

\*\*\*\* Óbuda University, Budapest, Hungary

**12:00 A Novel Takagi-Sugeno-Based Robust Adaptive Fuzzy Synchronization of Discrete-Time Chaotic Systems*****Tsung-Chih Lin\*, Shuo-Wen Chang\*, Tun-Yuan Lee\*, Valentina Emilia Balas\*\*, Mehdi Roopaei\*\*\****

\*\* Feng-Chia University, Taichung, Taiwan, R.O.C.,

\*\* Aurel Vlaicu University, Arad, Romania

\*\*\* FARS Research and Science-Islamic Azad University, Shiraz, Iran

**12:15 Vehicle-Following Modeling Utilizing Neuro-Fuzzy Networks*****T. Oprica, M. Vinatoru***

University of Craiova, Romania

**12:30 Modelling the Inter-Stand Tension of a Steel Cold Mill Based on Dynamic High Order Neural Networks*****E. Arinton, S. Caraman***

"Dunărea de Jos" University, Galați, Romania

**11:15 – 12:45 Session on Software Engineering and Applications**

Room A109

**Session Chairs: *Vladimir Crețu, Ioana Șora***

Politehnica University of Timișoara, Romania

**11:15 Accuracy of Arbitrary Subdomain Reconstruction Inside Finite Element Simulations*****Anton Alin-Adrian, Crețu Vladimir-Ioan***

"Politehnica" University of Timișoara

**11:30 A New Method for Reducing the Storage Requirements of Numerical Simulation Data*****Anton Alin-Adrian***

"Politehnica" University of Timișoara

**11:45 Spatial Representation and Reasoning in Breast Cancer Grading Ontology*****A. E. Tutac\*, \*\*, \*\*\* V. I. Crețu\*, D. Racoceanu\*\*\****

\* Politehnica University of Timișoara, Romania

\*\* University of Franche Comté, Besançon, France

\*\*\* French National Research Center (CNRS) - IPAL (Image &amp; Pervasive Access Lab), Singapore

**12:00 Automatic Putamen Detection on DTI Images. Application to Parkinson's Disease*****Anda Sabau\*, Roxana Oana Teodorescu\*\*, Vladimir Ioan Crețu\****

\* Politehnica University of Timișoara, Romania

\*\* University of Franche-Comté, Besançon, France

**12:15 Towards Logic Based Representation of XML Models*****Călin Jebelean, Ciprian-Bogdan Chirila, Vladimir Crețu, Marieta Fășie***

University Politehnica of Timișoara, Romania

**12:30 Towards Programs Logic Based Representation Driven by Grammar and Conforming to a Metamodel*****Ciprian-Bogdan Chirila, Călin Jebelean***

University Politehnica of Timișoara, Romania

**11:15 – 12:45 Session on Computer Engineering I**

Room A116

**Session Chairs:** *Mircea Vladutiu, Mircea Stratulat*  
University Politehnica Timișoara, Romania

**11:15 Software Emulation of Boundary Scan Architecture**

*Stelian-Ilie Dolha*  
Politehnica University of Timișoara, Romania

**11:30 Evaluation of DES, 3 DES and AES on WINDOWS and UNIX Platforms**

*Tomoiaga Radu, Stratulat Mircea*  
University Politehnica Timișoara, Romania

**11:45 AES Behavior on Several Programming Environments and Different Operating Systems or Computational Platforms**

*Tomoiaga Radu, Stratulat Mircea*  
University Politehnica Timișoara, Romania

**12:00 The Influence of the Phase Current of a Linear Array over the Directivity Pattern**

*A. Vesa\*, A. Iozsa\*\*, F. Alexa\**  
\* Politehnica University/Communications, Timișoara, Romania  
\*\* Alcatel-Lucent/CCSE BIDS, Timișoara, Romania

**12:15 A Simulation Framework for PSoC-based Cyber Physical Systems**

*Madalin Gavrilesu\*, Gabriela Magureanu\*, Dan Pescaru\*, Alex Doboli\*\**  
\* Politehnica University of Timișoara, Romania  
\*\* State University of New York at Stony Brook, USA

**11:15 – 12:45 Poster Session I**

Ground floor

**Session Chairs:** *Igor Škrjanc*  
University of Ljubljana, Slovenia  
*Radu-Emil Precup*  
"Politehnica" University of Timișoara, Romania

**Fuzzy Predictive Functional Control with Adaptive Fuzzy Model**

*Dejan Dovžan, Igor Škrjanc*  
University of Ljubljana, Slovenia

**Optimal Fuzzy Sliding Mode Control with a Time-Varying Sliding Surface**

*Dragan Antić, Marko Milojković, Saša Nikolić, Staniša Perić*  
Faculty of Electronic Engineering, Niš, Republic of Serbia

**Functions Approximation based on Locally Learning Techniques**

*Nicolae Constantin, Silviu Dumitriu*  
University Politehnica of Bucharest, Romania

**Double Inverted Pendulum Control by Linear Quadratic Regulator and Reinforcement Learning**

*Sandor Biro\*, Radu-Emil Precup\*\*, Doru Todinca\*\**  
\* Crabel Capital Research, Timișoara, Romania  
\*\* "Politehnica" University of Timișoara, Romania

**Intelligent Control of a Low Power D.C. Servodrive**

*Silviu Dumitriu, Nicolae Constantin*  
University Politehnica of Bucharest, Romania

**Distribution Factors with AC Power Flow for Electric Energy Transmission Cost Allocation**

*St. Kilyeni, O. Pop, C. Craciun, C. Barbulescu, D. Jigoria-Oprea*  
"Politehnica" University of Timișoara, Romania

**Contact Pressure Measurement in Trunk Orthoses**

*M. Krištof\*, R. Hudák\*, A. Takáčová\*, J. Živčák\*, L. Fialka\*\*, R. Takáč\**  
\*Technical University of Košice, Slovakia  
\*\*Center of Orthopedics and Prosthetics, Košice, Slovakia

**Control System for Catenary – Pantograph Dynamic Interaction Force**

*S. Rusu-Anghel\*, C. Miklos\*, J. Averseng\*\*, G. O.Tirian\**  
\* Politehnica University of Timișoara, Romania  
\*\* Blaise Pascal University Clermont – Ferrand, France

## Soft Computing-based Risk Level Calculation Algorithms

**Márta Takács**

Óbuda University, Budapest, Hungary

13:00 – 14:30 **Lunch**

Restaurant CP1

14:30 – 16:00 **Parallel Sessions**

14:30 – 15:45 **Session on Control Applications**

Room A115

**Session Chairs:** **Balázs Benyó**

BME, Hungary

**Ioan Silea**

"Politehnica" University of Timișoara, Romania

14:30 **Control Solutions of Aerobic Industrial Wastewater Treatment**

**M. Vinatoru**

University of Craiova, Craiova, Romania

14:45 **Modeling and Control Aspects of Long Distance Telesurgical Applications**

**Tamás Haidegger, Levente Kovács, Stefan Preitl, Radu-Emil Precup, Adalbert Kovács, Balázs Benyó, Zoltán Benyó**

15:00 **Mathematical Modelling and Numerical Simulation of the Temperature Control System in a Furnace with Rotary Hearth**

**Vlad Muresan**

Technical University of Cluj-Napoca, Romania

15:15 **Acceleration of a Model Based Scatter Correction Technique for Positron Emission Tomography Using High Performance Computing Technique**

**Ákos Szlávecz, Zoltán Puskás, Balázs Benyó**

Budapest University of Technology and Economics, Hungary

15:30 **Improving Productivity by Computer-aided Manufacturing in Five Axis**

**Adrian Buț, Ioan Silea**

"Politehnica" University of Timișoara, Romania

14:30 – 16:00 **Session on Bio-Medical Informatics**

Room A110

**Session Chairs:** **Lacramioara Stoicu-Tivadar, Vasile Stoicu-Tivadar**

"Politehnica" University of Timișoara, Romania

14:30 **Interoperability Solution for an EMR System Applied in a Cardiology Department Supported by Mobile Communication**

**R. Pinteaa\*, M. Vidaa\*, L. Stoicu-Tivadar\*, V. D. Moga\*\*, M. Moga\*\***

\* Politehnica University, Timișoara, Romania

\*\*County Hospital Emergency, Timișoara, Romania

14:45 **A Computer Simulation Study of Cell Seeding of a Porous Biomaterial**

**A. P. Robu\*, A. Neagu\*\*, L. Stoicu-Tivadar\***

\*\*"Politehnica" University of Timișoara, Romania

\*\*Victor Babes University of Medicine and Pharmacy Timișoara, Romania

15:00 **An Information Management System Supporting Academic Activity**

**L. Giurgiu, L. Stoicu-Tivadar**

University "Politehnica"/Applied Informatics, Timișoara, Romania

15:15 **Technical Aspects of Implementing a Telecare System**

**D. Berian, V. Stoicu-Tivadar, V. Gomoj**

University "Politehnica" of Timișoara, Romania

15:30 **A New Method in Automatic Generation of Medical Protocols Using Artificial Intelligence Tools and a Data Manager**

**V. Gomoj, V. Stoicu-Tivadar**

"Politehnica" University of Timișoara, Romania



**15:45 Arff Convertor Tool for WEKA Data Mining Software**

***R. Robu, V. Stoicu-Tivadar***  
Politehnica University from Timișoara, Romania

**14:30 – 16:00 Session on Software Engineering and Applications II**

Room A109

**Session Chairs:** ***Ioana Șora***  
Politehnica University of Timișoara, Romania  
***Costin Bădică***  
University of Craiova, Romania

**14:30 Detecting Patterns and Antipatterns in Software using Prolog Rules**

***Alecsandar Stoianov, Ioana Șora***  
Politehnica University of Timișoara, Romania

**14:45 Software Architecture Reconstruction: An Approach Based on Combining Graph Clustering and Partitioning**

***Ioana Șora, Gabriel Glodean, Mihai Gligor***  
Politehnica University of Timișoara, Romania

**15:00 Semantic Logging in a Distributed Multi-Agent System**

***Sorin Ilie, Mihnea Scafeș, Costin Bădică***  
University of Craiova, Romania

***Thomas Neidhart, Rani Pinchuk***  
Space Applications Services NV, Zaventem, Belgium

**15:15 Migrating 2D Barcode Technology to the Online in-browser Environment**

***Ovidiu Pârvu\*, Andrei G. Bălan\*\*, Ionel Jian\****  
\* "Politehnica" University of Timișoara, Romania  
\*\* Ufo Media Design, Timișoara, Romania

**15:30 Incremental OCL to C# Code Generation**

***Tamás Vajk, Gergely Mezei***  
Budapest University of Technology and Economics, Hungary

**15:45 An Overlapped Execution Technique for Graph Rewriting Rules**

***Tamás Mészáros, Márk Asztalos, Gergely Mezei***  
Budapest University of Technology and Economics, Hungary

**14:30 – 15:45 Session on Computer Engineering II**

Room A116

**Session Chairs:** ***Voicu Groza, Dan Ionescu***  
University of Ottawa, Canada

**14:30 Effects of Compartmentalized Hydraulic Conditions on Geological Disposal Systems**

***Zoltán Bóthi***  
Óbuda University, Budapest, Hungary

**14:45 Fault Detection Methods for Wireless Sensor Networks Using Neural Networks**

***C. Vasar, I. Filip, I. Szeidert, I. Borza***  
Politehnica University of Timișoara, Romania

**15:00 QoS Parameters Mapping for the E-learning Traffic Mix in LTE Networks**

***V. H. Muntean\*, M. Otesteanu\*, G.-M. Muntean\*\****  
\* "Politehnica" University Timișoara, Romania  
\*\* Dublin City University, Ireland

**15:15 The Use of Social Media Tools in ViCaDiS Virtual Campus**

***Diana And one, Radu Vasiu, Andrei Ternauciuc, Bogdan Dragulescu***  
"Politehnica" University of Timișoara, Romania

**15:30 Database Replication Driven Communication Model for Distributed Dedicated Web Hosting Systems**

***A. Gudiu, E. Voșan, F. Drăgan***  
University of Timișoara, Romania

**14:30 – 16:00 Poster Session II**

Ground floor

**Session chairs:** *Mircea Stratulat*

“Politehnica” University of Timișoara, Romania

*Adrian Graur*

Stefan cel Mare University of Suceava, Romania

**Analysis of RFID Security and Privacy by Means of Identification and Authentication Protocols**

*Cristina Hurjui, Adrian Graur*

Stefan cel Mare University of Suceava, Romania

**Towards using Particle Filtering for Increasing Error Correction Accuracy in Traffic Surveillance Applications**

*Victor Gavrilă, Florica Naghiu, Dan Pescaru*

Politehnica University of Timișoara, Romania

**Review of PSK and QAM - Digital Modulation Techniques on FPGA**

*S. O. Popescu, G. Budura, A. S. Gontean*

University Politehnica Timișoara, Romania

**Monitoring Framework for Large-Scale Software Projects**

*Ciprian Stanciu, Vladimir-Ioan Crețu, Ruxandra Cires-Marinescu*

“Politehnica” University of Timișoara, Romania

**Obtaining Highly Localized Edges using Phase Congruency and Ridge Detection**

*M. Făgădar-Cosma, M. V. Micea, V. Crețu*

“Politehnica” University of Timișoara, Romania

**Steganography on New Generation of Mobile Phones with Image and Video Processing Abilities**

*Daniela Stanescu, Valentin Stangaciu, Mircea Stratulat*

“Politehnica” University of Timișoara, Romania

**Segment Compression Steganographic Algorithm**

*Daniela Stanescu, Ioan-Gabriel Bucur, Mircea Stratulat*

„Politehnica” University of Timișoara, Romania

**Accuracy Analysis of the Parallel Composition for the Block Diagram-based Reliability Assessment of Quantum Circuits**

*O. Boncalo, M. Vladutiu, A. Amaricai*

University Politehnica of Timișoara, Romania

**15:30 – 17:30 Registration**

Room A107

**16:00 – 16:15 Coffee break**

**16:15 – 18:00 Poster Session III**

Ground floor

**Session chairs:** *Dragan Antić*

Faculty of Electronic Engineering, Niš, Republic of Serbia

*Gabriela Prostean*

“Politehnica” University of Timișoara, Romania

**On a Correlation between Sensitivity and Identifiability of Dynamical Systems**

*Bratislav Danković, Dragan Antić, Zoran Jovanović, Darko Mitić*

Faculty of Electronic Engineering, Niš, Republic of Serbia

**Minimum Vicinity Interpolation Algorithms for Calculation of Trajectory Processing for a Model of CNC Machine Tool**

*Dan Ungureanu-Anghel\*, Doru-Ion Belci\*\*, Eugen Raduca\*\*\*, Mihaela Raduca\*\*\**

\* “Politehnica” University of Timișoara, Romania

\*\* Student Faculty of Automation and Computers, Timișoara, Romania

\*\*\* “Eftimie Murgul” University of Resita, Romania

**Haptic Devices in Engineering and Medicine**

*R. E. Sofronia, G. Savii, A. Davidescu*

Politehnica University of Timișoara, Romania

**Adaptive Control System of Continuous Casting Process Based on a Fuzzy Logic Mechanism**

***G. O. Tirian, G. Prostean, S. Rusu-Anghel, D. Cristea***  
"Politehnica" University of Timișoara, Romania

**The Advantages of Using SAP NetWeaver Platform to Implement a Multidisciplinary Project**

***A. D. Cristea\*, O. Prostean\*, T. Muschalik\*\*, O. Tirian\****  
\* "Politehnica" University of Timișoara, Romania  
\*\* NWCON Technology Consulting GmbH, Germany

**The Usefulness and Functionality of Microformats in a Particular eLearning System**

***Iasmina Ermalai, Bogdan Dragulescu***  
"Politehnica" University of Timișoara, Romania

**Important Characteristics of Course Model for Current Engineering Practice**

***József Gáti, Gyula Kártyás***  
Óbuda University, Budapest, Hungary

**Parallel between two SAP Frameworks that Use MVC Paradigm**

***A. D. Cristea, A. D. Berdie, M. Osaci***  
University "Politehnica" Timișoara, Romania

**Automatic Gain Control Algorithms for Wireless Sensors**

***Gábor Gosztolya, Dénes Paczolay***  
University of Szeged, Hungary

***László Tóth***

Research Group on Artificial Intelligence of the Hungarian Academy of Sciences, Szeged, Hungary

# May 28, 2010, Friday

8:30 – 11:00 **Registration**

Room A107

9:00 – 9:45 **Plenary Session II**

Room A109

**Session Chair:** *János Fodor*  
Óbuda University, Budapest, Hungary

**Towards Incremental Learning for Intelligent Systems**

*Peter Sinčák*  
Technical University of Košice, Slovakia

9:45 – 10:00 **Coffee break**

10:00 – 11:45 **Parallel Sessions**

10:00 – 11:30 **Session on Robotics and Control Applications**

Room A115

**Session Chairs:** *Keith Burnham*  
Coventry University, United Kingdom  
*Stefan Preitl*  
"Politehnica" University of Timișoara, Romania

10:00 **Convergence Stabilization by Parameter Tuning in Robust Fixed Point Transformation Based Adaptive Control of Underactuated MIMO Systems**

*József K. Tar, Imre J. Rudas, János F. Bitó*  
Óbuda University, Budapest, Hungary

*Stefan Preitl, Radu-Emil Precup*  
"Politehnica" University of Timișoara, Romania

10:15 **On the Errors-in-Variables Extended Kalman Filter**

*Keith J. Burnham, B. Vinsonneau*  
Coventry University, United Kingdom

*Radu-Emil Precup, Stefan Preitl*  
"Politehnica" University of Timișoara, Romania

10:30 **Compact Image Processing Based Kin Recognition, Distance Measurement and Identification Method in a Robot Swarm**

*Kálmán Bolla\*, Tamás Kovács\*, G. Fazekas\*\**  
\* Kecskemét College, Hungary  
\*\* University of Debrecen, Hungary

10:45 **Improved Leak Detection Quality by Automatic Signal Filtering**

*Raul Ionei, Sabin Ionei, Alimpie Ignea*  
University "Politehnica" from Timișoara, Romania

11:00 **nDSP: A Platform for Audiophile Software Audio Processing**

*Adrian-Sebastian Paul\*, Radu-Emil Precup\*, Claudiu Pozna\*\*,\*\*\*, Radu-Codruț David\**  
\* "Politehnica" University of Timișoara, Romania  
\*\* Transilvania University of Brasov, Romania  
\*\*\* Széchenyi István University, Győr, Hungary

11:15 **Fostering Innovation in Services through Open Education and Advanced IT**

*Theodor Borangiu, Adrian Curaj, Anamaria Dogar*  
University Politehnica of Bucharest, Romania

**10:00 – 11:45 Special Session on Renewable Energy – Wind Energy Conversion Systems I** Room A110

**Session Chairs:** *Nicolae Budisan, Octavian Prostean*  
"Politehnica" University, Timișoara, Romania

- 10:00 The Dual Induction Generator for Renewable Energy Conversion Systems. Experimental Results, Problems and Solutions**  
*N. Budisan\*, O. Prostean\*, R. Boraci\*, I. Szeidert\*, V. Muller\*\**  
\* "Politehnica" University, Timișoara, Romania  
\*\* "Aurel Vlaicu" University, Arad, Romania
- 10:15 Wind Aggregate's Mathematical Modeling Method based on Wind Tunnel Test Results and Regression Functions**  
*Iosif Szeidert, Ioan Filip, Cristian Vasar, Gabriela Prostean*  
"Politehnica" University of Timișoara, Romania
- 10:30 Electronic Conversion System and Speed-Control Strategy for Small Wind Generators**  
*N. Budisan, N. Muntean, R. Boraci, O. Cornea, C. Koch-Ciobotaru, D. Petrița*  
"Politehnica" University, Timișoara, Romania
- 10:45 On-line Tuning Procedure of a Recursive Parameter Estimator Used for a Synchronous Generator Adaptive Control**  
*I. Filip, I. Szeidert, L. Mihet-Popa, C. Vasar*  
"Politehnica" University from Timișoara, Romania
- 11:00 Modeling and Simulation of a Soft-Starter for Large Wind Turbine Induction Generators**  
*L. Mihet-Popa, I. Filip*  
Politehnica University, Timișoara, Romania
- 11:15 On Permanent-Magnet Synchronous Generator Current Harmonics, due to Rectifier at the Generator End of the Variable Speed Generator Sets Converter Systems**  
*N. Budisan, R. Boraci, C. Koch-Ciobotaru, G. Prostean, C. Musca*  
"Politehnica" University, Timișoara, Romania
- 11:30 On Functioning of the Electric Wind System at its Maximum Power**  
*M. Babescu, R. Boraci, C.H. Chioreanu, C. Koch-Ciobotaru, O. Gana*  
"Politehnica" University, Timișoara, Romania

**10:00 – 11:15 Session on Software Engineering and Applications III** Room A109

**Session Chairs:** *Voicu Groza*  
University of Ottawa, Canada

*István Vajk*  
Budapest University of Technology and Economics, Hungary

- 10:00 Localized Spectro-Temporal Features for Noise-Robust Speech Recognition**  
*György Kovács, László Tóth*  
Research Group on Artificial Intelligence, University of Szeged and Hungarian Academy of Sciences Szeged, Hungary
- 10:15 Implicit Model Fitting to an Unorganized Set of Points**  
*Levente Hunyadi and István Vajk*  
Budapest University of Technology and Economics, Hungary
- 10:30 Formal Verification of Model Transformations: an Automated Framework**  
*Márk Asztalos, István Madari, Tamás Vajk, László Lengyel, Tihámér Levendovszky*  
Budapest University of Technology and Economics, Hungary
- 10:45 Towards Better Modeling of Supermarkets**  
*K. Buza\*, Antal Buza\*\*, Piroska B. Kis\*\**  
\* University of Hildesheim, Germany  
\*\* College of Dunaújváros, Hungary
- 11:00 Available Transfer Capacity Evaluation within Complex Power Systems. Theory, Software Tool and Case Study**  
*St. Kilyeni, C. Barbulescu, C. Craciun*  
"Politehnica" University of Timișoara, Romania



**10:00 – 11:45 Session on Sensor Networks**

Room A116

**Session Chairs:** *Mircea Popa, Aurel Gontean*  
"Politehnica" University of Timișoara, Romania

- 10:00 Real-Time Collaborative Intelligent Services for Sensor Networks**  
*Cristian Gadea, Bogdan Ionescu, Dan Ionescu*  
University of Ottawa, Canada
- 10:15 Wireless Sensor Network Software Testing Framework**  
*Ovidiu Baniias, Daniel I. Curia*  
Politehnica University of Timișoara, Romania
- 10:30 A Glance on WSN Lifetime and Relevant Factors for Energy Consumption**  
*G. Gîrban, Mircea Popa*  
Politehnica University, Timișoara, Romania
- 10:45 A Solution for Integrating Sensors and Mobile Devices**  
*Bogdan Stratulat, Mircea Popa*  
"Politehnica" University, Timișoara, Romania
- 11:00 Modeling and Simulation of Wireless Sensor Networks for Event Detection**  
*Ruxandra-Ioana Rusnac, Aurel Gontean*  
Politehnica University of Timișoara, Romania

**11:45 – 12:00 Coffee break****12:00 – 14:00 Parallel Sessions****12:00 – 13:15 Session on Intelligent Systems II**

Room A115

**Session Chairs:** *Igor Škrjanc*  
University of Ljubljana, Slovenia  
*Florin Dragan*  
University of Timișoara, Romania

- 12:00 Analyzing the Accuracy of Lines' Covariances in the EKF-based Localization of a Mobile Robot**  
*Luka Teslić, Igor Škrjanc, Gregor Klančar*  
University of Ljubljana, Slovenia
- 12:15 Graph Genetic Programming for Hybrid Neural Networks Design**  
*L. Ferariu, B. Burlacu*  
"Gheorghe Asachi" Technical University of Iasi, Romania
- 12:30 Mapping a Fuzzy Logic Approach for QoS-aware Service Selection on Current Web Service Standards**  
*Ioana Șora, Gabriel Lazăr, Silviu Lung*  
Politehnica University of Timișoara, Romania
- 12:45 Improved Neural Network OCR based on Preprocessed Blob Classes**  
*Lucian-Ovidiu Fedorovici, Emil Voisan, Florin Dragan, Daniel Iercan*  
University of Timișoara, Romania
- 13:00 Compass and Odometry Based Navigation of a Mobile Robot Swarm Equipped by Bluetooth Communication**  
*Attila Pásztor\*, Tamás Kovács,\*, Zoltán Istenes\*\**  
\* Kecskemét College, Hungary  
\*\*Eötvös Loránd University, Budapest, Hungary

**12:00 – 14:00 Special Session on Renewable Energy – Wind Energy Conversion Systems II** Room A110

**Session Chairs:** *Petru Andea, Stefan Kilyeni*  
"Politehnica" University of Timișoara, Romania

- 12:00 Blade Design Using CAD Technique for Small Power Wind Turbine**  
*Teodor Miloș, Adi Bej, Eugen Dobândă, A. Manea, R. Bădărău, Daniel Stroiță*  
"Politehnica" University of Timișoara, Romania
- 12:15 Computational Graph Theory for Find out Optimal Routes of Pipeline Supply**  
*Teodor Miloș, Eugen Dobândă, A. Manea, R. Bădărău, Daniel Stroiță*  
"Politehnica" University of Timișoara, Romania
- 12:30 The Control of the Diesel-Synchronous Generator Electro-Energetic System**  
*M. Babescu, R. Boraci, O. Gana, C. Koch-Ciobotaru*  
"Politehnica" University, Timișoara, Romania
- 12:45 Substation Ancillary Services Fuel Cell Power Supply. Part 1. Solution Overview**  
*Ioan Borlea, Stefan Kilyeni, Constantin Barbulescu, Dan Cristian*  
"Politehnica" University of Timișoara, Romania
- 13:00 Substation Ancillary Services Fuel Cell Power Supply. Part 2. Case Study**  
*Gheorghe Vuc, Constantin Barbulescu, Stefan Kilyeni, F. Solomonesc*  
"Politehnica" University of Timișoara, Romania
- 13:15 Conventional vs. Alternative Energy Sources Overview. Part I. Energy and Environment**  
*Petru Andea, Dumitru Mnerie, Dan Cristian, Oana Pop, Dan Jigoria-Oprea*  
"Politehnica" University of Timișoara, Romania
- 13:30 Conventional vs. Alternative Energy Sources Overview. Part II. European Strategies**  
*Petru Andea, Alin V. Mnerie, F. Solomonesc, Oana Pop, Dan Cristian*  
"Politehnica" University of Timișoara, Romania
- 13:45 Conventional vs. Alternative Energy Sources Overview. Part III. Perspectives in Romania**  
*Petru Andea, Gabi V. Mnerie, Oana Pop, F. Solomonesc, Attila Simo*  
"Politehnica" University of Timișoara, Romania

**12:00 – 13:45 Session on Software Engineering and Applications IV** Room A109

**Session Chairs:** *Alexandru Cicortas, Daniela Zaharia*  
West University of Timișoara, Romania

- 12:00 Considerations on the Roles and Ontology in Modeling Workflow Management Systems**  
*A. Cicortas, V. Iordan*  
West University of Timișoara, Romania
- 12:15 Evolutionary Task Scheduling in Static and Dynamic Environments**  
*Flavia Zamfirache, Daniela Zaharie, Ciprian Crăciun*  
West University of Timișoara, Romania
- 12:30 A New Algorithm for Mapping XML Schema to XML Schema**  
*Laurentiu Checiu, Dan Ionescu*  
University of Ottawa, Canada
- 12:45 Designing Autonomic Management Systems for Cloud Computing**  
*Bogdan Solomon\*, Dan Ionescu\*, Marin Litoiu\*\*, Gabriel Iszlai\*\*\**  
\* University of Ottawa, Canada  
\*\* York University, Toronto, Ontario, Canada  
\*\*\* IBM Center for Advanced Studies, Toronto, Ontario, Canada
- 13:00 A Reconfigurable Architecture for IP Multimedia Subsystem Session Setup**  
*Raymond Peterkin, Fadi El-Hassan, Dan Ionescu*  
University of Ottawa, Canada
- 13:15 A New Search Method for Ranking Short Text Messages Using Semantic Features and Cluster Coherence**  
*Mircea Trifan, Dan Ionescu*  
University of Ottawa, Canada
- 13:30 A New Method for 3D Object Reconstruction in Real-Time**  
*Dan Ionescu, Bogdan Ionescu, Shahidul Islam, Cristian Gadea*  
University of Ottawa, Canada

**12:00 – 13:30 Session on Sensor Networks, Networking and Communication**

Room A116

**Session Chairs: *Valentin Sgaciu***

Faculty of Automatic Control and Computers, Bucharest, Romania

***Dan Pescaru***

"Politehnica" University of Timișoara, Romania

**12:00 Wireless Monitoring System in a Safe City with Safe Mobile*****Dorel Nasui\**, *Florentina A. Oana\*\**, *Valentin Sgaciu\*\****

\* American International Radio, Illinois, USA

\*\* Faculty of Automatic Control and Computers, Bucharest, Romania

**12:15 Performance Improvements of Video WSN Surveillance in Case of Traffic Congestions*****Codruta Istin*, *Dan Pescaru*, *Horia Ciocarlie***

"Politehnica" University of Timișoara, Romania

**12:30 Predicting Indoor Temperature Variation through Sensor Data Pattern Analysis*****Cristian Martin*, *Dan Pescaru***

Politehnica University of Timișoara, Romania

**12:45 VoIP Communication QOS Analysis System*****Nadya Ghiata*, *Marius Marcu***

Politehnica University of Timișoara, Romania

**13:00 Using Constant Traffic to Specific IP Destinations for Detecting Spoofed MAC Addresses in Local Area Networks*****E. C. Sasu*, *Octavian Prostean***

"Politehnica" University, Timișoara, Romania

**13:15 Proving the Efficiency of DTF Method in a Local Area Network*****E. C. Sasu\**, *Octavian Prostean\**, *V. Groza\*\****

\* "Politehnica" University, Timișoara, Romania

\*\* University of Ottawa, Canada

**14:00 – 14:30 Demo presentation on Virtual Collaboration Arena**

Room A109

**Demo Chairs: *Péter Baranyi*, *Barna Reskó***

MTA SZTAKI, Hungary

The demonstration is about a software system named Virtual Robot Collaboration Arena (VIRCA). The goal of this software system is to allow a human user to interact and collaborate with distant, real robots and other intelligent agents by the means of the virtual world. The system integrates the advantages of a virtual environment, the information density of cognitive infocommunication channels, including 3D visual perception, and allows the combination of the precision and speed of AI with the high levels of human intelligence.

**14:30 – 14:40 Closing Ceremony**

Room A109

**14:40 Lunch**

Restaurant CP1

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