

**7<sup>th</sup> International Symposium of Hungarian Researchers**

**on**

**COMPUTATIONAL INTELLIGENCE**

**PROGRAM**

**Magyar Kutatók 7. Nemzetközi Szimpóziuma**

2006  
NOVEMBER 24-25  
BUDAPEST

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## **VENUE**

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The Symposium will be held at Budapest Tech  
Rooms F7 and F8  
Address: Bécsi út 96/B, H-1034 Budapest, Hungary

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## **REGISTRATION**

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Participants are guests of Budapest Tech; all the authors are welcome without registration fee.

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## **PROCEEDINGS**

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Each accepted paper reaching us in time will be published in the volume of proceedings that will be distributed at the registration desk.

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## **OPENING HOURS OF THE REGISTRATION DESK**

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The registration desk will be open during the symposium.

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## **LANGUAGE**

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The official languages of the Symposium are English and Hungarian. All the camera-ready manuscripts should be submitted in English, the presentations can be made either in English or in Hungarian.

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## **LUNCH AND RECEPTION**

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All the participants are cordially invited by Budapest Tech for lunch and the evening reception on Friday.

## **PRESENTATION**

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Presentations can be made by using OHP or data projector. 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.

Conference room is supplied with OHP and data projector with PC.

## **SMOKING**

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

## **SYMPOSIUM SECRETARIAT**

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November 24, 2006, Friday

**9:00 – 9:15      OPENING CEREMONY      Room F8**

Chairman: *Imre J. Rudas*  
Budapest Tech, Hungary

**9:00      OPENING ADDRESS OF THE CHAIRMAN**

**9:05      OFFICIAL OPENING OF THE SYMPOSIUM**

*Annamária R. Várkonyi-Kóczy*  
Budapest University of Technology and Economics, Hungary

**9:15 – 10:00      PLENARY SESSION I      Room F8**

Chairman: *Imre J. Rudas*  
Budapest Tech, Hungary

**Challenges and Chances in the 21<sup>st</sup> Century R&D**

*Norbert Kroó*  
Hungarian Academy of Sciences

**10:00 – 10:45      PLENARY SESSION II      Room F8**

Chairman: *Annamária R. Várkonyi-Kóczy*  
Budapest University of Technology and Economics,  
Hungary

**Soft-Computing Digital Architectures Using von Neumann  
Stochastic Data Representation**

*Emil M. Petriu*  
University of Ottawa, Canada

**10:45 – 11:00      COFFEE BREAK**

**11:00 – 12:40 MORNING SESSION A**

**Room F8**

Chairman: *Imre J. Rudas*  
Budapest Tech, Hungary

**11:00 Analytic Properties of Aggregation Functions for Decision Making**

*Endre Pap*  
University of Novi Sad, Serbia

**11:20 The Knowledge Modelling of Traffic and Industry Emission from the Air Pollution Control Aspects**

*Baltazár Frankovič, Viktor Oravec, Ivana Budinská*  
Institute of Informatics, Slovak Academy of Sciences,  
Slovakia

**11:40 Mathematical Evaluation of Geologic Variability**

*György Bárdossy*  
Hungarian Academy of Sciences

**12:00 On a Possible Future of Computationalism**

*Jozef Kelemen*  
Silesian University, Czech Republic

**12:20 Fuzzy Weak Orders - Some Recent Results**

*János Fodor\*, Ulrich Bodenhofer\*\*, Bernard De Baets\*\*\**  
\*Budapest Tech, Hungary  
\*\* Austria  
\*\*\* Belgium

**11:00 – 12:40 MORNING SESSION B**

**Room F7**

Chairman: *Peter Sinčák*  
Technical University of Košice, Slovakia

**11:00 High Dynamic Range Imaging Technique Based on the Merging of Maximum Dense Information Regions**

*Annamária R. Várkonyi-Kóczy, András Rövid, Szilveszter Balogh, Takeshi Hashimoto\*, Yoshifumi Shimodaira\**  
Budapest University of Technology and Economics, Hungary  
\*Shizuoka University, Japan



- 14:20 Adaptive Personalisation of the Intelligent Space by Fuzzy Automaton**  
*Szilveszter Kovács, Péter Korondi\*, Hideki Hashimoto\*\**  
 University of Miskolc, Hungary  
 \*Budapest University of Technology and Economics  
 Budapest, Hungary  
 \*\* University of Tokyo, Japan
- 14:40 Pipelined Image Correspondence Analysis**  
*Gyula Max*  
 Budapest University of Technology and Economics, Hungary
- 15:00 A Phenomenological Analyzes Trial of AI Syntagma**  
*Claudiu Pozna*  
 Transilvanian University of Brasov, Romania
- 15:20 Using Patterns in Domain-Specific Languages**  
*Tamás Mészáros, Gergely Mezei, Tihamér Levendovszky*  
 Budapest University of Technology and Economics, Hungary
- 15:40 Qualitative Analysis of Segmented Time Series by Sequence Alignment**  
*Balázs Balaskó, Sándor Németh, János Abonyi*  
 University of Pannonia, Hungary
- 14:00 – 16:00 AFTERNOON SESSION I B Room F7**
- Chairman: *János Fodor*  
 Budapest Tech, Hungary
- 14:00 Predictive Control for Fuel Consumption of Hybrid Solar Vehicles**  
*Zsuzsa Preitl, Péter Bauer, Balázs Kulcsár\*, József Bokor\**  
 Budapest University of Technology and Economics Hungary  
 \* Computer and Automation Research Institute, Hungary

- 14:20 Mobile Agent Control in Intelligent Space using Reinforcement Learning**  
*László A. Jeni, Zoltán Istenes, Péter Korondi\*, Hideki Hashimoto\*\**  
 Eötvös Loránd University, Hungary  
 \*Budapest University of Technology and Economics, Hungary  
 \*\*University of Tokyo, Japan
- 14:40 E-learning in Web Environment**  
*Zlatko Čović, Biljana Radulović\**  
 Polytechnical Engineering College, Subotica, Serbia  
 \*Technical Faculty Mihajlo Pupin, Serbia
- 15:00 Application-oriented Integration of Decisions in Product Engineering**  
*László Horváth, Imre J. Rudas*  
 Budapest Tech, Hungary
- 15:20 Categorization-based Topic-oriented Internet Search Engine**  
*Domonkos Tikk\*, György Biró\*\*, Ferenc P. Szidarovszky\*\*\*, Zsolt T. Kardkóvács\*, Mihály Héder\*, Gábor Lemák\*\*\*\**  
 \*Budapest University of Technology and Economics, Hungary  
 \*\* TextMiner Co., Hungary  
 \*\*\* Budapest University of Technology and Economics, and Szidarovszky Kft., Hungary  
 \*\*\*\* GKI Economic Research Co., Hungary
- 15:40 Greedy Term Selection for Document Classification with Given Minimal Precision**  
*Kristóf Csorba, István Vajk*  
 Budapest University of Technology and Economics, Hungary
- 16:00 – 16:20 COFFEE BREAK**



Chairman: *Stefan Preidl*  
“Politehnica” University of Timisoara, Romania

**16:20 Analysis of Mojette Transform Implementation on Field Programmable Gate Array**

*Péter Serfőző, József Vásárhelyi, János Turán\**  
University of Miskolc, Hungary  
\* Technical University of Košice, Slovakia

**16:40 Uninorm-based Residuated Lattice**

*Márta Takács*  
Budapest Tech, Hungary

**17:00 Superflexible Welding Robot Based on the Intelligent Space Concept**

*Béla Takarics, Péter T. Szemes*  
Budapest University of Technology and Economics, Hungary

**17:20 Data Clustering Using ART-like Neural Networks**

*Agáta Bodnárová, Tyler Frank\**  
University of Hradec Králové, Czech Republic  
\* Technical University of Košice, Slovakia

**17:40 Extraction of Representative Learning Set from Measured Geospatial Data**

*Béla Paláncz, Lajos Völgyesi, Piroska Zaletnyik, Levente Kovács*  
Budapest University of Technology and Economics, Hungary

**18:00 Integrating Model Transformation Systems and Asynchronous Cluster Tools**

*Gergely Mezei, Sándor Juhász, Tihamér Levendovszky*  
Budapest University of Technology and Economics, Hungary

**16:20 – 17:40 AFTERNOON SESSION II B**

**Room F7**

Chairman: *József K. Tar*  
Budapest Tech, Hungary

**16:20 A Pure Probabilistic Interpretation of Possibilistic Expected Value, Variance, Covariance and Correlation**

*Christer Carlsson\**, *Robert Fullér\*\**, *Péter Majlender\**

\*Åbo Akademi University, Finland

\*\*Eötvös Loránd University, Hungary

**16:40 Workflow Model Representation Concepts**

*József Tick*  
Budapest Tech, Hungary

**17:00 Generic Software Architecture for Startup Sequencing and Monitoring Diagnostics/Prognostics**

*William Franklin*  
University of Maryland University College, USA

**17:20 Geometric Error Correction in Coordinate Measurement**

*Gyula Hermann*  
Budapest Tech, Hungary

**17:40 – 18:30 ANNUAL MEETING OF HUNGARIAN FUZZY ASSOCIATION**

**Room F7**

**18:30 RECEPTION**

November 25, 2006, Saturday

- 9:00 – 11:00 MORNING SESSION I A Room F8**
- Chairman: ***Baltazár Frankovič***  
Institute of Informatics Slovak Academy of  
Sciences, Slovakia
- 9:00 FEI STU Bratislava Experience with Digital Story-Telling in  
Social Sciences Education**  
***Ladislav Andrasik***  
Slovak University of Technology Bratislava, Slovakia
- 9:20 Success of Heuristics and the Solution Space Representation**  
***Sándor Csiszár***  
Budapest Tech, Hungary
- 9:40 Imperative OCL Compiler Support for Model  
Transformations**  
***Tamás Vajk, Tihamér Levendovszky***  
Budapest University of Technology and Economics, Hungary
- 10:00 Robust-Predictive Control of (15N) Isotope Separation  
Column**  
***Eva-Henrietta Dulf, Ferenc Dulf, Clement Festila***  
Technical University of Cluj-Napoca, Romania
- 10:20 Multi-Dimensional Visualization of Web Access Logs**  
***Ágoston Winkler, Sándor Juhász, Renáta Iváncsy***  
Budapest University of Technology and Economics, Hungary
- 10:40 A Flow-based Algorithm for Statistical Anomaly Detection**  
***Petar Čisar, Sanja Maravić Čisar\****  
Telekom Srbija, Serbia  
\* Polytechnical Engineering College, Subotica, Serbia

**9:00 – 11:00 MORNING SESSION I B Room F7**

Chairman: *Szilveszter Kovács*  
University of Miskolc, Hungary

**9:00 Development of Distributed Control System for Load Distribution Among Transformer Substations Based on Thom's Catastrophe Theory**

*László Ormos, Gábor Halász\**  
College of Nyíregyháza, Hungary  
\*Israeli Electric Corporation, Haifa, Israel

**9:20 Professional, Configurable Development System for Microcontroller, FPGA and its Application**

*Gábor Marton, Timót Hidvégi\**  
Széchenyi István University, Hungary  
\*Széchenyi István University, and Budapest Tech, Hungary

**9:40 TPC Benchmark**

*Márk Kaszó, Tihamér Levendovszky*  
Budapest University of Technology and Economics, Hungary

**10:00 Video Image Processing System for RT-Middleware**

*Gábor Sziebig, Andor Gaudia, Péter Korondi, Noriaki Ando\**  
Budapest University of Technology and Economics, Hungary  
\*National Institute of Advanced Industrial Science and Technology, Japan

**10:20 On the Intelligent and Secure Scheduling of Web Services in Service-oriented Architectures – SOAs**

*Katalin Szenes*  
Budapest Tech, Hungary

**10:40 Node Similarity-based Graph Clustering and Visualization**

*Miklós Erdélyi, János Abonyi*  
University of Pannonia, Hungary

**11:00 – 11:30 COFFEE BREAK**

Chairman: *Márta Takács*  
Budapest Tech, Hungary

**11:30 Fuzzy Rule Interpolation by the Least Squares Method**

*Johanyák Zsolt Csaba, Kovács Szilveszter\**

Kecskemét College, Hungary

\* University of Miskolc, Hungary

**11:50 An Overview of the State-of-The-Art Reverse Engineering Techniques**

*László Angyal, László Lengyel, Hassan Charaf*

Budapest University of Technology and Economics, Hungary

**12:10 Introduction of the Cost Plan Module of a Facility Management Software System**

*Gréta Sifter, Tünde Tarczali\**

SeaCon Europe Ltd., Hungary

\* Budapest Tech, Hungary

**12:30 Statistical Methods for Morphological Parsers**

*László Kovács, Péter Barabás*

University of Miskolc, Hungary

**12:50 On the Notion of Parallelism in Artificial and Computational Intelligence**

*Benedek Nagy*

University of Debrecen, Hungary, and Rovira i Virgili University, Spain

**11:30 – 13:30 MORNING SESSION II B**

**Room F7**

Chairman: *Annamária R. Várkonyi-Kóczy*  
BUTE, Hungary

**11:30 Compressing Weblogs for Efficient Discovery of Internet User Activities**

*Attila Babos, Sándor Juhász*  
Budapest University of Technology and Economics, Hungary

**11:50 Tracking Activities of Real Persons in Weblogs**

*Csaba Legány, Ferenc Kovács*  
Budapest University of Technology and Economics, Hungary

**12:10 A Tremor-based Retina Model for Robust Contour Detection**

*Ádám Csapó, András Róka, Barna Reskó, Péter Baranyi*  
Computer and Automation Research Institute, Hungary

**12:30 How do I Know What You Like? The Ways of Collaborative Filtering**

*Bottyán Németh*  
Budapest University of Technology and Economics, Hungary

**12:50 A MATLAB Toolbox and its Web-based Variant for Fuzzy Cluster Analysis**

*Tamás Kenesei, Balázs Balaskó, János Abonyi*  
University of Pannonia, Hungary

**13:10 Identification of Hinging Hyperplane Models by Fuzzy c-Regression Clustering**

*Tamás Kenesei, Balázs Feil, János Abonyi*  
University of Pannonia, Hungary

**13:30 CLOSING CEREMONY**

**Room F8**

Closing speeches by

**Imre J. Rudas and Annamária R. Várkonyi-Kóczy**