

# **SAMI 2005**

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## **FINAL PROGRAM**

**3<sup>rd</sup> Slovakian-Hungarian Joint  
Symposium  
on  
Applied Machine Intelligence**

January 21-22, 2005  
Herľany, Slovakia

January 21, 2005 (Friday)

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9:00 – 9:15      **OPENING CEREMONY**

**Today Sessions**  
**Computational Intelligence – Theory and Applications**

9:15 – 10:55    **MORNING SESSION I**

Session chair: *Imre J. Rudas*  
Budapest Tech, Hungary

9:15 – 9:35      **Transitivity Preserving Aggregation of Preferences**

*János Fodor*  
Szent István University, Hungary  
*Imre J. Rudas*  
Budapest Tech, Hungary

9:35 – 9:55      **Fuzzy Models, Identification and Applications**

*László T. Kóczy*  
Budapest University of Technology and Economics, Hungary

9:55 – 10:15    **Humanoid Robots – Towards Learnable Technologies**

*Peter Sinčák*  
Technical University of Košice, Slovakia

10:15 – 10:35   **Evolutionary Migration Algorithms for Scheduling**

*Ján Vaščák*  
Technical University of Košice, Slovakia

10:35 – 10:55   **About the NeuroFuzzy Module of the FuzzyTECH5.5 Software**

*Ágnes B. Simon, Dániel Biró*  
College of Nyíregyháza, Hungary

10:55 – 11:15   **COFFEE BREAK**

11:15 – 12:55   **MORNING SESSION II**

Session chair: *Peter Sinčák*  
Technical University of Košice, Slovakia

11:15 – 11:35   **Fuzzy Clustering Applied on Mobile Agent Behaviour Selection**

*Andrej Turčan, Eva Ocelíková*  
Technical University of Košice, Slovakia

11:35 – 11:55   **Generalization of Backpropagation for LQ Control Tasks**

*Dušan Krokavec, Anna Filasová*  
Technical University of Košice, Slovakia

11:55 – 12:15   **Recognition of a Moving Object in a Stereo Environment Using a Content Based Image Database**

*Attila Kiss, Tamás Németh, Szabolcs Sergyán, Zoltán Vámosy, László Csink*  
Budapest Tech, Hungary

12:12 – 12:35   **Active Contours in Segmentation of Fiber like Objects**

*E. Demjénová*  
Slovak Academy of Sciences, Technical University of Košice, Slovakia  
*J. Janáček*  
Academy of Sciences of the Czech Republic  
*I. Zolotová*  
Technical University of Košice, Slovakia  
*Z. Tomori*  
Slovak Academy of Sciences

12:35 – 12:55   **Data Mining in the Grid Environment**

*Martin Sarnovský*

Technical University of Košice, Slovakia

- 12:55 – 14:00 LUNCH**
- 14:00 – 15:40 AFTERNOON SESSION I**  
Session chair: *Baltazár Frankovič*  
Slovak Academy of Sciences, Slovakia
- 14:00 – 14:20 The Proposal of use of Hybrid Systems in Situational Control of Jet Turbo-compressor Engines**  
*Rudolf Andoga, Ladislav Madarász, Miloš Karas*  
Technical University of Košice, Slovakia
- 14:20 – 14:40 Formal Representation of Images by Pulse Coupled Neural Networks**  
*Radoslav Forgáč, Igor Mokriš*  
Slovak Academy of Sciences, Slovakia
- 14:40 – 15:00 Shepard Approximation of Fuzzy Input Fuzzy Output Functions**  
*Barnabás Bede*  
Budapest Tech, Hungary  
*Hajime Nobuhara*  
Tokyo Institute of Technology, Japan  
*Imre J. Rudas*  
Budapest Tech, Hungary  
*Kaoru Hirota*  
Tokyo Institute of Technology, Japan
- 15:00 – 15:20 Development of Neural Network Information Retrieval System from Text Documents**  
*Igor Mokriš, Lenka Skovajsová*  
Slovak Academy of Sciences, Slovakia
- 15:20 – 15:40 Quality Measures for Bayesian Network Classifier Design**  
*Marián Mach, Miroslav Mráz*  
Technical University of Košice, Slovakia
- 15:40 – 16:00 COFFEE BREAK**
- 16:00 – 18:00 AFTERNOON SESSION I**  
Session chair: *János Fodor*  
Szent István University, Hungary
- 16:00 – 16:20 Fuzzy System Composed of Analogue Fuzzy Cells**  
*László Ormos*  
College of Nyíregyháza, Hungary  
*István Ajtonyi*  
University of Miskolc, Hungary
- 16:20 – 16:40 A Boosting Method in Combination with Decision Trees**  
*Kristína Machová, Miroslav Pusztá, Peter Bednár*  
Technical University of Košice, Slovakia
- 16:40 – 17:00 Iterative Neural Network Model Inversion**  
*Annamária R. Várkonyi-Kóczy, András Rövid*  
Budapest University of Technology and Economics, Hungary
- 17:00 – 17:20 Parallelism in Fuzzy Databases**  
*Liberios Vokorokos, Anton Baláž, Norbert Ádám*  
Technical University of Košice, Slovakia
- 17:20 – 17:40 Petri Nets Applied for Modelling of Network Control System**  
*Stanislav Laciňák*  
Technical University of Košice, Slovakia
- 17:40 – 18:00 A Contribution to the Hybrid Control**  
*Vratislav Hladký*

18:00 BANQUET

January 22, 2005 (Saturday)

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**Today Sessions**  
**Intelligent Technologies – Theory and Applications**

- 8:30 – 10:30 MORNING SESSION I**  
Session chair: *Szilveszter Kovács*  
University of Miskolc, Hungary
- 8:30 – 8:50 Paralelization of the Sequential Threads in DF Computers**  
*Liberios Vokorokos, Norbert Ádám, Anton Baláž*  
Technical University of Košice, Slovakia
- 8:50 – 9:10 Design and Implementation of Bibliography Registration System**  
*Jaroslav Porubän, Peter Václavík, Ján Kollár*  
Technical University of Košice, Slovakia
- 9:10 – 9:30 An Experiment with Aspect Programming Language**  
*Ján Kollár, Marcel Tóth*  
Technical University of Košice, Slovakia
- 9:30 – 9:50 Significant Elements of the Intelligent Manufacturing Systems**  
*Baltazár Frankovič, Tung T. Dang, Ivana Budinská, Viktor Oravec*  
Slovak Academy of Sciences, Slovakia
- 9:50 – 10:10 Message-passing Implementation for Process Functional Language**  
*Miroslav Vidišček*  
Technical University of Košice, Slovakia
- 10:10 – 10:30 Discover Thesauri: State of the Art in Hungary**  
*Rudolf Ungváry*  
National Library, Hungary  
*Tamás Radnai*  
Budapest Tech, Hungary.Network Inc., Hungary
- 10:30 – 10:50 COFFEE BREAK**
- 10:50 – 12:30 MORNING SESSION II**  
Session chair: *Ján Vaščák*  
Technical University of Košice, Slovakia
- 10:50 – 11:10 Distance Based Similarity Measures of Fuzzy Sets**  
*Zsolt Csaba Johanyák*  
Kecskemét College, Hungary  
*Szilveszter Kovács*  
University of Miskolc, Hungary
- 11:10 – 11:30 Information Logistics in Production Process**  
*Michal Balog, Martin Straka*  
Technical University of Košice, Slovakia
- 11:30 – 11:50 Compiling the Process Functional Programs**  
*Peter Václavík, Ján Kollár, Jaroslav Porubän, Miroslav Vidišček*  
Technical University of Košice, Slovakia
- 11:50 – 12:10 Three-dimensional Simulation of Robot Path and Heat Transfer of a TIG-welded Part with Complex Geometry**  
*Daneshjo Naqib*  
Technical University of Košice, Slovakia
- 12:10 – 12:30 Approximate Subtree Search for Labeled Trees with Small Depth Value**

*László Kovács, Tibor Répási, Erika Baksa-Varga*  
University of Miskolc, Hungary

**12:30 – 13:30 LUNCH**

**13:30 – 15:10 AFTERNOON SESSION I**

Session chair: *Ján Kollár*

Technical University of Košice, Slovakia

**13:30 – 13:50 General Principles of Engineering Designing in Frame of IMS**

*Jaroslav Šeminský, Tomáš Saloky*

Technical University of Košice, Slovakia

**13:50 – 14:10 ON A WAY TO ALGEBRA OF PETRI NETS: Algebra of PN Terms**

*Štefan Hudák, Slavomír Šimoňák*

Technical University of Košice, Slovakia

**14:10 – 14:30 DVB-T Systems in Hungary**

*József Biró, Endre Borbély*

Budapest Tech, Hungary

**14:30 – 14:50 Improving Precision of Weigh Stones by Production Asphalt Blends in Automatic Mode**

*Peter Lenčák, Ondrej Líška*

Technical University of Košice, Slovakia

**14:50 – 15:10 Sorting Workstation with Colour Sensors**

*Hajduk Mikuláš, Baláž Vladimír, Sukop Marek*

Technical University of Košice, Slovakia

**13:30 – 15:10 AFTERNOON SESSION II**

Session chair: *József K. Tar*

Budapest Tech, Hungary

**13:30 – 13:50 Application of the Scicos Simulator in the Investigation of an Adaptive Control of a Mechanical System of Free Internal Degree of Freedom**

*József K. Tar, Gyula Kártyás, János F. Bitó, Ágnes Szeghegyi*

Budapest Tech, Hungary

**13:50 – 14:10 Modelling and Computation of Boundary Layers**

*István Patkó, József Dénes*

Budapest Tech, Hungary

**14:10 – 14:30 Classroom on the Internet**

*Gyula Kártyás, József Gáti*

Budapest Tech, Hungary

**14:30 – 14:50 Artificial Intelligence and Machine Learning**

*Tomáš Saloky, Jaroslav Šeminský*

Technical University of Košice, Slovakia

**14:50 – 15:10 The Design of a Submicron Precision Co-Ordinate Measuring Machine**

*Gyula Hermann*

Budapest Tech, Hungary

**15:10 – 15:30 COFFEE BREAK**

**15:30 – 16:50 AFTERNOON SESSION III**

Session chair: *Štefan Hudák*

Technical University of Košice, Slovakia

**15:30 – 15:50 Graphical Information Access for Visually Impaired**

*Alena Galajdová, Jaroslav Majeník, Dušan Šimšík*

Technical University of Košice, Slovakia

- 15:50 – 16:10**    **The Assembly Technology Process And Part Feeding Model**  
*Katarína Senderská, Jozef Kováč, Ladislav Madarász, Rudolf Andoga*  
 Technical University of Košice, Slovakia
- 16:10 – 16:30**    **Modelling and Simulation Aero Turbosupercharged Engine**  
*Radoslav Makovník, Ondrej Liška*  
 Technical University of Košice, Slovakia
- 16:30 – 16:50**    **Mutual Effects of Modeled Engineering Objects and Their Environment**  
*Imre J. Rudas, László Horváth*  
 Budapest Tech, Hungary
- 15:30 – 16:50**    **AFTERNOON SESSION IV**  
 Session chair: *Márta Takács*  
 Budapest Tech, Hungary
- 15:30 – 15:50**    **Sensitivity Analysis in some Possibilistic Linear Problems**  
*Christer Carlsson*  
 Abo Akademi University, Finland  
*Robert Fullér*  
 Eötvös Loránd University, Hungary
- 15:50 – 16:10**    **The Non-Technical Factors of Software User Interface Development**  
*József Tick*  
 Budapest Tech, Hungary
- 16:10 – 16:30**    **A Genetic Algorithm for Solving General System of Equations**  
*Győző Molnárka, Edit Miletics*  
 Széchenyi István University, Hungary
- 16:30 – 16:50**    **E-Learning Based Teaching Material for Calculus in Engineer Training**  
*Gizella Csikós Pajor, Albert Boros*  
 Polytechnical Engeneering College Subotica  
*Márta Takács*  
 Budapest Tech, Hungary
- 17:00**            **CLOSING CEREMONY**

# GENERAL INFORMATION

## **Date and Place**

SAMI 2005 will be held in Herľany, Slovakia, from January 21<sup>st</sup> till 22<sup>nd</sup>, 2005.

## **Social Events**

Banquet will be held at 18:00 on Friday, January 21, 2005.

## **Accommodation**

All attendees stay in University Resident in Herľany.

## **Official Language**

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

## **Breakfast and Lunch**

Breakfasts and lunches are available during the symposium.

## **Proceedings**

Each accepted paper reaching us in time will be published in the Volume of Proceedings that will be distributed at the conference registration desk.

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

The registration desk will be open during the symposium.

## **Presentation**

All the presentations can be made by using data projector (Power Point presentation). Please bring your presentation on CD or USB with you.

## Herlany

Herl'any is situated 27 km away from Košice in the direction of Michalovce. There is a cold geyser, which is a rarity in the Europe. There are similar geysers only in Iceland. It was first discovered in 1870 during drilling for sources of mineral water, for baths. The eruptions of geyser is from a depth 351 m to a height 20-30 m and interval between eruptions is 32-34 hours. The duration of the spout is around 25-30 minutes.

