

		Wednesday 3rd December	
		HALL-AULA	STUCCO HALL
	09:00 10:00	Registration	
	10:00 10:15	Opening ceremony	
Mechatronics in Aerospace	10:15	KEYNOTE LECTURE - Vladimir Oplustil (UNIS): ESPOSA – Efficient Systems and Propulsion for Small Aircraft	
	10:45	Dalibor Cervinka, Jan Knobloch, Petr Prochazka, Josef Kadlec, Radoslav Cipin, Ivo Pazdera: Electric Powered Airplane VUT 051 RAY (93)	
	11:00	Petr Prochazka, Jan Knobloch, Dalibor Cervinka, Josef Kadlec, Radoslav Cipin, Ivo Pazdera: Communication and Energy Management System of Small Electric Airplane (94)	
	11:00	Zdenek Katolicky, Bohuslav Busov, Milada Bartlova: Turbojet Engine Innovation and TRIZ (106)	
	11:15		
Electric Machines and Drives I	11:30	Dominik Łuczak, Krzysztof Siembab: Comparison of fault tolerant control algorithm using space vector modulation of PMSM drive (58)	ICT and Communications
	11:45	Konrad Urbanski: Comparison of Methods for Back EMF Estimation at Low Speed for PMSM Drive (80)	
	12:00	Bogdan Fabianski, Bartlomiej Wicher: Control algorithms in distributed system of three wheeled electric vehicle (128)	
	12:15	Bartlomiej Wicher, Krzysztof Siembab: The impact of deterioration of the absolute position transducer on the electric drive with Permanent Magnet Synchronous Motor (172)	
	12:30		
	12:30		
	12:30 13:30	Conference lunch	
Power Electronics	13:30	Jan Martis, Pavel Vorel: Apparatus for Induction Heating 2.5 kW Using a Series Resonant Circuit (82)	Energy Harvesting
	13:45	Stepan Janous, Dusan Janik, Tomas Kosan, Petr Kamenicky, Zdenek Peroutka: Comparative study of vector PWM and FS-MPC for 3-level Neutral Point Clamped converter (178)	
	14:00	M. V. Pronin, A. G. Voronov, T. Nahdi, I. A. Pimenova: Single-phase active rectifiers in a cascade frequency converter (42)	
	14:15	Tomas Kerlin: Electrical Power Distribution Boxes for Small Aircraft (98)	
	14:30	Josef Kadlec, Radoslav Cipin, Dalibor Cervinka, Jan Knobloch, Petr Prochazka, Ivo Pazdera: Modular System of Converters with Interleaved Structure (111)	
	14:45	Tomas Kosan, Martin Jara, Dusan Janik, Zdenek Peroutka: Complete Development Platform for Multi-Level Converters and Complex Control Algorithms (166)	
	15:00	Jin-Hong Kim, Joon Sung Park, Jun-Hyuk Choi, In-Soung Jung, Chung-Yuen Won: Development of High Power Stack for Offshore Wind Power Generation (51)	
	15:15		
		Free evening	

Thursday 4th December						
HALL-AULA			STUCCO HALL			
Production Machines	09:00	Matthias Rehm, Johannes Quellmalz, Holger Schlegel, Reimund Neugebauer: Modelling and parameterization of mechanically coupled linear motors as part of a holistic mechatronic development methodology (49)	Control of Mechatronic Systems	09:00	Martin Juhas, Oliver Moravcik, Bohuslava Juhasova, Zuzana Sutova: Sensitivity Analysis of Mechatronic System with Flexibility Control (50)	
	09:15	Johannes Quellmalz, Matthias Rehm, Holger Schlegel, Reimund Neugebauer: Influence analysis on the model comparison performance index for servo drive control (62)		09:15	Ondrej Andrs, Zdenek Hadas, Jiri Kovar: Introduction to Design of Speed Controller for Fuel Pump (192)	
	09:30	Jiri Tuma, Petr Blecha, Jiri Zahalka, Zdenek Tuma: Prediction method for electrical energy consumption of the machine tool in the usage stage (107)		09:30	Yu Zhang, Timothy Gordon: Decomposition of Steering Angle Measurements Inspired by Pulse Control Model for Lane Keeping (124)	
	09:45	Roland Janco, Pavel Elesztoš, Ladislav Ecsi: Experimental and Numerical Solutions for Friction Stir Welding the Plates (188)		09:45	Radoslav Cipin, Ivo Pazdera, Petr Prochazka, Jan Knobloch, Dalibor Cervinka, Josef Kadlec: Discrete and Continuous Fractional Controllers (86)	
	10:00	Michal Holub, Josef Knobloch: Geometric accuracy of CNC machine tools (206)		10:00	Miroslav Jirgl, Rudolf Jalovecky: Modelling and Simulations of Longitudinal Flight (168)	
	10:15	Jakub Stetina, Tomas Brezina, Jan Vetiska, Zdenek Hadas: Multibody Model of Heavy Machine Tool (215)		10:15	David Kraus, Jakub Nemecek: Low Cost Fixed Wing UAV for Development of Control Laws (207)	
	10:30			10:30		
	10:30	Coffee break				
	11:00	Michal Dub, Alexandr Stefek: Model Cooperation in Particle Swarm Optimization (109)		Mechatronic Systems in Automotive	11:00	Daniel Busuttill, Glenn Camilleri, Mario Farrugia: Mechatronics for Water Injection in SI Engine (63)
11:15	Dominik Luczak, Krzysztof Nowopolski: Identification of Multi-mass Mechanical Systems in Electrical Drives (117)	11:15	Vladimir Cech, Jiri Jevicky, Milan Jus: Simulation of the Vehicle Passing the Gun Stabilization Bump Course of the Aberdeen Proving Ground (199)			
11:30	Maciej Gniadek: Auto Tuning of Systems with Input Shaping (153)	11:30	Timothy Gordon, Yangyan Gao: A Flexible Hierarchical Control Method for Optimal Collision Avoidance (127)			
11:45	Anamaria Oros, Roxana Daniela Amariutei, Andi Buzo, Monica Rafaila, Marina Topa, Georg Pelz: Robustness Optimization of Heterogeneous Systems in Multi-Objective Scenarios (167)	11:45	Juraj Madaras, Viktor Ferencey, Martin Bugar, Jan Danko: Algorithms for Vehicle Control Stability System with 4 WS (144)			
12:00	Kaplan Kaplan, Samet Bayram, Melih Kuncan, H.Metin Ertunc: Feature Extraction of Ball Bearings in Time-Space and Estimation of Fault Size with Method of ANN (214)	12:00	Vejupek Josef, Grepel Robert, Krejci Petr, Lesak Frantisek, Matous Karel: Hardware-In-the-Loop Simulation for Automotive Parking Assistant Control Units (195)			
12:15	Tomas Brezina, Lukas Brezina, Jakub Stetina, Jiri Marek: Design of Optimal Parameter Values of Mechatronic System with Flexible Bodies Using a Block Model (222)	12:15	Mihai Lungu, Romulus Lungu: State Estimation of the Controlled Generic Reentry Vehicles via Multiple Observer (133)			
12:30		12:30				
12:30	Conference lunch					
Electric Machines and Drives II	13:30	Karel Hruska, Vladimir Kindl: A Comprehensive Approach to Calculation of the Air Gap Magnetic Flux Density in Induction Machines with Eccentrically Placed Rotor (36)	Robotics		13:30	Jaroslav Mlynek, Tomas Martinec: Mathematical Model of Composite Manufacture and Calculation of Robot Trajectory (46)
	13:45	Jan Barta, Cestmir Ondrusek: Design and Optimization of Synchronous Reluctance Machine (47)		13:45	Mario Farrugia: Integration of Force Sensing for Robotic Generic Assembly (64)	
	14:00	Tomaz Munih, Damijan Miljavec: A method for accelerated ageing of electric machine insulation (115)		14:00	Jan Mazal, Petr Stodola, Milan Podhorec: UGV development with supervised autonomy (141)	
	14:15	Jan Sobra, Miroslav Byrtus, Vladimir Kindl, Karel Hruska: Analysis of rotor's eccentricity influence on bearing load of induction machine (130)		14:15	Mikołaj Wasielec, Marek Wąsik: Active stabilization of a humanoid robot base on inertial measurement unit data (171)	
	14:30	Petr Losak, Radek Vlach: Study of the response of the shaft loaded by Unbalanced Magnetic Pull (177)		14:30	Akif Durdu, Halil Cetin, Hasan Komur: Robot Imitation of Human Arm via Artificial Neural Network (197)	
	14:45	Jiri Klima, Ondrej Vitek: Analysis of high-speed induction motor (202)		14:45	Stanislav Vechet, Jiri Krejsa, Kuo-Shen Chen: Sensor Failure Detection in Autonomous Mobile Robot Application (201)	
	15:00			15:00		
	15:00	Coffee break				
	15:30	Poster session				
17:00						
18:30	Conference banquet					

Friday 5th December						
HALL-AULA			STUCCO HALL			
KEYNOTE LECTURE	09:00 10:00	Pavol Bauer: Integration of renewable energy sources and electric mobility in DC networks and future DC transmission grid (DC Ready Devices – Is Redimensioning of the Rectification Components Necessary? (230))				
Vibrations in Mechatronics	10:00 10:15	Ali Hassan, Angel Torres-Perez, Stefan Kaczmarczyk, Phil Picton: Active Vibration Control Strategies for a Free Piston Stirling Engine Generator (19)	Sensors and Measurement	10:00 10:15	Kutilek Patrik, Socha Vladimir, Svoboda Zdenek, Smrcka Pavel: Evaluation of Muscular Moment Asymmetry using Bilateral Cyclograms (69)	
	10:15 10:30	George Juraj Stein, Peter Tobolka, Rudolf Chmurny: Preliminary Investigations of a Vibration Attenuator Based on Eddy Current Principle (43)		10:15 10:30	Vladimír Socha, Patrik Kutilek, Alexandr Stefek, Lubos Socha, Jakub Schlenker, Karel Hana, Stanislav Szabo: Evaluation of relationship between the activity of upper limb and the piloting precision (160)	
	10:30 10:45	Zdenek Hadas, Filip Ksica: Model-based Desing of Testing Electromagnetic Shaker with Flexible Beam (190)		10:30 10:45	Lubos Kotek, Michal Holub, Jan Vetiska, Kamil Subrt, Zdenek Hadas, Petr Blecha: Comparison of Suitability of Tracking Marks for Optical Measurement of Displacement (45)	
	10:45 11:15	<i>Coffee break</i>				
Smart systems	11:15 11:30	Kang Zhang, Pengxing Yi, Yahui Li , Xuming Zhang, Zailin Guan: Numerical Investigation of the lift-off effect on the cut-off frequency in the Rayleigh wave (10)	Education in Mechatronics	11:15 11:30	Konstantin Zimenko, Dmitry Bazylev, Alexey Margun, Artem Kremlev: Application of Innovative Mechatronic Systems in Automation and Robotics Learning (39)	
	11:30 11:45	Veronika Safarova, Kveta Malachova, Jiri Militky: Electromechanical Analysis of Textile Structures Designed for Wearable Sensors (41)		11:30 11:45	Karel Hruska, Lucie Hornikova, David Koten: Educational Machinery with a Brushless Excited Synchronous Machine (137)	
	11:45 12:00	Chaohao Chen, Yang Wu, Tao Dong: Dipsticks integrated on smart diapers for colorimetric analysis of urinary tract infections (208)		11:45 12:00	Huseyin Emre Guner, Oguz Tekelioglu, Murat Ambarkutuk, Levent Bilginer, Ali Aşkın, Serkan Erkan: Distance Mechatronic Laboratory for SMEs Universities and Vocational High Schools in Turkey (209)	
	12:00 12:15	Richard Zeleny, Michal Lucki: Design of a Narrowband Photonic Filter Based on the Leaky Outer Defect Mode (212)		12:00 12:15	Mehmet Kivanc Celik, Engin Yesil, Tufan Kumbasar: Tuning Methods and Educational GUI Design for 1-DoF and 2-DoF PI(D) Controllers (211)	
	12:15 12:30	Jennifer Panugan Bergstrøm, Tao Dong: An Experimental Study on Capacitive Touch Sensor's Response to E. coli Bacteria (213)		12:15 12:30		
	12:30 12:45	<i>Closing ceremony</i>				
	12:45 13:30	<i>Conference lunch</i>				