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## SISY 2006 Technical Program

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September 29, 2006, Friday

Town Hall

*address: Gradska kuca  
Trg Slobode 1.  
Svečana sala*

- 9:00 – 9:15      **OPENING CEREMONY**
- 9:15 – 10:15    **PLENARY SESSION I**  
Humanoid Robotics – Past, Present State, Future –  
*Miomir Vukobratović, Serbia*  
  
Session Chair: *Imre J. Rudas*
- 10:15 – 10:30   **COFFEE BREAK**
- 10:30 – 11:15   **PLENARY SESSION II**  
Non-Additive Measures and Integrals  
*Endre Pap, Serbia*  
  
Session Chair: *János Fodor*
- 11:15 – 12:00   **PLENARY SESSION III**  
Boolean Frame is Adequate for Treatment of Gradation or  
Fuzziness Equally as for Two-Valued or Classical Case  
*Dragan Radojević, Serbia*  
  
Session Chair: *Aleksandar Takačci*
- 12:00 – 14:00   **LUNCH**

- 14:00 – 14:45**    **SPECIAL SESSION**  
**Information Aggregation in Intelligent Systems**  
*Session Chair: Imre J. Rudas*
- 14:00 – 14:15**    **Novel Operator Classes in Information Aggregation**  
*János Fodor, Imre J. Rudas, Hungary*
- 14:15 – 14:30**    **Uninorms and Absorbing Norms with Applications to Image Processing**  
*János Fodor, Imre J. Rudas, Barnabás Bede, Hungary*
- 14:30 – 14:45**    **Quick Comparison of the Efficiency of Fuzzy Operatios Used in FLC**  
*Márta Takács, Hungary, Claudiu Pozna, Romania, Ágnes Szeghegyi, Hungary*
- 14:45 – 16:00**    **Session ROBOTICS**  
*Session Chair: Miomir Vukobratović*
- 14:45 – 15:00**    **Control Algorithm for Humanoid Walking Based on Fuzzy Reinforcement Learning**  
*Duško Katić, Miomir Vukobratović, Serbia*
- 15:00 – 15:15**    **Distributed Compensation and Role of Hands in the Synthesis of Biped Motion with Enhanced Degree of Anthropomorphism**  
*Miomir Vukobratović, Branislav Borovac, Kalman Babković, Serbia*
- 15:15 – 15:30**    **Improved Kinematics Simulation Model of General Human and Humanoid Motion**  
*Milos Jovanovic, Serbia*
- 15:30 – 15:45**    **Motion Control of Wheeled Mobile Robots**  
*Gyula Mester, Serbia*
- 15:45 – 16:00**    **Programming Mobile Robots in ANSI C Language for PIC MCU's**  
*János Simon, Tibor Szakáll, Čović Zlatko, Serbia*

- 16:00 – 16:15 COFFEE BREAK**
- 16:15 – 18:15 Session APPLICATIONS**
- Session Chair: Dragan Radojević*
- 16:15 – 16:30 Modeling the Neuro-Fuzzy Control with the Dynamic Model of the Permanent Magnet DC Motor**  
*Ottó Búcsú, Gábor Kávai, István Kecskés, Péter Odry, Serbia*
- 16:30 – 16:45 Pseudo-Fourier Transform**  
*Martina Daňková, Czech Republic, Ivana Štajner-Papuga, Serbia, Barnabás Bede, Hungary*
- 16:45 – 17:00 Microcontrollers, Actuators and Sensors in Mobile Robots**  
*István Matijevics, Serbia*
- 17:00 – 17:15 Optimising Solar Tracking Systems for Solar Cells**  
*Zoltán Kvasznicza, György Elmer, Hungary*
- 17:15 – 17:30 Analog Interface Card – A2D2A for Texas Instruments DSP Development Systems**  
*Antal Soós, Tibor Petres, Serbia*
- 17:30 – 17:45 Improved Face Recognition in the Myra System**  
*Tibor Kövér, Dénes Vigh, Zoltán Vámosy, Hungary*
- 17:45 – 18:00 The Shapley Value for Capacities and Games on Set Systems**  
*Fabien Lange, Michel Grabisch, France*
- 18:00 – 18:15 Quality Control in Function of Statistical Anomaly Detection in Intrusion Detection Systems**  
*Petar Čisar, Sanja Maravić Čisar, Serbia*
- 18:30 WELCOME RECEPTION**

September 30, 2006, Saturday

Polytechnical Engineering College

*address: Marka Oreskovica 16*

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| <b>9:00 – 11:00</b>  | <b>Session MATHEMATICS</b>  | <b>Room A</b> |
|                      | <i>Session Chair: <u>Endre Pap</u></i>  |               |
| <b>9:00 – 9:15</b>   | <b>Adaptation of Edges in a Triangular Mesh</b><br><i>Miroslav Marić, Sana Stojanović, Serbia</i>   |               |
| <b>9:15 – 9:30</b>   | <b>An Axiomatization of the Hybrid Probabilistic-Possibilistic Utility Theory</b><br><i>Endre Pap, Marija Roca, Serbia</i>  |               |
| <b>9:30 – 9:45</b>   | <b>The Role of Mathematics in the Solution of Geological Problems</b><br><i>György Bárdossy, János Fodor, Hungary</i>   |               |
| <b>9:45 – 10:00</b>  | <b>Representation of the Revised Monotone Functional by the Choquet Integral with Respect to Signed Fuzzy Measure</b><br><i>Biljana Mihailović, Endre Pap, Serbia</i> |               |
| <b>10:00 – 10:15</b> | <b>Riemann-Stieltjes Type Integral based on Generated Pseudo-Operations</b><br><i>Ivana Štajner-Papuga, Tatjana Grbić, Serbia, Martina Daňková, Czech Republic</i>    |               |
| <b>10:15 – 10:30</b> | <b>Image Restoration by Partial Differential Equations</b><br><i>Mirjana Štrboja, Serbia</i>  |               |
| <b>10:30 – 10:45</b> | <b>On Morse-Smale Complexes and Dual Sub-Divisions</b><br><i>Lidija Čomić, Serbia</i>   |               |
| <b>10:45 – 11:00</b> | <b>A System for Neural Acoustics Analysis</b><br><i>Aleksandar Jovanovic, Maja Jovanovic, Aleksandar Perovic, Miroslav Maric, Serbia</i>                              |               |

**9:00 – 11:00      Session COMPUTATIONAL INTELLIGENCE      Room B**

Session Chair: *László T. Kóczy*

- 9:00 – 9:15      Fuzzy Sets – a Boolean Valued Approach**  
*Aleksandar Perović, Serbia*
- 9:15 – 9:30      Non-Associative Fuzzy Flip-Flop with Dual Set-Reset Feature**  
*Rita Lovassy, László T. Kóczy, Hungary*
- 9:30 – 9:45      Algorithm for Computing the Digital Convex Fuzzy Hull**  
*Nebojša M. Ralević, Vladimir Ćurić, Marko Janev, Serbia*
- 9:45 – 10:00      Comparing Fuzzy Attribute Values in FRDB**  
*Aleksandar Takači, Serbia*
- 10:00 – 10:15      On Further Development of Soft Computing, Some Trends in Computational Intelligence**  
*Dragan Z. Šaletić, Serbia*
- 10:15 – 10:30      Application of Aggregation Operators in Solution of Nonlinear Equations**  
*Tibor Lukić, Nebojša M. Ralević, Serbia, Anikó Lukity, Hungary*
- 10:30 – 10:45      Digital Convex Fuzzy Hull**  
*Slobodan Dražić, Svetlana Jakšić, Ljubo Nedović, Nebojša M. Ralević, Serbia*
- 10:45 – 11:00      A Distributed Computer System for Gauge Calibration**  
*Gyula Hermann, Hungary*

**9:00 – 11:00      Session INTELLIGENT SYSTEMS      Room C**

Session Chair: *Márta Takács*

- 9:00 – 9:15      Adaptive Control of a Differential Hydraulic Cylinder with Dynamic Friction Model**  
*József K. Tar, Imre J. Rudas, János F. Bitó, Hungary, Kazuhiro Kosuge, Japan*
- 9:15 – 9:30      Convergence of Programming Development Tools for Autonomous Mobile Research Robots**  
*József Tick, Hungary*



- 12:00 – 12:15 **The Handling of the Finite Element System in the Determination of Cartridge Cases**  
*Jenő Sipos, Hungary*
- 11:15 – 13:15 **Session MODELLING** **Room B**  
Session Chair: *Gyula Mester*
- 11:15 – 11:30 **Polytechnical Engineering College in Virtual Reality**  
*Igor Fuerstner, Nemanja Cvijin, Attila Kukla, Serbia*
- 11:30 – 11:45 **Some Improvements to the Lucas-Kanade Optical Flow Detector in Motion Tracking**  
*Zoltán Prohászka, Hungary*
- 11:45 – 12:00 **Automatized Analysis of Biomedical Signals**  
*Andrej Korenić, Serbia*
- 12:00 – 12:15 **Various Calibration Functions for Webcams and AIBO under Linux**  
*Csaba Kertész, Zoltán Vámosy, Hungary*
- 12:15 – 12:30 **The Application of ‘WeLearn’ in Language Teaching**  
*Livia Szedmina, Serbia, Andreas Putzinger, Austria*
- 12:30 – 12:45 **Navigation and Residual Number System in a Rat's Brain**  
*Zoltán Somogyvári, Hungary*
- 12:45 – 13:00 **Chronological and Dependency-directed Backtracking**  
*Mirna Udovičić, Serbia*
- 13:00 – 13:15 **Integrated Process and Fixture Planning System**  
*Michael Stampfer, Attila Rétfalvi, Serbia*
- 13:30 - **LUNCH and CULTURAL EVENT**