

# PROGRAM

## INTERNATIONAL CONFERENCE Dynamical Systems – Theory and Applications DSTA-2017

1. Monday, December 11, 2017

Registration of participants, 8:00 - 9:00, DSTA 2017 Office

Opening ceremony, 9:00 - 9:40, assembly hall

Break, 9:40 - 9:50

**Keynote lecture, 9:50 - 10:30, assembly hall**

Lacarbonara W.	<i>Tailoring of hysteresis across different material scales</i>
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Coffee break, 10:30 - 10:50

**Session 1A, 10:50 - 12:05, assembly hall**

1.	Duarte Valério, José Tenreiro Machado, António Lopes, António Santos	<i>A fractional perspective to the modelling of Lisbon's Public Transportation Network</i>	MAT 212
2.	Peter B. Beda	<i>Generic bifurcations in thermodynamics by fractional continuum mechanics</i>	STA 082
3.	Björn Birnir	<i>Nonlinear quantum systems</i>	BIF 378
4.	Eoin Clerkin, Rubens Sampaio	<i>A bifurcation and symmetry discussion of the Sommerfeld effect</i>	BIF 222
5.	Sigurður Hafstein, Asgeir Valfells	<i>Study of dynamical systems by fast numerical computation of Lyapunov functions</i>	STA 041

**Session 1B, 10:50 - 12:05, room C101**

1.	Claude-Henri Lamarque, Alireza Ture Savadkoohi, Simon Charlemagne	<i>Passive control of a linear structure via nonlinear oscillators in series</i>	CON 063
2.	Igor V. Andrianov, Jan Awrejcewicz, Alexander A. Diskovsky	<i>Natural oscillations of rectangular plates with holes: using Reissner's approach</i>	MAT 303
3.	Ivana Kovacic	<i>On some exact solutions for a forced response of nonlinear oscillators</i>	MAT 116
4.	Yulia Danik, Mikhail Dmitriev, Dmitry Makarov, Tatiana Zarodnyuk	<i>Numerical-analytical algorithms for nonlinear optimal control problems on a large time interval</i>	CON 263
5.	Peter Benner, Andreas Seidel-Morgenstern, Alexander Zuyev	<i>Computation of periodic switching strategies for the optimal control of chemical reactors</i>	CON 373

**Session 1C, 10:50 - 12:05, room C102**

1.	Jan Kozánek, Štěpán Chládek, Jaroslav Zapoměl, Lucie Švambová	<i>Approximate identification of dynamical systems</i>	VIB 109
2.	Roman Starosta, Grażyna Sypniewska-Kamińska, Jan Awrejcewicz	<i>Nonlinear effects in dynamics of micromechanical gyroscope</i>	ASY 236
3.	Philipp Schorr, Susanne Sumi, Valter Böhm, Klaus Zimmermann	<i>Dynamical investigation of a vibration driven locomotion system based on a multistable tensegrity structure</i>	VIB 046
4.	Jaroslav Zapoměl, Jan Kozánek, Petr Ferrecki	<i>The mathematical modelling of nonlinear vibration of rotors influenced by magnetic and electric effects</i>	NUM 066
5.	Tomasz Falborski, Barbara Sołtysik, Robert Jankowski	<i>Numerical investigation on dynamic performance of a multi-storey steel structure model and comparison with experimental results</i>	VIB 134

Coffee break, 12:20 - 12:20

**Keynote lecture, 12:20 - 13:00, assembly hall**

Alexey Borisov, Yury Karavaev	<i>Selected problems of nonholonomic mechanics</i>
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Common commemorative photo session, 13:00 - 13:15

Lunch, 13:45 - 15:15

Meeting of the Scientific Committee of DSTA 2017, 14:30 - 15:25

**Session 2A, 15:30 - 16:45, assembly hall**

1.	Miguel Matos, Yoann Lage, Miguel Neves, Nuno Maia	<i>Localization and reconstruction of dynamic forces acting on plane structures using displacement transmissibility</i>	NUM 012
2.	Iwona Adamiec-Wójcik, Kamil Nadratowski, Łukasz Drąg, Stanisław Wojciech	<i>Model of dynamics of a knuckle-boom crane</i>	VIB 099
3.	Laura Ruzziconi, Nizar Jaber, Lakshmoji Kosuru, Mohammed L. Bellaredj, Stefano Lenci, Mohammad I. Younis	<i>Theoretical and experimental investigation of nonlinear dynamical features in a MEMS device electrically actuated</i>	BIF 083
4.	Máté Antali, Gábor Stépán	<i>Modelling Coulomb friction by extended Filippov systems</i>	NON 051
5.	Milan Nađ, Lenka Kolíková, Ladislav Rolník, Rastislav Ďuriš	<i>Analysis of vibration effects on edge-chipping occurrence during rotary ultrasonics drilling</i>	NUM 018

**Session 2B, 15:30 - 16:45, room C101**

1.	Larysa Dzyubak, Oleksandr Dzyubak, Jan Awrejcewicz	<i>Tumor growth and decay predictability based on chaotic attractors in the phase spaces</i>	LIF 195
2.	Adam Czaplicki, Krzysztof Dziewiecki, Zenon Mazur, Wojciech Blajer	<i>Inverse dynamics simulation of the snatch in weightlifting</i>	LIF 150
3.	M. Scharff, M. Darnieder, J. Steigenberger, J. H. Alencastre, C. Behn	<i>Theoretical investigations on the behavior of artificial sensors for surface texture detection</i>	LIF 049
4.	Dalma Nagy, László Bencsik, Tamás Insperger	<i>Identification of the model of stick balancing using the cepstral analysis</i>	LIF 217
5.	Ambrus Zelei, Bernd Krauskopf, Tamás Insperger	<i>Control optimization for a three-segmented hopping leg model of human locomotion</i>	OPT 036

**Session 2C, 15:30 - 16:45, room C102**

1.	Arnold Pérez, Guillermo Muñoz, Fabiola Angulo	<i>Enhancing the stability of the boost converter using the saltation matrix</i>	CON 119
2.	Peter Giesl	<i>Computation of a Finsler-Lyapunov function using meshless collocation</i>	STA 027
3.	Carlos Argáez, Peter Giesl, Sigurdur Freyr Hafstein	<i>Computational approach for complete Lyapunov functions</i>	MAT 034
4.	Andrzej Rysak, Konrad Chwelatiuk	<i>Study of the high-amplitude solutions in the system of magnetic sliding oscillator with many degrees of freedom</i>	BIF 209
5.	Piotr Beldowski, Piotr Weber, Tristan De Leon, Wayne K. Augé, Adam Gadomski	<i>Fractional calculus evaluation of hyaluronic acid crosslinking in a nanoscopic part of articular cartilage model system</i>	LIF 211

Coffee break, 16:45 - 17:00

**Session 3A, 17:00 - 18:00, assembly hall**

1.	Virgil-Florin Duma	<i>Macro- and micro-scanners for laser applications: Non-linear characteristics and their impact on biomedical imaging</i>	MTR 001
2.	Larysa Dzyubak, Atul Bhaskar	<i>Transient dynamics of impacting beams with lost connection</i>	NON 196
3.	Liubov Klimina, Anna Masterova, Yury Selyutskiy, Shyh-Shin Hwang, Ching-Huei Lin	<i>On dynamics of a Savonius rotor-based wind power generator</i>	STA 080
4.	Eduard Sebastian Csukas, Virgil-Florin Duma	<i>Finite Element Analysis of optomechatronic choppers with rotational shafts</i>	CON 002

**Session 3B, 17:00 - 18:00, room C101**

1.	Lidiya Kurpa, Tetyana Shmatko, Jan Awrejcewicz	<i>Free vibration analysis of laminated functionally graded shallow shells by the R-functions method</i>	NUM 138
2.	Martin Svoboda, Václav Schmid, Josef Soukup	<i>Modal analysis of the vehicle model</i>	NUM 208
3.	Alena Zemanová, Tomáš Plachý, Jaroslav Schmidt, Tomáš Janda, Jan Zeman, Michal Šeinoha	<i>Numerical and experimental modal analysis of laminated glass beams</i>	NUM 158

4.	Piotr Woś, Ryszard Dindorf	<i>Modeling and control of motion systems for an electro-hydraulic Tripod manipulator</i>	MTR 175
<b>Session 3C, 17:00 - 18:00, room C102</b>			
1.	Margarita Kalashnikova, Galina Kurina	<i>Estimates of asymptotic solution of linear-quadratic optimal control problems with cheap controls of two different orders of smallness</i>	ASY 314
2.	Shahram Shahlaei-Far, José Manoel Balthazar	<i>Method of direct separation of motions applied to a non-ideal electromechanical pendulum system</i>	ASY 061
3.	Alena Zarodnyuk, Oleg Cherkasov	<i>Optimal thrust programming along the brachistochronic trajectory with drag</i>	OPT 030
4.	Piotr Kędzia, Krzysztof Magnucki, Mikołaj Smyczyński, Iwona Wstawska	<i>Stability of a rectangular plate under dynamic load generated by unhomogeneous magnetic field</i>	STA 050
<b>Banquet, 19:00 - 22:00</b>			
<b>2. Tuesday, December 12, 2017</b>			
8:00 - 19:00 Trip to Warsaw			
<b>Session S1-1, 14:00 - 15:30, room 103</b>			
1.	Jörg Wallaschek, Sebastian Tatzko, Ilja Gorelik	<i>On the dynamics of drillstrings with rotor/stator contact</i>	EXP 339
2.	J.J. Laflin, K.S. Anderson	<i>Geometrically exact beam equations in the adaptive DCA-framework</i>	ENG 337
3.	Utz von Wagner, Lukas Lentz	<i>On artifacts in nonlinear dynamics</i>	NUM 340
4.	Oliver Alber, Ulrich Ehehalt, Richard Markert, Georg Wegener	<i>Experimental observations on rotor-to-stator contact</i>	EXP 227
5.	Jacek Przybylski, Grzegorz Gąsiorowski	<i>Theoretical and experimental investigations of nonlinear vibrations of a beam with piezoelectric actuators</i>	VIB 070
6.	Airton Nabarrete, Vinicius Yoshida de Melo, Jose Manoel Balthazar, Angelo M. Tusset	<i>Nonlinear analysis of rotors with rigid coupling misalignment</i>	STA 376
<b>Session S6-1, 14:00 - 15:30, room 204</b>			
1.	Ewa Korczak-Kubiak, Ryszard Jerzy Pawlak	<i>On local aspects of entropy</i>	STA 383
2.	Ryszard J. Pawlak, Anna Loranty, Ewa Korczak-Kubiak	<i>On points focusing entropy</i>	STA 384
3.	Andrzej Biś, Agnieszka Namiecińska	<i>Topological and measure-theoretical entropies of solenoids</i>	MAT 387
4.	Paweł Walczak, Katarzyna Tarchała	<i>Entropy of groups-pseudogroups-foliations</i>	MAT 382
<b>Coffee break, 15:30 - 15:45</b>			
<b>Session S1-2, 15:45 - 17:15, room 103</b>			
1.	Adnan Akay	<i>Damping and dissipation relations</i>	MAT 313
2.	Guilherme Pacheco dos Santos, Jose Manoel Balthazar, Frederic Conrad Janzen, Rodrigo Tumolin Rocha, Airton Nabarrete, Angelo Marcelo Tusset	<i>Nonlinear dynamics and control applied to an aircraft in a longitudinal flight considering gusts of wind in flight</i>	CON 086
3.	Dennis Roeser, Samuel Jackson, Thomas Sattel, Stefanie Gutschmidt	<i>Nonlinear mode veering for enhanced resonant sensing</i>	EXP 368
4.	Jerzy Warmiński, Jarosław Latałski, Zofia Szmit	<i>Vibration modes of rotating thin-walled composite blades</i>	VIB 113
5.	Fadi Dohnal	<i>Stability of linearized non-conservative systems: The role of the damping matrix</i>	STA 257
6.	Tianzhi Yang, Zhiguang Song	<i>Nonlinear acoustic metamaterials: Editable dynamics</i>	VIB 244
<b>Session S6-2, 15:45 - 17:15, room 204</b>			
1.	Andrzej Łuczak, Hanna Podsędkowska	<i>Entropy in a theory of quantum measurement</i>	MAT 386

2.	Adam Paszkiewicz	<i>On axiomatic concepts of classical and quantum entropy</i>	MAT 389
3.	Piotr Oprocha, Jian Li	<i>Shadowing, entropy and minimal sets</i>	MAT 385
4.	Jan Boroński	<i>Attractors in rotation theory</i>	BIF 390
<b>Supper, 19:00 - 20:30</b>			
<b>3. Wednesday, December 13, 2017</b>			
<b>Keynote lecture, 9:00 - 9:40, assembly hall</b>			
	<b>Marco Amabili</b>	<b><i>Nonlinear damping: modelling and experiments</i></b>	
<b>Break, 9:40 - 9:50</b>			
<b>Poster Session, 9:50 - 11:20</b>			
<b>Coffee break, 11:20 - 11:35</b>			
<b>Session S2-1, 11:35 - 13:05, assembly hall</b>			
1.	Yury Selyutskiy	<i>Equilibria and global dynamics of a 2 DoF aeroelastic system</i>	STA 069
2.	Arion Pons, Stefanie Gutschmidt	<i>Aeroelastic stability analysis via multiparameter eigenvalue problems</i>	STA 375
3.	Ivan Shatskyi, Vasyl Perepichka	<i>Dynamic problem for an elastic rod with decreasing function of elastic-plastic external resistance</i>	VIB 238
4.	Stanisław Radkowski, Maciej Słomczyński	<i>Model of a quarter car suspension with a silencer containing magnetorheological fluid and with damaged parts controlled by backstepping method control</i>	CON 057
5.	Liubov Klimina	<i>An iterative approach to describing periodic solutions of a dynamical system</i>	ASY 045
6.	Alena Zarodnyuk, Oleg Cherkasov	<i>Support reaction in the brachistochrone problem in a resistant medium</i>	OPT 031
<b>Session S3, 11:35 - 13:05, room C101</b>			
1.	Ewa Ciechanowicz	<i>Some value distribution and growth properties of solutions of Painlevé and Riccati equations</i>	MAT 006
2.	Galina Filipuk	<i>Nonlinear differential-difference equations related to the second Painlevé equation</i>	MAT 010
3.	Galina Filipuk, Thomas Kecker	<i>Kahan discretisation of a cubic Hamiltonian system</i>	MAT 135
4.	Aleksandra Waszczuk-Młyńska, Stanisław Radkowski	<i>Analytical model of damaged circular membrane using a pseudo torus</i>	ENG 268
5.	Beata Jackowska-Zduniak, Urszula Foryś	<i>A mathematical model of the two types of atrioventricular nodal reentrant tachycardia: slow/fast and slow/slow</i>	STA 144
6.	Ewa Ciechanowicz, Galina Filipuk	<i>Value distribution and growth of solutions of certain Painlevé equations</i>	MAT 235
<b>Session S4, 11:35 - 13:05, room C102</b>			
1.	Elżbieta Jarzębowska, Andrzej Urbaś, Krzysztof Augustynek	<i>Computational based constrained dynamics generation for a model of a crane with compliant support</i>	CON 073
2.	Carlos Eduardo Marques, José Manoel Balthazar, Angelo Marcelo Tusset, Rodrigo Tumolin Rocha, Frederic Conrad Janzen, Jeferson José de Lima, Airton Nabarrete	<i>Ocean wave energy harvesting of a floating pendulum platform coupled system</i>	ENG 091
3.	Krzysztof Parczewski, Henryk Wnęk	<i>The impact of the shock absorber damage on vehicle control</i>	CON 296

4.	Aleksander Skurjat	<i>Directional stability control of body steer wheeled articulated vehicles</i>	STA 179
5.	Juliana Lacerda, Celso Freitas, Elbert Macau	<i>Remote synchronization and multistability in a star-like network of oscillators</i>	BIF 142
6.	Piotr Szmidt	<i>A compensation for positioning of the remote control artillery-missile set in external disturbance conditions</i>	CON 253
<b>Lunch, 13:15 - 15:00</b>			
<b>Keynote lecture, 15:15 - 15:55, assembly hall</b>			
	Nijmeijer H.	<i>Emergent behavior: synchronization and control</i>	
<b>Coffee break, 15:55 - 16:10</b>			
<b>Session S2-2, 16:10 - 17:25, assembly hall</b>			
1.	Marat Dosaev	<i>Rotation of vane with viscous filling</i>	STA 077
2.	Marat Dosaev, Vladislav Bekmemetev, Vitaly Samsonov	<i>Simulation of contact equilibrium between two deformable axisymmetric bodies</i>	LIF 075
3.	Ching-Huei Lin, Dao-An Yang	<i>Performance of a vertical axis wind turbine system with a pair of rotors investigated using CFD method</i>	OPT 060
4.	Tomasz Pałczyński	<i>Influence of air temperature on dynamic properties of pipes supplied with pulsating flow</i>	EXP 189
5.	Tomasz Pałczyński	<i>Influence of partially-closed end ratio on dynamic properties of pipes with pulsating flow</i>	EXP 191
<b>Session 4B, 16:10 - 17:25, room C101</b>			
1.	Olga Mazur, Atul Bhaskar	<i>Thermal buckling of triangular plates</i>	STA 223
2.	Panagiotis Alevras, Stephanos Theodossiades, Homer Rahnejat, Tim Saunders	<i>Torsional vibration energy harvesting through transverse vibrations of a passively tuned beam</i>	VIB 334
3.	Štěpán Dyk, Miroslav Byrtus, Luboš Smolík	<i>Steady-state behaviour of the Jeffcott rotor comparing various analytical approaches to the solution of the Reynolds equation for plain journal bearing</i>	VIB 044
4.	Carlos D. Díaz-Marín, Alejandro Jenkins	<i>Irreversibility of mechanical and hydrodynamic instabilities</i>	STA 152
5.	Adrian Chmielewski, Robert Gumiński, Krzysztof Bogdziński, Przemysław Szulim, Jędrzej Mączak, Jakub Możaryn, Piotr Piórkowski	<i>Model based research on electrochemical battery connected with 3 diodes model of PV module – selected properties</i>	ENG 365
<b>Session 4C, 16:10 - 17:25, room C102</b>			
1.	Gerard Olivar-Tost, Luis E. López, Anibal Muñoz	<i>A piecewise-smooth control of dengue</i>	NON 139
2.	Dariusz Żardecki, Andrzej Dębowski	<i>Methods of simulation investigations of non-linear vibrations in the steering system of a motorcycle</i>	NUM 017
3.	Tomasz Mirosław, Jan Szlagowski, Adam Zawadzki, Zbigniew Żebrowski	<i>Off-road 4-wheel drive vehicle dynamics and control</i>	CON 282
4.	Adam Martowicz, Wiesław J. Staszewski, Massimo Ruzzene, Tadeusz Uhl	<i>Nonlocal numerical methods for solving second-order partial differential equations</i>	NUM 279
5.	Arkadiusz Żak, Marek Krawczuk, Grzegorz Redlarski, Wiktor Waszkowiak	<i>Modelling of high frequency dynamic responses of engineering structures</i>	NUM 108
<b>Coffee break, 17:25 - 17:40</b>			
<b>Session S5, 17:40 - 18:40, assembly hall</b>			
1.	Carla M.A. Pinto, Ana R.M. Carvalho	<i>Impact of diabetes and drug-resistant strains in a fractional order model for TB transmission</i>	LIF 145
2.	Cristina I. Muresan, Isabela R. Birs, Clara M. Ionescu, Robin De Keyser	<i>Existence conditions for fractional order PI/PD controllers</i>	CON 095

3.	Jan Freundlich	<i>Vibrations of a cantilevered viscoelastic beam of a fractional derivative type with a tip mass and subjected to the base motion</i>	VIB 230
4.	Carla M.A. Pinto, Ana R.M. Carvalho	<i>The burden of the coinfection of HIV and TB in the presence of multi-drug resistant strains</i>	LIF 078
<b>Session 5B, 17:40 - 18:40, room C101</b>			
1.	Ladislav Púst, Luděk Pešek, Miroslav Byrtus	<i>Flutter running waves in turbine blades cascade</i>	VIB 015
2.	Ladislav Púst, Luděk Pešek	<i>Dynamics of planetary gearing box</i>	VIB 016
3.	Grzegorz Litak, Piotr Wolszczak, Krystian Łygas	<i>Dynamical response of a bistable system with clearance</i>	BIF 021
4.	Paweł Nowak, Andrzej Nowak, Marek Metelski	<i>Modelling of vibration and large deflections of lattice-boom structures of cranes by means of rigid finite element method</i>	VIB 173
<b>Session 5C, 17:40 - 18:40, room C102</b>			
1.	Antonin Svoboda, Josef Soukup	<i>Stimulation of nerve endings via medical device</i>	VIB 207
2.	Pavel Polach, Luboš Smolík, Jan Rendl, Michal Hajžman	<i>Influence of plain journal bearing parameters on the rotor nonlinear behaviour</i>	VIB 231
3.	Paweł Zdziebko, Adam Martowicz, Tadeusz Uhl	<i>Contact force control for a high speed pantograph using co-simulations</i>	CON 259
4.	Paweł Olejnik, Jan Awrejcewicz, Michal Fečkan	<i>Mathematical models of two parametric pendulums with modulated length</i>	ENG 004
<b>Supper, 19:00 - 20:30</b>			
<b>4. Thursday, December 14, 2017</b>			
<b>Keynote lecture, 9:00 - 9:40, assembly hall</b>			
	Cvetičanin L.	<i>On the acoustic metamaterial with negative effective mass</i>	
<b>Break, 9:40 - 9:50</b>			
<b>Session 6A, 9:50 - 11:05, assembly hall</b>			
1.	Tom Kigezi, Julian Dunne	<i>Optimal and resonant start of free-piston engines</i>	MAT 228
2.	Jan Awrejcewicz, Nataliya Losyeva, Volodymyr Puzyrov	<i>Gyroscopic forces and asymptotic stability for mechanical systems with partial energy dissipation</i>	ASY 271
3.	Andrzej Urbaś, Adam Jabłoński, Jacek Kłosiński, Krzysztof Augustynek	<i>Dynamics and control of a truck-mounted crane with flexible jib</i>	CON 092
4.	Jacek Jackiewicz	<i>Optimal control of automotive multivariable dynamical systems</i>	CON 246
5.	Miroslaw Gidlewski, Leszek Jemioł, Dariusz Żardecki	<i>Sensitivity investigations of the lane change maneuver with an automatic control system</i>	CON 143
<b>Session 6B, 9:50 - 11:05, room C101</b>			
1.	Jacek Górka, Wojciech Jamrozik	<i>Application of time-frequency methods for assessment of gas metal arc welding condition</i>	EXP 269
2.	Giuseppe Catania, Stefano Amadori	<i>Multi-layer composite coating technology for high damping mechanical structural applications</i>	EXP 062
3.	Tomasz Nowakowski, Paweł Komorski, Grzegorz M. Szymański, Franciszek Tomaszewski	<i>Application of Hilbert transform in detection flat places on tram wheels</i>	EXP 101
4.	Katarina Plakhsy, Yuri Mikhlin	<i>Resonance behavior of dissipative spring-pendulum systems</i>	ASY 194
5.	Tomasz Czapla, Marcin Fice, Roman Niestrój	<i>Wheel-surface model parameters estimation for all-terrain vehicle - experimental basis</i>	MAT 094
<b>Session 6C, 9:50 - 11:05, room C102</b>			
1.	Krzysztof Wilde, Dawid Bruski, Stanisław Burzyński, Jacek Chrościelewski, Wojciech Witkowski	<i>Numerical crash analysis of the cable barrier</i>	EXP 233

2.	Nathan Paul Craig, Harriet Grigg	<i>Effect of anisotropy on surface wave attenuation through fluid medium: a comparison between Rayleigh and Love type waves</i>	VIB 224
3.	Szymon Tengler, Kornel Warwas	<i>Distributed multi-population genetic algorithm to improve driver's comfort</i>	OPT 248
4.	Radosław Pytlak, Damian Suski, Tomasz Tamawski	<i>Optimal control of hybrid systems with sliding modes</i>	OPT 234
5.	Marcela Machado, Leila Khalij, Adriano Fabro	<i>Spectral approach for dynamic analysis of a composite structure under random excitation</i>	NUM 008
<b>Coffee break, 11:05 - 11:20</b>			
<b>Keynote lecture, 11:20 - 12:00, assembly hall</b>			
	<b>Bartoszewicz A.</b>	<b><i>Variable structure systems with sliding modes</i></b>	
<b>Coffee break, 12:00 - 12:10</b>			
<b>Session 7A, 12:15 - 13:15, assembly hall</b>			
1.	Abhay Kumar Sethi, Arun Kumar Tripathy	<i>Riccati transformation and oscillation of superlinear second order functional differential equations</i>	ENG 020
2.	Ulrike Zwiers	<i>A remark on point coordinates in multibody dynamics formulations</i>	ENG 305
3.	Wiesław Fiebig	<i>Accumulation of the energy in mechanical resonance</i>	ENG 237
4.	Sławomir Duda, Grzegorz Gembalczyk, Eugeniusz Światoński	<i>Design study and development of mechatronic treadmill for gait reeducation</i>	MTR 348
<b>Session 7B, 12:15 - 13:15, room C101</b>			
1.	Włodzimierz Bielski, Ryszard Wojnar	<i>Stokes flow through a tube with wavy wall</i>	LIF 118
2.	Yan Zhang, Jan Awrejcewicz	<i>Effects of mild hallux valgus on forefoot biomechanics during walking: a finite element analysis</i>	LIF 084
3.	Rafał Burdzik, Ireneusz Celiński	<i>Preliminary research and analysis on the possibility of using an acoustic wave as an information carrier on an approaching train</i>	EXP 148
4.	Irina Demijanushko, Aleksandr Vakhromeev, Evgeny Loginov, Violetta Mironova	<i>The dynamic behavior of the vehicle wheels under impact loads - FEM and experimental researches</i>	MAT 054
<b>Session 7C, 12:15 - 13:15, room C102</b>			
1.	Marcin Pękal, Janusz Frączek, Marek Wojtyra	<i>Nullspace method for the uniqueness analysis of reaction and driving forces in rigid multibody systems with redundant nonholonomic constraints</i>	MAT 215
2.	Mateusz Saków, Krzysztof Marchelek, Arkadiusz Parus, Mirosław Pajor and Karol Miądlicki	<i>Signal prediction in bilateral teleoperation with force-feedback</i>	MTR 039
3.	Mikhail U. Nikabadze, Tamar Moseshvili, Armine R. Ulukhanian, Ketevan Tskhakaia, Nodar Mardaleishvili	<i>Formulation of the initial boundary value problems in the theory of multilayer thermoelastic thin bodies in moments (part I)</i>	MAT 311
4.	Mateusz Wojna, Grzegorz Wasilewski, Jan Awrejcewicz, Adam Wijata	<i>Dynamics of a double physical pendulum with magnetic interaction</i>	BIF 307
<b>Closing of the conference, 13:30 - 13:50, assembly hall</b>			
<b>Lunch, 14:00 - 15:15</b>			