# September 13, Thursday

Venue: City Hall

**13:30 – 16:00**          **Registration**

**14:30 – 15:00**          **Opening Ceremony**

**15:00 – 15:45**          **Plenary Session I**

Session chair: Imre J. Rudas

| 73 | C. L. Philip Chen | Broad Learning System and its Structural Variations |
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15:45 – 16:00          Coffee break

**16:00 – 16:45**          **Plenary Session II**

Session chair: Levente Kovács

| 72 | Ljiljana Trajković | You and Your Career |
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**16:45 – 17:30**          **Plenary Session III**

Session chair: Márta Takács

| 71 | Sonja Ristić | A Model is Worth a Thousand Words? |
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17:30          Welcome Reception

# September 14, Friday

Venue: Subotica Tech (VTS)

**9:00 – 15:00**          **Registration**

**9:00 – 10:40**          **[F1a] Session on Informatics I**          **Room A2**

Session chair: Dragan Jocic

| 14 | **Botond Daragus, Lóránt Fodor**, Dénes Bálint Kelemen-Fehér, Szilárd-Gábor Mátis and Csaba Sulyok | Magic Dashboard: Software System for Real-Time Development Tool Tracking |
|---|---|---|
| 8 | **Kincső Tüzes-Bölöni, Zsuzsanna Borsay, Csaba Sulyok and Károly Simon** | Diaspora Mapping and Collaboration Platform for Expatriates |
| 37 | **Mátyás Gagyi, Örs-Krisztián Patakfalvi, Sándor Ráduly and Csaba Sulyok** | Mobile Application for Daily Challenge Management |

| 15 | **Ervin Erőss, Adorján-Ferenc Péter, Csaba Sulyok, Zoltán Szabó, Tibor Fazakas and Balázs Sebestyén** | Taboo: Chord Sheet Editor and Manager Web Application |
|---|---|---|
| 42 | **Bence Bakó, Vivien Emőke Bartha, Károly Simon, Csaba Sulyok and Levente Kintzel** | EKETour - Software Platform for Organizing Tours |

**9:20 – 10:40**        **[F1b] Session on Intelligent Robotics**                                                     **Room 206**

Session chair: Aleksandar Takaci

| 47 | **Radmila Gerov** and Zoran Jovanović | A Simple Method of Tuning PI Controller for Integrator Dead/Time Processes |
|---|---|---|
| 55 | **Zoltan Gobor, Péter Odry and Annamaria R. Varkonyi-Koczy** | Preliminary considerations in design of a sensor for improving the reference trajectory calculation for individual leg of a hexapod |
| 6 | **Andrus Pedai, Igor Astrov and Andres Udal** | Comparison of Single-Rate and Two-Rate Neural Control Approaches for Coaxial Rotor/Ducted-Fan TUAV for Situational Awareness Applications |
| 63 | **Daniel Stojcsics, Zsolt Domozi and Andras Molnar** | Iterative Closest Point Based Volume Analysis on UAV Made Time - series Lar ge - scale Point Clouds |

**10:40 – 11:00**        Coffee break

**11:00 – 12:20**        **[F2a] Special Session on Applied Mathematics I**                                      **Room A2**

Session chair: Ivana Stajner-Papuga

| 10 | Nataša Duraković, **Tatjana Grbic**, Sanja Rapajic, Slavica Medić and Sandra Buhmiler | g-Mellin transform |
|---|---|---|
| 16 | Dejan Cebic, Marija Paunovic and Nebojsa Ralevic | A Variant of Sharma-Arora's Optimal Eighth-Order Family of Methods for Finding A Simple Root of Nonlinear Equation |
| 17 | Tatjana Došenović, Dusan Rakic and Aleksandar Takaci | Integral contraction and fixed point results |
| 18 | Dragan Jočić and Ivana Stajner-Papuga | Left and right distributivity of semi-t-operators over conjunctive uninorms |

**11:00 – 12:20**        **[F2b] Session on Intelligent Mechatronics and Intelligent Manufacturing Systems**                **Room 206**

Session chair: László Pokorádi

| 45 | **Silviu Toc** and Adrian Korodi | Modbus-OPC UA Wrapper using Node-RED and IoT-2040 with application in the water industry. |
|---|---|---|
| 75 | **László Horváth and Alajos Mészáros** | |
| 7 | **Zsofia Bodo and Bela Lantos** | Modeling and Control of Quadrotor UAVs |
| 20 | **László Pokorádi** | Markovian Model-based Sensitivity Analysis of Maintenance System |

**11:00 – 12:20**        **Poster Session I**                                                                       **Student Info Corner**

Session chair: Krisztina Némethy

| 29 | **Darja Gabriska** and Miroslav Olvecky | Analysis and risk reduction in operation of hazardous programmable electronic systems |
|----|------|------|
| 34 | **Miroslav Ölvecký and Darja Gabriška** | Wiping techniques and anti-forensics methods |
| 50 | **Eva Nyaguly, Dorin Simoiu, Ion Crastiu, Calin Pop-Gozman, Daniel Vladaia and Liviu Bereteu** | Determination of the Thickness of the Paint Coating of Metal Surfaces by the Impulse Technique |
| 52 | **Ion Crastiu, Calin Pop-Gozman, Costel Berce, Dorin Simoiu, Sorin Deac** and **Liviu Bereteu** | The Influence of the Mesh Element Size on the Natural Frequencies of Beam |

12:20 – 14:00      Lunch

**14:00 – 16:00      [F3a] Session on Informatics II      Room A2**

Session chair: Nebojsa Ralevic

| 27 | **Cristina-Edina Domokos**, **Barna Séra**, Károly Simon, Lajos Kovács and Tas-Béla Szakács | Netfood: A Software System for Food Ordering and Delivery |
|----|------|------|
| 56 | **László Schäffer, Zoltán Kincses and Szilveszter Pletl** | A real-time pose estimation algorithm based on FPGA and sensor fusion |
| 36 | **Döngölő Zsolt, Kovács Kinga, Szécsi Zsolt and Simon Károly** | Legendárium Nagyappó - Mobile application based on augmented reality |
| 3 | **Huu Phuoc Dai Nguyen and Rajnai ZoltÁn** | The Current Security Challenges of Vehicle Communication In The Future Transportation System |
| 32 | **Ádám Titrik, István Lakatos and János Hollósi** | Demonstrating the Options for Automated Advanced Selective Waste Gathering |
| 39 | **Edit Tóth-Laufer** | Linked Rule-Premises to Optimize the Fuzzy-based Risk Assessment |

**14:00 – 15:40      [F3b] Session on Informatics III      Room 206**

Session chair: Péter Odry

| 74 | **Peter Krammer**, Marcel Kvassay and Ladislav Hluchý | Enhanced Data Modelling Approach with Interval Estimation |
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| 4 | **Krisztián Bálint** | UAV-s with biometric facial recognition capabilities in the combat against terrorism |
| 12 | **Kindson Munonye** and **Péter Martinek** | Performance Analysis of the Microsoft .Net and Java-Based Implementations of REST Web Services |
| 64 | **György Molnár and Zoltán Szűts** | The role of chatbots in formal education |
| 26 | **László Kajdocsi and János Kovács** | Issue on implementation of Bluetooth Mesh Capabilities into OmNET++ |

**14:00 – 15:40      Poster Session II      Student Info Corner**

Session chair: Livia Szedmina

| 48 | Ladislav Huraj, **Marek Šimon** and Tibor Horák | IoT measuring of UDP-based Distributed Reflective DoS Attack |
|----|------|------|
| 35 | József Zoltán Szabó and Peter Bakucz | Real-time misfire detection of large gas engine using big data analytics |

| 30 | Vladimir Tadić, Zoltan Kiraly, Željen Trpovski, Tatjana Lončar Turukalo and Peter Odry | Fuzzified Gabor Filter for Text Recognition in Images |
|----|---|---|
| 59 | György Györök | The Veterinary Horse Circuit for a Microcontroller Supervised System |

17:30            Banquet

# September 15, Saturday

**9:00 – 12:00**            **Registration**

**9:00 – 11:20**            **[S1a] Special Session on Man and Cybernetics**                                **Room A2**

Session chair: Kornélia Lazányi

| 60 | Zsolt Szabó | Cybersecurity issues in industrial control systems |
|----|---|---|
| 65 | Kornélia Lazányi | Readiness for artificial intelligence |
| 66 | Dávid János Fehér and Barnabás Sándor | Effects of the WPA2 KRACK attack in real environment |
| 67 | Dávid János Fehér and Barnabás Sándor | Log file authentication and storage on blockchain network |
| 68 | Péter Miksa Hell, Péter János Varga and Zsolt Illési | Mobile Phones Thermo-Ergonomic Analysis |
| 69 | Péter Szikora and Beáta Ali | Information security in the 21st century – smart phones in focus |
| 70 | Gábor Bréda, Péter János Varga and Zsolt Illési | Forensic Functional Profile of IoT Devices –Based on Common Criteria |

**9:20 – 11:20**            **[S1b] Session on Computational Intelligence**                                **Room 206**

Session chair: Szilveszter Pletl

| 31 | Danica Despotović, **Aleksandra Zec**, Katarina Mladenović, Nevena Radin and Tatjana Loncar-Turukalo | A Machine Learning Approach for an Early Prediction of Preterm Delivery |
|----|---|---|
| 11 | Zalán Ráduly, Csaba Sulyok, Zsolt Vadászi and Attila Zölde | Dog Breed Identification Using Deep Learning |
| 53 | Peter Sarcevic and Szilveszter Pletl | False Detection Filtering Method for Magnetic Sensor-based Vehicle Detection Systems |
| 40 | Tamara Katic and Nemanja Milicevic | Comparing Sentiment Analysis and Document Representation Methods of Amazon Reviews |
| 33 | Iveta Dirgová Luptáková and Jiri Pospichal | Community Detection Based Clustering |
| 9 | Ágnes Incze, Henrietta-Bernadett Jancsó, Zoltán Szilágyi, Attila Farkas and Csaba Sulyok | Bird Sound Recognition Using a Convolutional Neural Network |

11:20 – 11:40            Coffee break

**11:40 – 13:00**            **[S2a] Session on Applied Mathematics II**                                **Room A2**

Session chair: Biljana Mihailovic

| 19 | Miloš Todorov, Mirjana Štrboja and **Biljana Mihailović** | Bi-capacities based pan-integral |
|---|---|---|
| 23 | Andrei Zoltan Farkas, Veronica Argesanu, Inocentiu Maniu, Ion Silviu Borozan, Raul Kulcsar and Stefania Cerasela Patrascu | Biomechanical simulation of different postures obtained from three sport branches |
| 25 | Ljubo Nedović, Marija Delić and Nebojša Ralević | OWA aggregated distance functions and their application in image segmentation |
| 38 | Andrea Andrejevic Panic and Zagorka Lozanov-Crvenkovic | Panel regression analysis of financial and performance indicators in higher education in Central East Europe |

**11:40 – 13:00          [S2b] Special Session on PhD Student Research in Applied Intelligent Informatics and Numerical Mathematics          Room 206**

Session chair: László Horváth

| 43 | Mate Toth, Daniel Stojcsics and Zsolt Domozi and **Istvan Lovas** | Stereo Odometry based Realtime 3D Reconstruction |
|---|---|---|
| 61 | Yatish Bathla | Info-Chunk driven RFLP Structure based Product Model for Multidisciplinary Cyber Physical Systems |
| 46 | Mate Toth, Daniel Stojcsics and Zsolt Domozi and Istvan Lovas | Fuzzy Based Indoor Navigation for Mobile Robots |
| 58 | Gergő Pintér, László Nádai and Imre Felde | Analysis of Mobility Patterns during a Large Social Event |