

Table of Contents

Preface and Committees

I: Mechatronic Systems: Industrial Robotics, Microrobotics, Mobile Robots, Analysis of Vibration

Analysis of the Dynamic Properties of the Mechatronic Integrator of Control Procedures of the Vehicle Driven by Persons with Disabilities W. Banaś, A. Gwiazda, K. Herbuś, G. Kost, P. Ociepka and D. Reclik	3
Application of Electric Subsystem as Implementation of Reduction of Mechanical Vibrations K. Białas, A. Buchacz and D. Gałęziowski	9
Passive and Active Vibration Isolation Methods in Discrete Mechatronic Systems K. Białas, A. Buchacz and D. Gałęziowski	15
Classic and Nonclassic Methods in Synthesis of the Transverse Vibrating Mechatronic Systems A. Buchacz	21
Accomplishing Tasks in Reaching the Goal of Robot Formation A. Burghardt	27
Supporting Rehabilitation Process in Children by Means of Mechatronic System for Kinesitherapy Using EEG Sensor I. Chuchnowska and A. Sękala	33
CFD Analysis of Hydrodynamic Pressure Distribution in Non-Newtonian Oil in Journal Bearing Lubrication Gap A. Czaban	37
Passive Reduction in Vibration Considering the Desired Amplitude in the Case of Damping Proportional to the Mass A. Dymarek and T. Dzitkowski	43
The Application of Neural Position/Force Control in a Robotised Machining Process P. Gierlak	49
Investigation into the Properties of New Materials Having a Possible Effect on the Evaluation Parameters of Sound Insulation and Absorption D. Gužas, S. Anashko and L. Gogolashvili	55
Approximate Dynamic Programming in the Sensor-Based Navigation of the Wheeled Mobile Robot Z. Hendzel and M. Szuster	60
Electric Multi-Module Catapult Dynamics S. Lisauskas, A.J. Poška and D. Uznys	67
An Estimation Method for the Torsional Vibration of the Marine Propulsion System L. Murawski and A. Charchalis	71
Vibration Damping Using Laminated Elastomeric Structures S. Polukoshko, V. Gonca and J. Svabs	81
Identification of the Prints Elastic Parameters Using Vibrational Methods P. Ragauskas, S. Grigaliūnienė, J. Sidaravicius, V. Turla and A. Kilikevičius	91
The Influence of a Torus Shaped Auto-Equalizer on the Vibrations of Rotary Systems G. Strautmanis, V. Jurjev and I. Grinevich	97
Simulation of Riding a Real Mobile Robot Following the Defined Path P. Wilk, T. Zajac, A. Paśnikowska and D. Cekus	104
Modular Multi-Rotor Helicopter Platforms K. Tiimus and M. Tamre	110
Miniature Tripod with Parallel Kinematics for Use in Clean Room Medical Laboratory Applications A. Zbrowski	116
Modelling Multi-Way Planetary Gears by Means of Contour Graphs J. Drewniak, S. Zawisławski and A. Wieczorek	126

Dynamic Testing of Railway Truss-Bridge D. Bačinskas, A. Kilikevičius and P. Ragauskas	132
Implementation of a Controllable Damper for Suppressing Vibration in the Technological Process V. Bučinskas, A. Klevinskas, P. Mitrouchev and R. Urbanavičius	136
Effect of External Excitation on Dynamic Characteristics of Vibro-Isolating Table M. Jurevičius, A. Kilikevičius and P. Ragauskas	144
Real-Time Online Feet Trajectory Generation Method for Hexapod Robot T. Luneckas, M. Luneckas and D. Udris	148
Vibrodiagnostics and Monitoring of the Mechanical-Dynamic Elements of Mechatronic Systems A. Čereška	153
Design of a Synchro-Drive Omnidirectional Mini-Robot M.O. Tătar, F. Haiduc and D. Măndru	161
The System for Wireless Communication in the Group of Cooperating Mobile Robots P. Garbacz and J. Mężyk	168

II: Mechatronic Systems: Optimization, Optimal Design, Integrated Diagnostics, Failure Analysis, Tribology in Mechatronics Systems, Analysis of Signals

The Elastic Deformation of Machine Elements in Mechatronics Systems A. Avišāne	177
Passive Reduction in the Identified Vibrations of the Machine Drive System in the Form of Multistage Gear Units T. Dzitkowski and A. Dymarek	182
Multi-Criteria Decision Making Methods for Designing Optomechatronic Systems T. Giesko	188
F-16 Virtual Cockpit – Project of Computer-Aided Learning and Integrated Diagnostics Application: Part I N. Grzesik and T. Zahorski	194
F-16 Virtual Cockpit: A Project on Computer-Aided Learning and the Application of Integrated Diagnostics: Part II N. Grzesik	200
Modeling and Evaluation of Loads in Vehicles Subjected to Mine Blast A. Iluk	207
Parametric Identification of the Degenerate Model with a Dissipative-Elastic Element Dispersing Impact Energy K. Jamroziak	213
Study on the Thermal Stability of Selected Ionic Liquids T.J. Kaldonski and S. Cudzilo	218
Developing a Control System for Emergency Situations in the Automated Manufacturing Line of Wood Briquettes N. Kunicina, A. Zabasta and J. Soboleva	224
Modifying Operating Conditions of the Friction Pair with an Additive Added to the Lubricant while Operating S. Laber and A. Laber	230
Distribution of Hydrodynamic Pressure in Slide Bearings Applying Lubricants of Different Viscosity A. Laber and K. Adamczuk	239
Speed Control of a DC Motor Using PD and PWM Controllers Ľ. Miková, I. Virgala and M. Kelemen	244
Numerical Modeling of the Phenomena of Frictional Coupling between Wheel and Rail to Describe and Verify the Operation of Surface Condition Detector A. Niedworok and A. Baier	251
The Effect of the Disturbing Potential for the Gravity Field P. Petroškevičius, R. Birvydiene and D. Popovas	257

Numerical and Experimental Study on the Application of Mode Shape Curvature for Damage Detection in Plate-Like Structures S. Rucevskis, P. Akishin and A. Chate	264
Viscosity in Exploitation Time Analysis of the Lubricating Oil Used in the Combustion Engine of the Personal Car G. Sikora and A. Miszczak	271
Kinematic Analysis of a Four-Degree-of-Freedom Manipulator A. Skalik, D. Skrobek, P. Waryś and D. Cekus	277
The Use of the Vibroacoustic Method for Monitoring the Technical Condition of Aero Engines with Extended Time between Overhauls J. Spychala, P. Majewski and M. Żokowski	283
Stamping Die Modelling with Consideration to Drawpiece Springback Phenomenon J. Stadnicki and I. Wróbel	289
Convergences of Cumulative Wear after Time of Bearing Operation K. Wierzcholski and A. Miszczak	295
Recurrence Contribution to Determining the Wear of Slide Bearings K. Wierzcholski and A. Miszczak	301
Mechatronic Applicator for Dispersion Adhesives A. Zbrowski, T. Samborski and S. Zacharski	307
The Influence of the Angular Position of the Laser Triangular Head on the Readings of the Measurement System A. Zbrowski and K. Matecki	313
Analysis of Tribological Processes in Components of Massive Roller Bearings W. Napadłek	319
Effect of the Concentration of the Magnetic Particles in the Ferrooil on its Dynamic's Viscosity Changes in an External Magnetic Field M. Frycz and W. Horak	324
Health Monitoring of the Aircraft Structure during a Full Scale Fatigue Test with Use of an Active Piezoelectric Sensor Network M. Dziendzikowski, K. Dragan, A. Kurnyta, S. Klysz and A. Leski	328
Kinetics of Fatigue Crack Propagation at the Tooth Root of a Cylindrical Gear Wheel J. Drewniak and J. Rysiński	333
Concept of the System for Control over Keeping up the Movement of a Crane S. Duda, K. Kawlewski and G. Gembalczyk	339
Design of an Artificial Microelectromechanical Cochlea D. Dusek, Z. Hadas, J. Pekarek, V. Svatos, J. Zak, J. Prasek and J. Hubálek	345
Health Monitoring of the Aircraft Structure during a Full Scale Fatigue Test with Use of Resistive Ladder Sensors A. Kurnyta, A. Leski, K. Dragan and M. Dziendzikowski	349
Application of Magnetovision Scanning System for Detection of Dangerous Objects M. Nowicki and R. Szewczyk	355
Wear Problems of Slide-Friction Pair G. Springis, J. Rudzitis, A. Avišāne, M. Kumermanis, J. Semjonovs and A. Leitans	361

III: Mechatronic Systems: Applications of Artificial Intelligence, Sensors and Actuators in Mechatronics, Control of Mechatronics Systems

The Dynamic Errors of Mechatronically Controlled Lifting Equipment V.K. Augustaitis, V. Gičan, A. Jakštas, B. Spruogis and V. Turla	369
Modelling a Precision Positioning System G. Augustinavičius and A. Čereška	374
Cure Monitoring of Thermosets Using Disc Bimorph Transducers E. Dragašius and I. Skiedraite	380
The Mathematical Algorithm for Analysis of Piezoelectric Stacks with Structural Damping A. Buchacz, M. Płaczek and A. Wróbel	385

Assumptions of Centering – Leveling Device Application in Mechatronic Angle Measuring System	
L. Šiaudinytė, D. Sabaitis, M. Rybokas and D. Bručas	391
Development of Calibration Equipment for Geodetic Angle Measurement Instruments	
L. Šiaudinytė, D. Sabaitis, D. Bručas and G. Dmitrijev	396
Model-Based Development of Algorithms for a Battery-Management System	
W. Diehl, F. Quantmeyer and X.B. Liu-Henke	401
Fuzzy Neural-Network-Based Controller	
İ. Gücüyener	407
Experimental Measurement of Maximum Bending Stress on Rectangular Aluminum Beam	
R. Gürbüz	413
Designing Mechatronics Equipment Based on the Example of the Stewart Platform	
A. Gwiazda, K. Herbuś, G. Kost and P. Ociepka	419
The Prediction Oriented Analysis of Mechatronic Machine Structures in Terms of the Signal Stream Flow	
M.P. Hetmańczyk	423
The Prediction Oriented Analysis of Mechatronic Machine Structures Recorded by Directed Graphs	
M.P. Hetmańczyk	429
Generating Navigational Audio Instructions Using Fuzzy Logic	
J. Hrbacek and V. Singule	435
Study on Sensors Used in Security and Alarm Systems for Buildings	
B. Karaliunas, D. Lukosiene and V. Kozlovski	439
Mechatronic Concept for Airflow Tests Laboratory Equipment	
M. Kabaciński and R. Pawliczek	445
Investigation of the Traveling-Wave Oscillations of Piezoelectric Cylinder	
R. Lučinskis, D. Mažeika and R. Bansevičius	451
Modeling and Control of Proportional Valve with Synchronous Motor	
A. Milecki and D. Rybarczyk	457
Design of 32-Bit Washing Machine Controller	
A. Milecki and G. Pittner	463
SISO Model Identification of a Micro Air Vehicle for Robust Control Design	
A. Mystkowski	470
Motion Analysis of Mechatronic Equipment Considering the Example of the Stewart Platform	
A. Gwiazda, K. Herbuś, G. Kost and P. Ociepka	479
Intelligent Machine Tool: New Manual Programming Techniques	
M. Pajor and K. Stateczny	485
Intelligent Machine Tool – A Thermal Diagnostic System for a CNC Pretensioned Ball Screw	
M. Pajor and J. Zapłata	491
Intelligent Machine Tool – Vision Based 3D Scanning System for Positioning of the Workpiece	
M. Pajor and M. Grudziński	497
A Reconfigurable Control System for a PA-PVD Technology Test Stand	
J. Przybylski, A. Majcher and M. Neska	504
Model of Six-Phase Induction Motor	
R. Rinkevičienė, B. Kundrotas and S. Tolvaišienė	510
Tensile Stress Sensor with Amorphous Ring Shape Core	
J. Salach, R. Szewczyk, A. Bieńkowski and M. Nowicki	515
Design and Investigations into the Piezobender Controlled Servovalve	
D. Sędziak and R. Reguński	520
Control System for a Technological Line for the Production of Electronically Secured Cards with RFID Labels	
A. Zbrowski, T. Samborski and J. Przybylski	526
Structure of a Control System in a Set of Devices for Document Durability Tests	
A. Zbrowski, A. Majcher and M. Neska	532

Measurement and Analysis of Human Lower Limbs Movement Parameters during Walking S. Zhigailov, A. Kuznetsov, V. Musalimov and G. Aryassov	538
Magneto-Mechanical Effects in NDE & SHM Applications M. Witoś and M. Żokowski	544
Research of Dynamics of the Precision Mechatronical Line Scale Gage Calibration System A. Kilikevičius	550
Dynamic Research on Precision Angle Measurement Comparator A. Kasparaitis, A. Kilikevičius, J. Vėžys, V. Prokopovič and V. Makarskas	554

IV: Materials: Multifunctional and Smart Materials, Metallic Alloys, Piezoelectric Materials, Nanomaterials, Ceramics and Glasses, Biomaterials and Technology, Coatings and Properties

Development of a Novel Device for Attitude Control over Small Satellites V. Bakanauskas, R. Bansevicius, D. Bručas and A. Domeika	561
The Influence of Plastic Deformation Performed before and after Electron Beam Irradiation on Mechanical Properties and Wear of UHMWPE A. Barylski, J. Maszybrocka and J. Cybo	565
Analysis of Material Punching Including a Rotational Speed of the Projectile M. Bocian, K. Jamroziak and M. Kosobudzki	571
Strategic Position of Casting Aluminum Alloys and Leading Technologies of their Manufacturing T. Tański, K. Labisz, A.D. Dobrzańska-Danikiewicz and A. Sękala	577
Influence of Joining Method for Mechanical Properties of 5083, 5059 and 7020 Aluminum Alloys Joints K. Dudzik and M. Czechowski	583
Influence of Joining Method on Electrochemical Corrosion Properties of 7020 Aluminum Alloy Joints K. Dudzik	589
Influence of Lead Angle Variation on the Coated Carbide Inserts Wear when Milling CGI and Modeling by Artificial Neural Networks and Regression Analysis Method Ş. Karabulut and A. Güllü	595
Energy Parameter Control System of Strength Machine for Material Tests under Polyharmonic Bending and Torsion L. Kasprzyczak and E. Macha	603
Destruction of Epoxy Coatings under the Influence of Sodium Chloride Water Solutions D. Kotnarowska	609
The Analysis of Finishing Tooling Influence on Friction Factor Examined by T-05 Tester W. Labuda and A. Charchalis	615
The Analysis of Finishing Tooling Influence on Corrosion Properties of Stainless Steel W. Labuda and A. Charchalis	621
The Influence of Plastic Deformation Performed before and after Electron Beam Irradiation on the Morphology and Structural Properties of UHMWPE J. Maszybrocka, A. Barylski and J. Cybo	627
Design of Test Stand for Magnetic Shape Memory Alloys Samples and Representation of Obtained Results B. Minorowicz	633
Physicochemical and Rheological Properties of Potential Additives for Synthetic Saliva Preparation J. Mystkowska	640
The Concept of Scaling Analysis Describing the Properties of Soft Magnets M. Najgebauer	646
Modeling Hysteresis Loops of SMC Cores B. Ślusarek, K. Chwastek, J. Szczygłowski and B. Jankowski	652
The Influence the Temperature of Drawing Process on the Transformation Retained Austenite into Martensite for TRIP Steel Wires S. Wiewiórowska, Z. Muskalski and M. Siemiński	661

Evaluation of Static and Dynamic Stress Intensity Factors under Pure Mode I and Mixed Mode I/II Fracture	
M. Gintalas, K. Kalniņš, A. Pakalnis, P. Šadreika and A. Žiliukas	667
Analyzing the Possibility of Using Laser Ablation for Texturing Bearing Steel 100CrMn6 Considering a Tribological Aspect	
W. Napadłek	673
Welds of Dissimilar Steel 1.0038/1.4301: Increasing Corrosion Resistance by the Optimization of Welding Parameters and Post-Weld Processing	
N. Višniakov, J. Škamat and S. Nagurnas	678
Investigation of Cathodic Cleaning Processes of Aluminum Alloy	
R. Lukauskaitė, A.V. Valiulis and O. Černašėjus	684
The Research of Thermal Arc Sprayed Coatings Tribological Properties by Using Rubber Wheel Test	
J. Gargasas, A.V. Valiulis, I. Gedzevicius and H. Pokhmurska	693
The Analysis of Laser Modification of the Surface of SLS Specimens	
V. Markovic and O. Černašėjus	698
The Investigation on Destruction of the Compressor in Residue Conversion Set	
V. Rudzinskas and O. Černašėjus	703
The Use of Laser Texturing the Surface Layer to Modify the Friction Pair Pin-Bushing	
W. Napadłek, A. Woźniak and A. Laber	708
System for Testing the Mechanical Durability of Documents Secured with RFID Labels	
A. Zbrowski and A. Majcher	714
Structural-Hierarchical Mechanism for Cracking Reactor Steel after Preliminary Thermomechanical Loading	
I. Okipnyi, P. Maruschak and O. Prentkovskis	720
The Application of the Extended Jiles-Atherton Model for Simulating the Magnetic Characteristics of X30CR13 Steel	
R. Szewczyk and D. Jackiewicz	725
Determination of the Cracking Susceptibility of Steel S355J2G3 during the Continuous Casting Process	
K.B. Laber and H. Dyja	731
The Effect of Deposition Parameters on the Structural and Mechanical Properties of BN Coatings Deposited onto High-Speed Steel by the PLD Method	
K. Gocman, T. Kałdoński, W. Mróz and B. Budner	737
Dependence between Workpiece Material Hardness and Face Lapping Results of Steel C45	
J. Molenda and A. Charchalis	743
The Analysis of Process Parameters for Turning Cobalt-Based Super Alloy Haynes 25 / L 605 Using Design of Experiment	
M. Sarikaya and A. Güllü	749
The Physical and Numerical Modelling of Heat Treatment of Experimental Steels for Pipelines	
B. Koczurkiewicz, M. Knapiński, H. Dyja and A. Kawalek	754
The Study of Heat Transfer Coefficient during Cooling Plates of High Strength	
M. Janik, T. Garstka, A. Krzyżańska, M. Knapiński and A. Kawalek	760

V: Engineering Technologies: Advanced and Digital Manufacturing, Systems Engineering, Micro and Nano Technologies, Materials Joining Technologies, Modeling and Optimization of Processes

FDM Prototype Experimental Research of Processing Parameter Optimization to Achieve Higher Tensile Stress	
I. Brensons, S. Polukoshko, A. Silins and N. Mozga	767
A Quasi-Static Approach to Optimize the Motion of an UGV Depending on the Track Profile	
E. Corral, G. Aryassov and J. Meneses	774
Possibilities of Application of Agent-Based Systems to Support Functioning of e-Manufacturing Environment	
A.D. Dobrzańska-Danikiewicz and A. Sękala	781

Artificial Neural Networks Used for Development Prediction of State-of-the-Art Surface Engineering Areas	
A.D. Dobrzańska-Danikiewicz, J. Trzaska, A. Sękala and A. Jagiełło	785
Hardened Steel Surface Waviness Created by Rolling Burnishing Process	
S. Dzionk and B. Ścibiorski	790
Development of the Method for Calculation of Plates to Ensure Optimization of Hull Thickness	
D. Gornostajev, G. Aryasov and S. Zhigailov	796
Modeling of an Unmanned Aerial Vehicle (UAV) Body for the Needs of Numerical Aerodynamic Investigations, Strength Analysis and Examinations of Free Vibrations	
S. Kachel and A. Kozakiewicz	802
Plastometric Modelling of the E635M Zirconium Alloy Multistage Forging Process	
A. Kawalek, A. Galkin, H. Dyja, K. Ozhmegov, M. Knapiński and B. Koczurkiewicz	808
Numerical Simulation of the Rolling Process of Pipeline Sheet	
A. Kawalek, M. Magiera, H. Dyja, M. Knapiński, B. Koczurkiewicz and M. Kwapisz	813
Safety Issues Concerning Robotic Welding of Large Elements	
W.J. Klimasara, Z. Pilat and M. Słowikowski	818
Physical Simulations of the Controlled Rolling Process of Experimental Steels with Modified Chemical Composition Allocated to Pipelines	
M. Knapiński, H. Dyja, A. Kawalek, B. Koczurkiewicz and S. Sawicki	824
Chosen Problems of Selection the Basic Chassis for the Special Purpose Body	
M. Kosobudzki and K. Jamroziak	829
The Model of Estimating the Loss of Maintenance Potential the High Mobility Wheeled Vehicle	
M. Kosobudzki, T. Smolnicki and M. Stańco	833
Computer Modeling and Research of FML Composites Using the Method of Features	
M. Majzner and A. Baier	837
Numerical Modelling and Experimental Verification of Interdigital Transducers for Lamb Wave Generation	
M. Mańka, A. Martowicz, M. Rosiek, Ł. Ambroziński and T. Uhl	843
Analysis of Influence of Different Kinds of Drills on Production Results	
A.H. Marcinkevičius	849
Analysis of Optimization of Selection of the Tools for Turning	
A.H. Marcinkevičius	854
Monitoring the FSW Processes with Use of Thermal Imaging	
J. Mężyk and S. Kowieski	859
The Application of the Pulsed Electromagnetic Field for Joining Powder Parts	
V. Mironovs, I. Boiko and M. Kolbe	864
The Influence of the Temperature of the Elements of the Lapping Machine Executory System on the Results of the Lapping Process	
J. Molenda and A. Charchalis	871
Rolling of Al-Cu Bimetallic Bars in Modified Elongating Grooves	
S. Mróz, P. Szota, S. Wąsek and A. Stefanik	875
The Roughness of the Hardened Steel Surface Created by the Rolling-Burnishing Process	
B. Ścibiorski and S. Dzionk	881
Influence of Temperature Change on the Energy Parameters during Round Bars Rolling Process	
P. Sygut	887
Analysis of the Aluminum Bars in Three-High Skew Rolling Mill Rolling Process	
A. Stefanik, P. Szota, S. Mróz and H. Dyja	892
The Influence of the Interstand Tension of the Band on Roll Wear during the Continuous Groove-Rolling Process	
P. Szota, S. Mróz, A. Stefanik and H. Dyja	898
A System for Graphic Personalisation of Cards and Paper Sheets	
A. Żbrowski, T. Samborski and E. Matras	905
Deformation of the Structural Details of the Components Created by the Rapid Prototyping Method	
S. Dzionk	911

Self-Organisation of the Heat Resistant Steel Structure Following Dynamic Non-Equilibrium Processes	
M. Chausov, P. Maruschak, O. Prentkovskis, A. Pylypenko, V. Berezin and K. Volyanska	917
Geometry and Programming in the Drawing for the Artificial Intelligence Experience	
A. Sokas, L. Čiupaila and D. Makutėnienė	922
High-Efficiency Internal Combustion Engine Used in the Unmanned Aircraft	
K. Tiimus, M. Murumäe, E. Väljaots and M. Tamre	928
Motion and Energy Efficiency Parameters of the Unmanned Ground Vehicle	
E. Väljaots, R. Sell and M. Kaeeli	934
Determination of the Speed of an Unmanned Rescue Vehicle	
A. Zbrowski and W. Józwik	940
The Detection of Battery Screwdriver's Optimal Working Modes when Assembling Fixed Threaded Joint Considering Allowable Tightening Torque in Case of Equal Screw Length	
I. Grinevich, N. Mozga and G. Strautmanis	946
Reverse Engineering of Stamping Die Punch – A Case Study	
I. Wróbel	951
Selection of the Nozzle for Metal Surface Cleaning Using Cavitating Pulsing Fluid Flow	
A. Ralys, V. Striška and V. Mokšins	957
Analysis of the Shape of Stamp on the Distribution of Deformation in the Process of Alternate Pressing and Multiaxial Compression	
M. Kwapisz	963
Low-Speed Hydraulic Pump as a Tool for Setting and Measuring Torque	
M. Banaś	969
Research of Soil Compression and Tillage Precision Parameters of Tractor and Gantry Units	
G. Viselga, A. Jasėnas, A. Jasinskis and E. Kaminski	974

VI: Education: New Trends and Curricula for BSC and MSC in Two Tier Higher Education in the Fields of Mechatronic Systems and Materials Science

A Combination of Non-Formal and Formal Education Systems for the Students Studying Mechatronics Engineering and Improving Practical Skills and Synergistic Abilities	
A. Jasėnas and E. Toločka	981
Educational Model of Line Follower Robot LINA 2010	
M. Kelemen, D.J. Colville, T. Kelemenová, I. Virgala and Ľ. Miková	989
Engineering Education Based on Engineering Change	
A. Maceika and B. Jančiauskas	995
Automatization and Robotisation as a Lever for Process and Product Quality in SME	
M. Smater and J. Zieliński	1001
Virtual Laboratory for Study on Automation and Robotics	
M. Smater and J. Zieliński	1008
Strengthening Mobility for Better Learning	
A.V. Valiulis, V. Bučinskis and E. Toločka	1014