

ISSN 2345-0088 (print)
ISSN 2345-0096 (online)

**KAUNAS UNIVERSITY OF TECHNOLOGY
KTU PANEVEZYS FACULTY OF TECHNOLOGIES AND BUSINESS
MILITARY UNIVERSITY OF TECHNOLOGY
INTELLIGENT TRANSPORT SYSTEMS
TALLINN UNIVERSITY OF TECHNOLOGY
RIGA TECHNICAL UNIVERSITY**

**INTELLIGENT TECHNOLOGIES IN LOGISTICS
AND MECHATRONICS SYSTEMS
ITELMS'2014**

**PROCEEDINGS OF THE 9TH INTERNATIONAL CONFERENCE
DEDICATED TO PANEVEZYS TOWN AS LITHUANIA CULTURE CAPITAL
EDITED BY Z. BAZARAS AND V. KLEIZA**

**May 22–23 , 2014
Panevezys, Lithuania**

Contents

GENERAL PROGRAMME SCHEDULE	8
A. Ahrens, S. Lochmann	
MIMO-BICM Multimode Transmission Schemes with iterative Detection	11
A. Ahrens, J. Zascierinska, N. Andreeva	
Intelligent Technologies in Engineering: Focus on Use of Web 3.0 Technologies for Research Promotion.....	17
R. Baltusnikiene, S. Susinskas, D. Aviza	
The Multicriteria Decision Support System of the Residential House Walls and Ground Typical Constructions.....	28
A. Bartnicki, K. Cieslik, S. Konopka, M. J. Lopatka	
The Conception of an Anthropomorphic Manipulator with Hydrostatic Drive System	36
Z. Bazaras, B. Timofeev, N. Vasileva, J. Igakojoyte-Bazariene	
Research Guidelines of the Nuclear Power Systems in XXI Century	46
P. Bulovas, S. Susinskas	
Influence of the Quantities of Plastifying Concrete Additive on Concrete Properties	48
A. Cepauskas, S. Susinskas	
Panel – Frame Construction House Tightness Research	54
M. Chausov, A. Pylypenko, V. Berezin, V. Hutsaylyuk, L. Sniezek, J. Torzewski	
Property of the Monotonic Deformation of Aluminum Alloy 2024-T3 under Conditions of Complex Loading	57
A. Dabrowska, S. Konopka, P. Krogul, M. J. Lopatka	
Influence of Hydraulic Lines on Manipulator Movement Accuracy.....	64
J. Daunoravicius, S. Susinskas	
Sandwich Panels with Different Fillings Rational Selection Research	73
A. Demeniene, D. Striukiene, E. Zacharoviene, R. Laurikietyte, P. Vaiciulis	
The Analysis of Accident Rate in the Baltic States (2008–2013)	76
A. Demeniene, D. Striukiene, E. Zacharoviene, A. Valackiene, R. Laurikietyte, P. Vaiciulis	
The Impact of Psychological and Psychosocial Factors on Accident Rate.....	80
N. Dobrzinskij	
Research into Dependence of Failure Flow Parameter of Diesel Internal-Combustion Engine on Climatic Conditions in Afghanistan.....	85
A. Dragunas, S. Susinskas	
Construction Quality Control.....	92
J. Furch	
Advanced Maintenance Systems of Military Vehicles.....	96
A. Garskienė, J. Kaupiene, D. Aviza, N. Partaukas	
Industrial Flooring and Industrial Flooring Installations	104
E. Girkontas, V. Lukosevicius, Z. Bazaras	
Modelling and Research of Bus Equipped with Dynamic Stability Control System.....	109
J. Glos, V. Kumbar	
Monitoring of Chemical Elements during Lifetime of Engine Oil.....	114

A. Potapovs, M. Gorobetz, A. Levchenkov Application of Statistical Hypothesis Testing of Adaptive Algorithms for Smooth and Precise Train Braking System.....	118
R. Jackuviene, R. Karpavicius, V. Kleiza The Reversing Engineering Method for Modification Law of Motion of the Spatial Cam (LEAN implementation).....	126
M. B. Jaskolowski, S. Konopka, M. J. Lopatka, A. Rubiec The Research Ability to Work on Slopes Articulated Machines.....	131
I. Joneliukstiene, S. Susinskas Research of Soil Shear Resistance versus Clay Amount in it.....	137
R. Kampf, M. Vochozka, P. Lejskova, T. Cmiral Dependencies of Personal Vehicle Sales on the Financial Support of their Sales.....	141
S. Karlapavicius, A. Stasiskis, J. Kaupiene, L. Pelenyte-Vysniauskiene Energy-Efficient Buildings.....	151
V. Kleiza, J. Tilindis The Optimization of the Overall Learning Dependent Manual Assembly Efficiency.....	159
K. Klimavicius, S. Susinskas Composite Rods Reinforced Concrete Structures.....	162
S. Konopka, M. J. Lopatka, T. Muszynski, M. Przybysz Problem of Kinematic Discrepancy in Hydrostatic Drive Systems Used in Unmanned Ground Vehicles.....	165
S. Konopka, M. J. Lopatka, A. Rubiec, K. Spadlo Tractive Force Distribution for High Mobility Platforms with Multi Axis Drive Systems	173
P. Krogul, M. J. Lopatka, T. Muszynski, M. Przybysz Studies on Resistant Ackerman's Steering System for Tracked Muskeg Vehicle.....	180
P. O. Maruschak, I. V. Konovalenko, I. M. Danyliuk, S. V. Panin, I. V. Vlasov Form Control of Individual Surface Corrosion Pits in Main Gas Pipe Steel	189
I. Navardauskaite, S. Susinskas Influence of Quantity of Clay in Moraine Soils on Their Cone Resistance.....	193
V. Neumann Analysis of External Load of Tracked Vehicle Transmissions.....	198
A. Pincevicius, V. Jonevicius, S. Bekesiene Decisions of the Applied Tasks of External Ballistics	206
T. Poska, S. Susinskas, J. Valickas Influence of Installation of Different Types of Bored Piles to the Ground.....	211
E. Shatkovskis, V. Zagadskij, A. Jukna, J. Stupakova Ripples Formation on the Silicon Solar Cells Surface by Laser Irradiation	217
T. Slezak, L. Sniezek, K. Grzelak Influence of the Usage of the High-Energy Joining Technology on the Properties of Welds in High Strength Steel.....	221
V. Slivinskas, S. Susinskas, D. Aviza Multiple Criteria Analysis of Floor Installation for Logistics Centre.....	227
L. Sniezek, I. Szachogluchowicz, V. Hutsaylyuk Research of Property Fatigue Advanced Al/Ti Laminate.....	232

O. Stopka, L. Bartuska, I. Kubasakova Selecting the Most Suitable Region in the Selected Country for the Placement of the Bi-Modal Freight Village Using the WSA Method	238
G. Stuglys, S. Susinskas, D. Aviza Installation Technology for Bored Piles Foundations	244
S. Susinskas, V. Zdanys Impact of the Thermal Insulation Layer of Three-Layer Wall Panels on Energy Consumption of a Building.....	249
J. Tamuliene, L. Baliulyte Theoretical Study of Fragmentation of Co_3O_4 Nanoparticle.....	257
J. Tamuliene, J. Sarlauskas, S. Bekesiene, V. Kleiza Investigation of Stability of <i>N</i> -(2,4,6-trinitrophenyl)-1H-1,2,4-triazol-3-amine.....	260
P. Taraba, K. Pitrova Corporate Governance Model in the Czech Republic	263
G. Zylius, V. Vaitkus, P. Lengvenis Driving Style Analysis using Spectral Features of Accelerometer Signals	267
Authors Index	274