

Conference Program

	Tuesday, February 2
	Arrival
16:00 – 18:00	Registration
18:00 – 20:00	Dinner
	Wednesday, February 3
7:00 – 8:30	Breakfast
7:30 – 8:30	Registration
8:30 – 8:45	Opening Ceremony
8:45 – 10:30	<p>Plenary Session (Chair: FIKAR Miroslav)</p> <p>TAKÁCS Gergely - Embedded Optimal Control and Estimation in Vibration Attenuation</p> <p>SINČÁK Peter - From Remote Brain Robot Control to Cloud Based Intelligent Robotics</p>
	Coffee Break
10:40 – 12:00	<p>Technical Sessions</p> <p>A1 Information Systems (Chair: ZOLOTOVÁ Iveta)</p> <p>Martin Miskuf and Iveta Zolotová - Comparison between Multi-Class Classifiers and Deep Learning with Focus on Industry 4.0</p> <p>Veronika Šimončíčová and Pavol Tanuška - Creating A Management View on Key Indicators Using Business Intelligence in Small and Medium Enterprises</p> <p>Ivana Budinská and Štefan Havlík - Task allocation within a heterogeneous multi-robot system</p> <p>Peter Drahoš - Nonlinear model of Ni-Ti wire actuator. Modeling for control purposes</p> <p>B1 Robust Control (Chair: ROSINOVÁ Danica)</p> <p>Mikuláš Huba - Robustness analysis of a disturbance-observer based PI control</p> <p>Mária Hypiúsová and Danica Rosinová - Robust Control of Quadruple-Tank Process via LMI</p> <p>Štefan Bucz and Alena Kozáková - A New Robust PID Controller Design Methodology for Systems with Unstable Zero</p> <p>Danica Rosinová and Peter Balko - Robust Decentralized Control for a Boiler – Turbine Unit</p>

12:00 – 13:00	Lunch
13:00 – 16:00	Social Program
16:15 – 17:00	Plenary Session (Chair: ROHAĽ-ILKIV Boris) KOSZORÚS Ľudovít - Usage of Modern Education Moduls LITO-DIDAKT in Field of Mechatronics and Automation
	Coffee Break
17:10 – 18:30	Technical Sessions A2 Mobile Robotics (Chair: ROHAĽ-ILKIV Boris) Marton Gotzy, Daniel Hetenyi and Laszlo Blazovics - Aerial surveillance system for cognitive swarm drones Ján Jadlovský and Michal Kopčík - Distributed control system for mobile robots with differential drive Ľubomír Čapucha and Boris Rohaľ-Ilkiv - Software architecture of a mobile robotic system: a Case Study Attila Hideg and László Blázovics - Area coverage using distributed randomized methods B2 Micro-Processors and Embedded Systems (Chair: FUCHS Peter) Martin Vojtko and Tibor Krajčovič - Adaptability of an Embedded Operating System: a Generator of a Platform Dependent Code Richard Balogh, Ján Šturcel and Štefan Knotek - Automated Testbed for Measurements and Evaluation of the Position Sensors Characteristics Igor Jakubička, Vladislav Bača, Peter Fuchs and Peter Drahoš - Implementing features of 32 bit DSP microprocessor for BLDC motor control Vladislav Bača, Igor Jakubička, Peter Fuchs and Peter Drahoš - Device for image scanning with reduced power consumption
19:00 – 22:00	Welcome Party Performance (Folklore Ensemble Levočan)

	Thursday, February 4
7:30 – 9:00	Breakfast
9:00 – 12:00	Social Program
12:30 – 13:30	Lunch

14:00 – 14:45	<p>Plenary Session (Chair: KOZÁK Štefan) MAŤUGA Michal – Advanced Control Methods for CNC Cutting Machines</p>
	Coffee Break
15:00 – 16:40	<p>Technical Sessions</p> <p>A3 System Modelling and Simulation (Chair: KOZÁK Štefan)</p> <p>Daniela Pakšiová, Miroslav Fikar and Sigurd Skogestad - Modeling of Carbon Dioxide Removal using Membrane Contactors</p> <p>Michal Gregor, Igor Miklóšik and Juraj Spalek - Automatic Tuning of a Fuzzy Meta-model for Evacuation Speed Estimation</p> <p>Erik Kučera, Oto Haffner and Štefan Kozák - Modelling and Control of AS/RS Using Coloured Petri Nets</p> <p>Eduard Ribar and Justín Murín - Road slope introduction in vehicle route modelling</p> <p>Miriama Nižnanská, Erik Kučera, Oto Haffner and Alena Kozáková - Modeling of Hybrid Systems by Hybrid Petri Nets Using Open Modelica and PNLlib</p> <p>B3 Control Systems (Chair: FRANEKOVÁ Mária)</p> <p>Emília Bubeníková, Mária Franeková and Peter Holečko - Conceptual design of driving lane-crossing alarm threshold in C-ITS applications and its implementation</p> <p>Martin Bugár and Viktor Ferencey - Control Management System of the Hybrid – Electric Power Sources Simulation for Unmanned Ground Vehicle</p> <p>Katarína Žáková - Remote Control of Magnetic Levitation Laboratory System using OpenModelica</p> <p>Pavol Bisták and Miroslav Halás – Trajectory tracking problem for coupled tanks: from theory to practice</p> <p>Katarína Žáková - Online Support for Tracking of Publication Resources</p>
	Coffee Break
17:00 – 18:20	<p>Technical Sessions</p> <p>A4 Frequency Domain (Chair: KOZÁKOVÁ Alena)</p> <p>Jakub Osuský, Mária Hypiúsová and Teofana Puleva – Robust Multimodel Control Applied on Hydraulic Turbine Model</p> <p>Alena Kozáková and Róbert Krasňanský – Robust Switched Control of MIMO Multi-Model Plants</p> <p>Jakub Osuský and Vojtech Veselý - Engine Speed Control Using Gain Scheduling Method</p>

	<p>Jakub Osuský and Vojtech Veselý - Robust decentralized controller design in frequency domain</p> <p>B4 Identification and Optimization Methods (Chair: HUBA Mikuláš)</p> <p>Mikuláš Huba - Triple real dominant pole tuning of a filtered PI controller</p> <p>Juraj Števek, Svetozár Katuščák, Lenka Dubinyová and Miroslav Fikar - An automatic identification of wood materials from color images</p> <p>Ondrej Kolimár and Štefan Kozák - Advanced Multicriterial Group Decision Methods</p> <p>Štefan Chamraz and Richard Balogh - Optimal Structure for the Trajectory Controller</p>
18:30 – 20:00	Dinner
20:00 – 21:30	<p>Social Program</p> <p>Peter Olekšák - Levoča - history, monuments, pilgrimage place</p>
	Friday, February 5
7:30 – 9:00	Breakfast
9:00 – 9:45	<p>Plenary Session (Chair: ĽAPÁK Peter)</p> <p>KOZÁK Štefan – From PID to MPC</p>
	Coffee Break
10:00 – 11:40	<p>Technical Sessions</p> <p>A5 Application of Control Methods (Chair: ĽAPÁK Peter)</p> <p>Viktor Ferencey and Milada Omachelová - Mathematical Modelling of the Motion Dynamics in the Longitudinal Direction of the Electric Vehicle</p> <p>Peter Ľapák - Disturbance Observer Based Controller in Object Tracking</p> <p>Oto Haffner, Erik Kučera and Štefan Kozák - Weld Segmentation for Diagnostic and Evaluation Method</p> <p>Oto Haffner, Erik Kučera and Mária Bachúriková - Proposal of Weld Inspection System With Single-board Computer and Android Smartphone</p> <p>B5 Controller Design Methods (Chair: CHAMRAZ Štefan)</p> <p>Igor Bélai and Mikuláš Huba - The positional servo drive with the feedforward control and the noise attenuation</p> <p>Štefan Chamraz and Richard Balogh - Control of the IPDT plants. Part I: Internal feedback as a difference</p>

	<p>Ján Cigánek, Michal Kocúr and Štefan Kozák - Advanced Methods of Controller Design: Simulation and Cosimulation on FPGA</p> <p>Teofana Puleva and Jakub Osuský - Wind Turbine Power Control Based on Aero Dynamical Torque Estimation</p> <p>Štefan Chamraz and Richard Balogh - Potential of the Modulus Optimum Method</p>
11:45 – 12:00	Closing Ceremony
12:00 – 13:00	Lunch