

ICCC 2008 Technical Program

November 27, 2008, Thursday

8:00 – 17:00 Registration

9:00 – 9:30 Opening Ceremony

9:30 – 10:15 Plenary Session I

Session Chair: *József K. Tar*
Budapest Tech, Hungary

Application of Fractional Calculus in Engineering Sciences

José A. Tenreiro Machado
Institute of Engineering of Porto, Porto, Portugal

10:15 – 10:40 Coffee Break

10:40 – 12:00 Session Advanced Control Technology

Session Chair: *Ladislav Madarász*
Technical University of Košice, Slovakia

10:40 Possible Adaptive Control by Tangent Hyperbolic Fixed Point Transformations Used for Controlling the Φ^6 -Type Van der Pol Oscillator

József K. Tar, János F. Bitó, Imre J. Rudas
Budapest Tech, Hungary

Krzysztof R. Koziowski
Poznan University of Technology, Poland

José A. Tenreiro Machado
Institute of Engineering of Porto, Portugal

11:00 Vector Control of Induction Motor Drives with Model Based Predictive Current Controller

Nimród Kutasi, András Kelemen
Sapientia Hungarian University of Transylvania, Târgu Mureş, Romania

Mária Imecs
Technical University of Cluj-Napoca, Romania

11:20 Fractional Control of Two Cooperating Manipulators

Nuno M. Fonseca Ferreira
Institute of Engineering of Coimbra, Portugal

José A. Tenreiro Machado
Institute of Engineering of Porto, Portugal

József K. Tar
Budapest Tech, Hungary

11:40 Use of Anytime Control Algorithms in the Area of Small Turbojet Engines

Rudolf Andoga, Ladislav Fözó, Ladislav Madarász
Technical University of Košice, Slovakia

12:00 – 14:00 Lunch

14:00 – 15:40 Session Information Processing in Application

Session Chair: *Szilveszter Kovács*
University of Miskolc, Hungary

- 14:00 Multi-Agent Sophisticated System for Intelligent Technologies**
Tomas Reiff, Peter Sinčák
Technical University of Košice, Slovakia
- 14:20 The Use of Entropy to Measure Structural Diversity**
Lesedi Masisi, Fulufelo Nelwamondo, Tshilidzi Marwala
Witwatersrand University, Wits, South Africa
- 14:40 Analysis of Cutting-Force Signals by Timefrequency Localization Methods**
Tamás Kovács, Edit Csizmás, András Szabó
Kecskemét College, Hungary
- 15:00 Time Interval Semantics and Reachability Analysis of Time Basic Nets**
Štefan Hudák, Ladislav Madarász, Attila N. Kovács
Technical University of Košice, Slovakia
- 15:20 Integrating Oracle Enterprise Service Bus with JADE Agents**
Vadim S. Kimlaychuk
Tallinn University of Technology, Tallinn, Estonia

15:40 – 16:00 Coffee Break

16:00 – 17:40 Soft Computing, Neural Networks, Fuzzy Systems

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

- 16:00 Positional Fuzzy Relations in Robot Control**
Daniel Hládek, Jan Vaščák, Peter Sinčák
Technical University of Košice, Slovakia
- 16:20 Sparse Fuzzy Model Identification Matlab Toolox – RuleMaker Toolbox**
Zsolt Csaba Johanyák
Kecskemét College, Hungary
- 16:40 Comparison of Two Document Clustering Techniques which Use Neural Networks**
Igor Mokriš, Lenka Skovajsová
Slovak Academy of Sciences, Bratislava, Slovakia
- 17:00 Using Fuzzy Rule Interpolation-based Automata for Controlling Navigation and Collision Avoidance Behaviour of a Robot**
Dávid Vincze, Szilveszter Kovács
University of Miskolc, Miskolc, Hungary
- 17:20 Linking and Activation Potential Optimization in the Pulse Coupled Neural Network**
Radoslav Forgáč, Igor Mokriš
Institute of Informatics, Slovak Academy of Sciences, Bratislava, Slovakia

18:00 Welcome Reception

Restaurant

November 28, 2008, Friday

9:00 – 9:45 Plenary Session II

Session Chair: *José A. Tenreiro Machado*
Institute of Engineering of Porto, Porto, Portugal

Dimension Reduction of Classification Space by Neural Networks

Igor Mokriš

Institute of Informatics, Slovak Academy of Sciences

9:45 – 10:00 Coffee Break

10:00 – 12:00 Session Mathematical Applications

Session Chair: Márta Takács

Budapest Tech, Hungary

10:00 A Method to Reduce CPU Overhead in Blob Detection and Tracking Algorithms

Erkki Joason, Jaak Henno

Faculty of Information Technology, TTU, Tallinn, Estonia

10:20 Residual Filter Design Using Computational Mathematics Methods

Anna Filasová, Dusan Krokavec

Technical University of Košice, Slovakia

10:40 Evolutionary Algorithm Application for Parameter Estimation of the Anaerobic Digestion Model No.1

André Wenzel

University of Applied Sciences Schmalkalden, Schmalkalden, Germany

11:00 Bifurcation and Lyapunov Exponent in Orthogonal Frequency Division Multiplexing

Yoothana Suansook, Kitti Paithoonwattanakij

King Mongkut Institute of Technology Ladkrabang, Bangkok, Thailand

11:20 A Systematic Numerical Reduction Algorithm for Scheduling Graphs Imitating Symbolic Reduction

Elemér Károly Nagy, István Loványi

Budapest University of Technology and Economics, Budapest, Hungary

11:40 An Iterated Extended Risk-Sensitive Filters for Nonlinear Filtering Problems

Munisamy Srinivasan, Manoj Kumar Tyagi, Kumba Radha Rani, Maloji Suman, Burthi Loveswara Rao

K. L. College of Engineering, Vaddeswaram, India

10:10 – 12:00 Poster Session I

Further Results on Migrative Triangular Norms

János Fodor, Imre J. Rudas

Budapest Tech, Hungary

A Survey of Technologies for Climbing Robots Adhesion to Surfaces

Manuel F. Silva

Institute of Engineering of Porto, Portugal

José A. Tenreiro Machado

Institute of Engineering of Porto, Portugal

József K. Tar

Budapest Tech, Hungary

Model of Data Analysis on Interactive Web Environment for Psychometric Diagnostics of Cognitive Functions

Velibor Ilić

University of Novi Sad, Serbia

Estimation of Wheelchair Turn Area for SCI Patient's Remodeling House

Yoshio Tanimoto, Kuniharu Nanba, Akihiro Tokuhiko

Kibikogen Rehabilitation Center, Okayama, Japan

Hiroyuki Ukida

The University of Tokushima, Faculty of Engineering, Tokushima, Japan

Hideki Yamamoto

Okayama University, Faculty of Education, Okayama, Japan

Bridging Distances by Giving Actual Content in Flexible Teaching Programs

József Gáti, Gyula Kártyás

Budapest Tech, Budapest, Hungary

12:00 – 14:00 **Lunch**

14:00 – 15:40 **Session Design, Modeling, Identification**

Session Chair: *Dusan Krokavec*
Technical University of Košice, Slovakia

14:00 **A Metamodel-based Matching Algorithm for Model Transformations**

Márk Asztalos, László Lengyel
Budapest University of Technology and Economics, Hungary

14:20 **Improved Performance Models and Algorithms**

Ágnes Bogárdi-Mészöly, Tihámér Levendovszky
Budapest University of Technology and Economics, Hungary

András Rövid
Budapest Tech Polytechnical Institution, Hungary

14:40 **Guided Classification using CCV and Wavelet Features for Greenery and Non-Greenery Images**

P. Balamurugan, R. Rajesh
Bharathiar University, Coimbatore, India

15:00 **Numerical Convex Hull Manipulation under Tensor Product Transformation Based Control Design**

Ákos Matszangosz, Szabolcs Nagy, Péter Baranyi
Computer and Automation Research Institute, Hungarian Academy of Sciences, Hungary

15:20 **Effects of Ocular Optical Aberrations on Non-overlapped Image Filtering**

Barna Reskó
Budapest Tech, Hungary

Ákos Antal
Budapest University of Technology and Economics, Hungary

Péter Baranyi
Computer and Automation Research Institute, Budapest, Hungary

14:00 – 15:40 **Poster Session II**

Finding Sparse Features for Face Detection Using Genetic Algorithms

Hesam Sagha, Mehdi Dehghani
Sharif University of Technology, Tehran, Iran

Elham Enayati
Ferdowsi University of Mashhad, Mashhad, Iran

Gain-Scheduling and Iterative Feedback Tuning of PI Controllers for Longitudinal Slip Control

Mircea-Bogdan Radac, Radu-Emil Precup, Stefan Preitl
"Politehnica" University of Timisoara, Timisoara, Romania

József K. Tar, János Fodor
Budapest Tech Polytechnical Institution, Budapest, Hungary

Emil M. Petriu
University of Ottawa, Ottawa, Canada

Developing an Adaptive Fractional Model of a Magnetic Structure using Evolutionary Algorithm

Hossein Ravanbod, Mojtaba Hajihassani, Yaghoub Farjami, Ehsan Norouzi
Sharif University of Technology, Tehran, Iran

Using of Genetic Algorithm for Designing of Fuzzy Controller

Richard Lončák, Anna Jadlovská
FEI TU of Košice, Slovak Republic

Global Navigation and Collision Protection System of Mobile Robots for Interoperation Transport

Tomáš Župa, Kamil Židek, Ondrej Líška, Jozef Živčák
Technical University of Košice, Slovakia

15:40 – 16:00 Coffee Break

16:00 – 17:20 Session Engineering Applications

Session Chair: *Jozef Živčák*
Technical University of Košice, Slovakia

16:00 Communication and Knowledge in Product Model Supported Engineering Processes

László Horváth, Imre J. Rudas
Budapest Tech, Hungary

16:20 A Machine Learning Approach to Fault Diagnosis of Rolling Bearings

Marco Cococcioni, Paola Forte, Salvatore Manconi
University of Pisa, Italy

Christian Sacchi
MAGNA Closures S.p.A., Motrol Division, Guasticce (LI), Italy

16:40 Incremental Model Synchronization by Bi-Directional Model Transformations

István Madari, László Lengyel, Gergely Mezei
Budapest University of Technology and Economics, Hungary

17:00 Construction of a High Precision Tactile Measuring Probe

Gyula Hermann
Budapest Tech, Hungary

16:00 – 17:20 Poster Session III

Design of the Modular Production System by simulation software's Cosimir®

Jana Mihalíková, Sylvia Rovnáková, Ondrej Líška, Jozef Živčák
Technical University of Košice, Košice, Slovakia

3D Representation of Approximate Reasoning Process with Type-2 Fuzzy Sets and Distance-based Operators

Márta Takács
Budapest Tech, Hungary

Investigating a Predictive Certainty Measure for Ensemble Based HIV Classification Systems

Jaisheel Mistry, Fulufhelo V. Nelwamondo**, Tshilidzi Marwala**
* University of Witwatersrand, Johannesburg, South Africa
** Harvard University, Cambridge, Massachusetts, USA

Method of Weighted Residuals on the Base of Neuronet's Approximations for Computer Simulation of Hydrodynamics Problems

Alexander V. Kretinin, Yuriy A. Bulygin, Michail I. Kirpichev
Voronezh State Technical University, Russia

Japanese Accent Training System for Foreign Students

Xing Zhenlei, Tetsuya Sano**, Hideki Yamamoto* and Akira Kikuchi****
*) Okayama University, Okayama, Japan
) System Enterprise Co.,Ltd., Okayama, Japan
) Naruto University of Education, Takashima, Japan

18:00 Banquet

Congress Center

November 29, 2008, Saturday

9:00 – 9:45 Plenary Session III

Session Chair: *Liberios Vokorokos / Ladislav Madarász*
Technical University of Kosice, Slovakia

Mining and Integration of Environmental Data

Ladislav Hluchý, Ondrej Habala, Marek Ciglan, Viet D. Tran
Institute of Informatics of the Slovak Academy of Sciences, Bratislava, Slovakia

9:50 – 10:50 Session Biological and Medical Applications

Session Chair: *László Horváth*
Budapest Tech, Hungary

9:50 Design Reviews of Health Care System

Byeong Ho Ahn
The Attached Institute of ETRI, Daejeon, Korea

Jinkeun Hong
Baekseok University, Chungnam, Korea

10:10 Bionic Inspired Decision Making Unit Model for Autonomous Agents

Heimo Zeilinger, Tobias Deutsch, Brit Müller, Roland Lang
Vienna University of Technology, Vienna, Austria

10:30 Evaluation of The Quality of Life Outcomes of Women and Man with Coronary Artery Disease using Fuzzy Regression Analyses

Solmaz Eini, Z. Zeybek, Muhip M. Özkan
Ankara University, Ankara, Turkey

F. Ahmedi
Tarbiat Modares University, Tehran, Iran

9:50 – 10:50 Poster Session IV

FP-Growth Algorithm for Application in Research of Market Basket Analysis

Yongmei Liu, Yong Guan
Capital Normal University, Beijing, China

Raising the Effectivity of E-learning Systems with Use of Intelligent Principles

Igor Sivý, Marián Bučko, Ladislav Madarász
Technical University of Košice, Slovakia

Integration Adaptive Psychometric Tests in Interactive Web Environment

Velibor Ilić
University of Novi Sad, Serbia

Informatics in Health Care

L. Bednarčíková, Martin Petřík, Teodor Tóth, Monika Michalíková, Stanislav Krajnák, Jozef Živčák
Technical University of Košice, Slovakia

11:00 Closing Ceremony

Closing speech by **Liberios Vokorokos**, ICCC 2008 General Chair