



**10:30 – 12:10 Poster Session I**

Comparison of Standard and Sparse-based Implementation of GOSCL Algorithm

**P. Butka\***, **J. P'ocsov'a‡** and **J. P'ocs§**

*\*Department of Cybernetics and Artificial Intelligence, Faculty of Electrical Engineering and Informatics, Technical University of Ko'sice, Ko'sice, Slovakia*

*‡Institute of Control and Informatization of Production Processes, BERG Faculty, Technical University of Ko'sice, Ko'sice, Slovakia*

*§Mathematical Institute, Slovak Academy of Sciences, Ko'sice, Slovakia*

DNA Sequence Design for Reliable DNA Computing by Using a Multiobjective Approach

**J. M. Chaves-González** and **M. A. Vega-Rodríguez**

*University of Extremadura, Department of Computers and Communications Technologies, Cáceres, Spain*

Comparison of genome-scale reconstructions using ModeRator

**Martins Mednis** and **Valters Brusbardis**

*Latvia University of Agriculture, Faculty of Information Technology, Biosystems group, Jelgava, Latvia*

**Vytautas Galvanauskas**

*Kaunas University of Technology, Kaunas, Lithuania*

Uniform Color Spaces Clustering in an Unsupervised Manner

**Marimpis Avraam<sup>1</sup>**, **Papadourakis Giorgos<sup>1</sup>** and **Palamas Giorgos<sup>1</sup>**

*<sup>1</sup> Technological Educational Institute of Crete/Applied Informatics and Multimedia, Greece*

**12:10 – 14:00 Lunch**

**14:00 – 15:40 Session 'Informatics II'**

**Room F09**

**Session Chair:** Bilgin Metin

14:00 Differentiated Services among different network protocols<sup>1</sup>

<sup>1</sup> This work is connected to the scientific program of the "Development of quality-oriented and harmonized R+D+I strategy and functional model at BME" project. This project is supported by the New Hungary Development Plan (Project ID: TAMOP-4.2.1/B-09/1/KMR-2010-0002).

**G. Max**

*Department of Automation and Applied Informatics*

*Budapest University of Technology and Economic, Hungary*

14:20 On Optimizing Nodes Deployment in Multi-Radio Multi-Channel Wireless Mesh Networks

**T. Mountassir\***, **B. Nassereddine\***, **A. Haqiq\*\*** and **J. Mountassir\*\*\***

*\* IR2M Laboratory, FST, Hassan 1st University, Settat, Morocco*

*\*\* e-NGN research group, Africa and Middle East*

*\*\*\*Electronics and Telecommunications Faculty, Polytechnic University of Timisoara, Romania*

14:40 Event-based Content Management by Spontaneous Metadata Generation and Diffusion

**Khandaker Tabin Hasan \*\*\***, **Md. Saddam Hossain Mukta\*\***, **Mir Tafseer Nayeem\*\*** and **Zahid Hasan\***

*\*\*\* American International University of Bangladesh (AIUB), Dhaka, Bangladesh*

*\*\* Islamic University of Technology (IUT), Dhaka, Bangladesh*

*\*Department of Engineering and Computer Science, University of Trento, I*

15:00 Towards a novel approach of structural schema matching

**Balázs Villányi**, **Péter Martinek**

*Budapest University of Technology and Economics/Department for Electronics Technology, Budapest, Hungary*

15:20 Information Systems for Electronic Education Infrastructure

**Bilgin Metin**, **Gokhan Goksu**, **Cagla Hulagu**

*Bogazici University, Management Information Systems Dept., Istanbul, Turkey*

**14:00 – 15:40 Session 'PhD special session I'**

**Room F08**

**Session Chair:** László Horváth

14:00 Information Technology Systems in Logistics and roles of ERPs

**László Duma**

*Budapest Corvinus University, Infocommunication Department, Budapest, Hungary*

**István Orosz**

*Óbuda University/AREK, Székesfehérvár, Hungary*

- 14:20 Operating system in the era of the many core chips  
**Dániel Kristóf Kiss<sub>y</sub>**  
*\_Doctoral School of Applied Informatics, Óbuda University, Budapest, Hungary*  
*yMentor Graphics Corp., Budapest, Hungary,*
- 14:40 A comparative analysis of standardized technologies for providing indoor geolocation functionality  
**Ferenc Brachmann**  
*University of Pécs Faculty of Sciences, Pécs, Hungary*
- 15:00 Chaos Patterns in a 3 Degree of Freedom Control with Robust Fixed Point Transformation  
**Krisztián Kósi**  
*Doctoral School of Applied Informatics, Óbuda University, Budapest, Hungary*  
**Ákos Breier**  
*Donát Bánki Faculty of Mechanical and Safety Engineering, Óbuda University, Budapest, Hungary*  
**József K. Tar**  
*Institute of Applied Mathematics, Óbuda University, Budapest, Hungary*
- 15:20 Correction of the Concentration Profile of the Epitaxially Grown GaAs Thin Film Layers, Measured by Electrolytic Capacitance-Voltage Method  
**Antal Ürmös, Ákos Nemcsics**  
*Óbuda University, Institute of Microelectronics and Technology, Budapest, Hungary*

**14:00 – 15:40 Poster Session**

Multiobjective Teaching-Learning-Based Optimization (MO-TLBO) for Motif Finding

**David L. González-Álvarez\***, **Miguel A. Vega-Rodríguez\***, **Juan A. Gómez-Pulido\***,  
**and Juan M. Sánchez-Pérez\***

*\*University of Extremadura, Department Technologies of Computers and Communications  
Escuela Politécnica, Campus Universitario s/n, 10003. Cáceres, Spain*

Making muJava more accessible

**P. Pecev\***, **B. Markoski\*\***, **L. Ratgeber\*\*\***, **D. Lacmanovic\*\*** and **Z. Ivankovic\*\***

*\* University of Novi Sad, Faculty of Sciences, Department of Mathematics and Informatics, Novi Sad, Serbia*

*\*\* University of Novi Sad, Tehnical Faculty "Mihajlo Pupin", Zrenjanin, Serbia*

*\*\*\* University of Pécs, Faculty of Health Sciences, Pécs, Hungary*

AdaBoost in basketball player identification

**Z. Ivankovic\***, **B. Markoski\***, **M. Ivkovic\***, **D. Radosav\*** and **P. Pecev\*\***

*\* University of Novi Sad, Technical faculty "Mihajlo Pupin", Zrenjanin, Serbia*

*\*\* University of Novi Sad, Faculty of Science, Novi Sad, Serbia*

MO-ABC/DE - Multiobjective Artificial Bee Colony with Differential Evolution for Unconstrained Multiobjective Optimization

**Álvaro Rubio-Largo<sub>,</sub>** **David L. González-Álvarez<sub>,</sub>** **Miguel A. Vega-Rodríguez<sub>,</sub>**  
**Juan A. Gómez-Pulido<sub>,</sub>** and **Juan M. Sánchez-Pérez<sub>,</sub>**

*\_University of Extremadura, Department Technologies of Computers and Communications  
Escuela Politécnica, Campus Universitario s/n, 10003. Cáceres, Spain*

**15:40 – 16:00 Coffee break**

**16:00 – 17:20 Session 'Applications I'**

**Session Chair:** Sebastian Hommel

**Room F09**

16:00 Semiring Framework for the Theory of Mobility Index

**Endre Pap<sub>yz</sub>**

*\_ Faculty of Sciences, University of Novi Sad, Trg D. Obradovića 4, Novi Sad, Serbia*

*yÓbuda university, H-1034 Budapest, Becsi ut 96/B, Hungary*

*z Educons University, Vojvode Putnika 87, 21208 Sremska Kamenica, Serbia*

16:20 Multi-attribute Decision Making Based on Fuzzy Outranking

**Kiyoshi Nagata\*, Michio Amagasa\* and Hiroo Hirose\*\***

*\*Department of Business Informatics, Faculty of Business Administration, Daito Bunka University, Tokyo, Japan*

*\*\*Department of Management Information, Faculty of Management Information, Tokyo University of Science, Suwa, Nagano, Japan*

16:40 An Intelligent System Architecture for Multi-Camera Human Tracking at Airports  
**Sebastian Hommel\_, Matthias A. Grimm\_, and Veit Vogesy, Uwe Handmann\_, Uwe Weigmanny**  
*\_Computer Science Institute, University of Applied Sciences Ruhr West, Germany, Bottrop  
yEuropean Aviation Security Center e.V., Germany, Schönhagen*

17:00 Atmospheric analyser for mobile robots  
**László Somlyai\*, Antal Turóczy\*\*, András Molnár\*\*\***  
*Óbuda University, John von Neumann Faculty of Informatics, Hungary*

**16:00 – 17:00 Session 'PhD Special session II' Room F08**  
**Session Chair:** Aurél Galántai

16:00 Simulation of charging properties of MNOS structures with embedded semiconductor nanocrystals  
**K. Z. Molnár 1, and Zs. J. Horváth 1,2**  
*1 Óbuda University, Kandó Kálmán Faculty of Electrical Engineering, Institute of Microelectronics and Technology, Budapest, Hungary  
2 Hungarian Academy of Sciences, Research Centre for Natural Sciences, Institute for Technical Physics and Materials Science, Budapest, Hungary*

16:20 An Ontology Model-based ECG Diagnostic Solution  
**Norbert Sram**  
*Óbuda University, Doctoral School of Applied Informatics, Budapest, Hungary*

16:40 Conjunction and Disjunction Operators in Neuro-Fuzzy Risk Calculation Model Simplification  
**E. Tóth-Laufer\*, M. Takács\*\* and I. J. Rudas\*\***  
*\* Óbuda University/Doctoral School of Applied Informatics, Budapest, Hungary  
\*\* Óbuda University/John von Neumann Faculty of Informatics, Budapest, Hungary*

**16:00 – 17:00 Poster Session**

2D RGB Depth Map Building for Outdoor Mobile Robots Using Particle Filter  
**Yu-Cheol Lee, Christiand, Joochan Sohn and Sunghoon Kim**

Resource Requirement Estimation of Advertising Websites  
**Gergely Kocsis\* and Péter Ekler\*\***  
*\* Origo Zrt, Budapest, Hungary  
\*\* Budapest University of Technology and Economics, Department of Automation and Applied Informatics, Budapest, Hungary*

Analyzing the Resource Requirements of Usage Statistics Gathering on Online Newspapers  
**Gergely Kocsis\* and Péter Ekler\*\***  
*\* Origo Zrt, Budapest, Hungary  
\*\* Budapest University of Technology and Economics, Department of Automation and Applied Informatics, Budapest, Hungary*

A Small-Scale Experimental Greenhouse for Computing Thermal Models  
**P. Eredics\*, P. Györke\*, T. P. Dobrowiecki\* and B. Pataki\***  
*\*Budapest University of Technology and Economics, Department of Measurement and Information Systems, Budapest, Hungary*

**17:00 MFT közgyűlés Room F07**

**17:30 Welcome reception**

**November 21, Wednesday**

**8:30 – 15:00 Registration**

- 9:00 – 10:40**      **Session 'Fuzzy Technology I'**      **Room F09**  
**Session Chair:** Rita Lovassy
- 9:00                  Combining Probabilistic and Possibilistic Aspects of Background Risk  
**Irina Georgescu**  
*Universidad Loyola Andalucía, Department of Quantitative Methods, Cordoba, Spain and  
Academy of Economic Studies, Department of Economic Cybernetics, Bucharest, Romania*
- 9:20                  Possibilistic Constrained Optimization to Tune Fuzzy Rules Formalizing Medical Knowledge by  
Preserving Linguistic Interpretability  
**Domenico Maisto, Massimo Esposito**  
*Institute for High Performance Computing and Networking (ICAR), Italian National Council of Research,  
Naples, Italy*
- 9:40                  Supplier evaluation with fuzzy similarity based fuzzy TOPSIS with new fuzzy similarity measure  
**Leoncie Niyigena**  
*Laboratory of Applied Mathematics, Lappeenranta University of Technology, Lappeenranta, Finland.*  
**Pasi Luukka**  
*Laboratory of Applied Mathematics, Lappeenranta University of Technology, Lappeenranta, Finland.*  
**Mikael Collan**  
*School of Business, Lappeenranta University of Technology, Lappeenranta, Finland.*
- 10:00                Electricity Consumption Forecasting Using Fuzzy Time Series  
**E. Bolturk\*, B. Oztaysi\*\* and I. U. Sari\*\***  
*\* Istanbul Commerce University / Industrial Engineering, Istanbul, Turkiye  
\*\* Istanbul Technical University / Industrial Engineering, Istanbul, Turkiye*
- 10:20                Estimation for Optimization of Rational-Powered Membership Functions  
**Mortaza Aliasghary1, Nasser Arghavani 2**  
*Control Engineering Department, Faculty of Electronic Engineering  
Istanbul Technical University, Istanbul, Turkey*
- 9:00 – 10:40**      **Session 'Applications II'**      **Room F08**  
**Session Chair:** Róbert Fullér
- 9:00                  Unsupervised Extraction of Product Information from Semi-structured Sources  
**Maximilian Walther**  
*AGT Group (R&D) GmbH, Darmstadt, Germany*
- 9:20                  Volumetric Image Mining Based on Decomposition and Graph Analysis: An Application to Retinal  
Optical Coherence Tomography  
**Abdulrahman Albarrak\_, Frans Coenen\_, Yalin Zhengy and Wen Yu\_**  
\_ *Department of Computer Science, University of Liverpool, Liverpool, UK*  
y *Department of Eye and Vision Science, University of Liverpool, Liverpool, UK*
- 9:40                  Modeling of digital literacy of Slovak municipalities by neuro-fuzzy systems  
**Al'zbeta Michal'iková and So'na Volentierová**  
*Matej Bel University, Faculty of Natural Sciences, Bansk'a Bystrica, Slovakia*
- 10:00                Boosting performance of the edge-based active contour model applied to phytoplankton images  
**Adas Gelzinis\_, Evaldas Vaiciukynas\_, Marija Bacauskiene\_, Antanas Verikas\_y,**  
**Sigitas Sulciusz, Ricardas Paskauskasz and Irina Oleninaz x**  
\_ *Department of Electrical & Control Equipment, Kaunas University of Technology, Kaunas, Lithuania*  
y *Intelligent Systems Laboratory, Halmstad University, Halmstad, Sweden*  
z *Coastal Research and Planning Institute, Klaipeda University, Klaipeda, Lithuania*  
x *Department of Marine Research, Environmental Protection Agency, Lithuania*
- 10:20                Fuzzy Logic Control Applied on SI Engine Concerning the Injection Time Evolution  
**D. Marin\*, I. Hiticas\*\* and L. Mihon\*\***  
\* *Hautes Etudes d'Ingénieur/Lille/France*  
\*\* *University Politehnica of Timișoara/M.M.U.T, Timișoara, Romania*

**9:00 – 10:40**      **Poster Session**

Fitting Univariate Distributions to Computer Network Traffic Data Using GUI

**Petar Čisar\* and Sanja Maravić Čisar\*\***

*\*Academy of Criminalistic and Police Studies, Belgrade-Zemun, Serbia*

*\*\* Subotica Tech, Serbia*

Challenges of Implementation of Intelligent Information Systems in Transforming the Healthcare System in the Republic of Serbia

**Andor Sagi, Anita Sabo, Bojan Kuljić, Tibor Szakáll**

*Subotica Tech, Subotica, Serbia*

Expansion of working envelope of a small turbojet engine MPM-20

**L. Madarász\*, R. Andoga\*\*\*, L. Fózó\*\*, J. Judičák\*\* and V. Gašpar\***

*\* Technical University of Košice, Department of Cybernetics and Artificial Intelligence, Košice, Slovakia*

*\*\* Technical University of Košice, Department of Aviation Engineering, Košice, Slovakia*

*\*\*\* Technical University of Košice, Department of Avionics, Košice, Slovakia*

The use of matrix tactile sensors (MTS) for diagnostics of the efficiency of production, testing and application of a trunk orthosis

**R. Hudák\*, V. Rajtúková\*, J. Živčák\*, J. Hudák\*\* and L. Bednarčíková\***

*\* TUKE/Department of Biomedical Engineering and Measurement, Košice, Slovakia*

*\*\*TUKE/Department of Aviation Technical Studies, Košice, Slovakia*

**10:40 – 11:00 Coffee break**

**11:00 – 12:40 Session 'Fuzzy Technology II'**

**Room F09**

**Session Chair:** Márta Takács

11:00 Implementing XQuery Fuzzy Extensions Using a Native XML Database

**P. Sae Ueng and S. Škrbić**

*University of Novi Sad/Department of Mathematics and Informatics, Novi Sad, Serbia*

11:20 A Fuzzy Adaptive Set-point Regulator Design

**E. Yesil, M. Guzelkaya and I. Eksin**

*Istanbul Technical University, Faculty of Electrical and Electronics Engineering,*

*Control Engineering Department, Maslak, Istanbul, Turkey*

11:40 Progressive Bacterial Algorithm

**László Gál<sup>1</sup>, Rita Lovassy<sup>2</sup>, László T. Kóczy<sup>3,4</sup>**

*1Dept. of Technology, Informatics and Economy, University of West Hungary, Szombathely, Hungary*

*2Inst. of Microelectronics and Technology, Kandó Kálmán Faculty of Electrical Engineering, Óbuda University Budapest, Hungary*

*3Dept. of Automation, Faculty of Engineering Sciences, Széchenyi István University Győr, Hungary*

*4Dept. of Telecommunications and Media Informatics, Budapest University of Technology and Economics, Budapest, Hungary*

12:00 New Parameterizable Search Space Narrowing Technique for Adjusting between Accuracy and Interpretability in Fuzzy Systems

**Krisztián Balázs**

*Department of Telecommunications and Media Informatics, Budapest University of Technology and Economics*

**László T. Kóczy**

*Department of Automation, Széchenyi István University, Győr, Hungary*

*Department of Telecommunications and Media Informatics, Budapest University of Technology and Economics*

12:20 On Stabilizing Fuzzy State Control Design for a Class of Takagi-Sugeno Descriptor Systems

**D. Krokavec, A. Filasová and V. Hladký**

*Technical University of Košice, Slovakia*

**11:00 – 12:40 Session 'Applications III'**

**Room F08**

**Session Chair:** Zsolt Csaba Johanyák

11:00 Computational Intelligence application in fasteners manufacturing

**Tomasz Mączka, Tomasz Żabiński, Jacek Kluska**

*Rzeszów University of Technology, Poland*





Software tool for probabilistic metabolic pathways construction

**Jurijs Meitalovs**

*Latvia University of Agriculture, Faculty of Information Technology, Jelgava, Latvia*

A SCADA system designed for making more efficient production in flexible manufacturing system

**A. Morosan and F. Sisak**

*Transilvania University/Electrical Engineering and Computer Science Department, Brasov, Romania*

Pulse Oximeter Based Monitoring System for People at Risk

**P. Szakacs-Simon, S. A. Moraru and L. Perniu**

*"Transilvania" University, Department of Automatics, Electronics and Computers, Brasov, Romania*

**15:20 – 15:40 Coffee break**

**15:40 – 17:00 Session 'Fuzzy Technology III'**

**Room F09**

**Session Chair:** László Gál

15:40

Handling Some Complexity Related Problems of Classifying Neural Network Models

**A. R. Várkonyi-Kóczy\*, \*\*, B. Tusor \*\***

*\* Institute of Mechatronics and Vehicle Engineering, Óbuda University, Budapest, Hungary*

*\*\* Integrated Intelligent Systems Japanese-Hungarian Laboratory, Óbuda University, Budapest, Hungary*

16:00

Improving the Efficiency of a Fuzzy-Based Single-Stroke Character Recognizer with Hierarchical Rule-Base†

† This paper was supported by the National Scientific Research Fund Grant OTKA K75711, a Széchenyi István University Main Research Direction Grant and EU grant TÁMOP 421 B, TÁMOP 4.2.2/B-10/1-2010-0010.

**A. Tormási\* and L. T. Kóczy\***

*\* Széchenyi István University/Department of Automation, Győr, Hungary*

16:20

The Line Noise as The Optional Antecedent Parameter of Performance Evaluation

**Ferenc Lilik and László T. Kóczy**

*Széchenyi István University, Győr, Hungary*

16:40

The Application of Fuzzy Connectives and Inverse Operations on R-fuzzy Descriptors of the Static Conditions of Residential Buildings

**Ádám Bukovics\* and László T. Kóczy\*\***

*\* Széchenyi István University/Department of Structural and Geotechnical Engineering, Győr, Hungary*

*\*\* Széchenyi István University/Department of Automation, Győr, Hungary*

*BME/Department of Telecommunications and Media Informatics, Budapest, Hungary*

**18:00**

**Banquet**

**Restaurant 'Trófea'**

**November 22, Thursday**

**9:00 – 9:45**

**Plenary Session**

**Room F09**

**Session Chair:** Imre J. Rudas

Confidence Fusion Based Human-Robot Interaction with Hand Gesture and Emotion Recognition for Service Robotics

**Ren C. Luo**

*Irving T. Ho Chair and Distinguished Professor*

*Director, International Center of Excellence on Intelligent Robotics and Automation*

*National Taiwan University*

End of conference

**See you in Budapest!**