

# 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.

*Tailoring of hysteresis across different material scales*

Coffee break, 10:30 - 10:50

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

1.	Eoin Clerkin, Rubens Sampaio	<i>A bifurcation and symmetry discussion of the Sommerfeld effect</i>	BIF 222
2.	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
3.	Björn Birnir	<i>Nonlinear quantum systems</i>	BIF 378
4.	Peter B. Beda	<i>Generic bifurcations in thermodynamics by fractional continuum mechanics</i>	STA 082
5.	Sigurdur Hafstein, Asgeir Valfells	<i>Study of dynamical systems by fast numerical computation of Lyapunov functions</i>	STA 041

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

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	<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**

1.	Jan Kozánek, Štěpán Chládek, Jaroslav Zapoměl, Lucie Švambergová	<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.	Panagiotis Alevras, Stephanos Theodossiades, Homer Rahnejat, Tim Saunders	<i>Torsional vibration energy harvesting through transverse vibrations of a passively tuned beam</i>	VIB 334
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, Yuri Karavaev

*Selected problems of nonholonomic mechanics*

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			
1.	Miguel Matos, Yoann Lage, Miguel Neves, Nuno Maia	Localization and reconstruction of dynamic forces acting on plane structures using displacement transmissibility	NUM 012
2.	Iwona Adamiec-Wójcik, Kamil Nadratowski, Łukasz Drag, Stanisław Wojciech	Model of dynamics of a knuckle-boom crane	VIB 099
3.	Peter Giesl	Computation of a Finsler-Lyapunov function using meshless collocation	STA 027
4.	Máté Antali, Gábor Stépán	Modelling Coulomb friction by extended Filippov systems	NON 051
5.	Milan Nađ, Lenka Kolíková, Ladislav Rolník, Rastislav Ďuriš	Analysis of vibration effects on edge-chipping occurrence during rotary ultrasonics drilling	NUM 018
Session 2B, 15:30 - 16:45			
1.	Larysa Dzyubak, Oleksandr Dzyubak, Jan Awrejcewicz	Tumor growth and decay predictability based on chaotic attractors in the phase spaces	LIF 195
2.	Adam Czaplicki, Krzysztof Dziewiecki, Zenon Mazur, Wojciech Blajer	Inverse dynamics simulation of the snatch in weightlifting	LIF 150
3.	M. Scharff, M. Darnieder, J. Steigenberger, J. H. Alencastre, C. Behn	Theoretical investigations on the behavior of artificial sensors for surface texture detection	LIF 049
4.	Dalma Nagy, László Bencsik, Tamás Insperger	Identification of the model of stick balancing using the cepstral analysis	LIF 217
5.	Ambrus Zelei, Bernd Krauskopf, Tamás Insperger	Control optimization for a three-segmented hopping leg model of human locomotion	OPT 036
Session 2C, 15:30 - 16:45			
1.	Arnold Pérez, Guillermo Muñoz, Fabiola Angulo	Enhancing the stability of the boost converter using the saltation matrix	CON 119
2.	Laura Ruzziconi, Nizar Jaber, Lakshmoji Kosuru, Mohammed L. Bellaredj, Stefano Lenci, Mohammad I. Younis	Theoretical and experimental investigation of nonlinear dynamical features in a MEMS device electrically actuated	BIF 083
3.	Carlos Argáez, Peter Giesl, Sigurdur Freyr Hafstein	Computational approach for complete Lyapunov functions	MAT 034
4.	Andrzej Rysak, Konrad Chwelański	Study of the high-amplitude solutions in the system of magnetic sliding oscillator with many degrees of freedom	BIF 209
5.	Piotr Beldowski, Piotr Weber, Tristan De Leon, Wayne K. Augé, Adam Gadowski	Fractional calculus evaluation of hyaluronic acid crosslinking in a nanoscopic part of articular cartilage model system	LIF 211
Coffee break, 16:45 - 17:00			
Session 3A, 17:00 - 18:00			
1.	Virgil-Florin Duma	Macro- and micro-scanners for laser applications: Non-linear characteristics and their impact on biomedical imaging	MTR 001
2.	Larysa Dzyubak, Atul Bhaskar	Transient dynamics of impacting beams with lost connection	NON 196
3.	Liubov Klimina, Anna Masterova, Yury Selyutskiy, Shyh-Shin Hwang, Ching-Huei Lin	On dynamics of a Savonius rotor-based wind power generator	STA 080
4.	Piotr Kędzia, Krzysztof Magnucki, Mikołaj Smyczyński, Iwona Wstawska	Stability of a rectangular plate under dynamic load generated by unhomogeneous magnetic field	STA 050
Session 3B, 17:00 - 18:00			
1.	Lidiya Kurpa, Tetyana Shmatko, Jan Awrejcewicz	Free vibration analysis of laminated functionally graded shallow shells by the R-functions method	NUM 138
2.	Martin Svoboda, Václav Schmid, Josef Soukup	Modal analysis of the vehicle model	NUM 208
3.	Alena Zemanová, Tomáš Plachý, Jaroslav Schmidt, Tomáš Janda, Jan Zeman, Michal Šejnoha	Numerical and experimental modal analysis of laminated glass beams	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</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.	Eduard Sebastian Csukas, Virgil-Florin Duma	<i>Finite Element Analysis of optomechatronic choppers with rotational shafts</i>	CON 002
<b>Banquet, 19:00 - 22:00</b>			
<b>2. Tuesday, December 12, 2017</b>			
<b>8:00 - 19:00 Trip to Warsaw</b>			
<b>Session S1-1, 14:00 - 15:30</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</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</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 Warmański, Jarosław Latański, 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.	Grzegorz Kudra, Michał Szewc, Michał Ludwicki, Krzysztof Witkowski, Jan Awrejcewicz	<i>Modelling of rigid body dynamics with spatial frictional contacts</i>	MAT 291
<b>Session S6-2, 15:45 - 17:15</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</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</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</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, Ailton 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</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</b>			
1.	Olga Mazur, Atul Bhaskar	<i>Thermal buckling of triangular plates</i>	STA 223
2.	Akinwale Olutimo	<i>On the stability and ultimate boundedness of solutions for certain third order non-autonomous delay differential equations</i>	STA 336
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</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</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</b>			
1.	Ladislav Půst, Luděk Pešek, Miroslav Byrtus	<i>Flutter running waves in turbine blades cascade</i>	VIB 015
2.	Ladislav Půst, 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</b>			
1.	Katica (Stevanovic) Hedrih	<i>Energy dissipation, free and forced modes in dynamics of two classes of fractional order systems</i>	MAT 104
2.	Katica R. (Stevanović) Hedrih	<i>Partial fractional order differential equations of transversal vibrations of an axially moving hybrid multi-belt system on the nonlocal theory</i>	VIB 105
3.	Antonin Svoboda, Josef Soukup	<i>Stimulation of nerve endings via medical device</i>	VIB 207
4.	Pavel Polach, Luboš Smolík, Jan Rendl, Michal Hajžman	<i>Influence of plain journal bearing parameters on the rotor nonlinear behaviour</i>	VIB 231
<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</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.	Dariusz Grzelczyk, Jan Awrejcewicz	<i>Calculation of the transmission and reflection coefficients of the light falling on the cholesteric liquid crystals</i>	ENG 349
<b>Session 6B, 9:50 - 11:05</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.	Tomasz Kik, Bernard Wyględacz	<i>Application of numerical simulation in thermal cycle acquisition errors identification</i>	EXP 295
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</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>	<i>Variable structure systems with sliding modes</i>	
<b>Coffee break, 12:00 - 12:10</b>			
<b>Session 7A, 12:15 - 13:30</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.	Paweł Zdziebko, Adam Martowicz, Tadeusz Uhl	<i>Contact force control for a high speed pantograph using co-simulations</i>	CON 259
4.	Wiesław Fiebig	<i>Accumulation of the energy in mechanical resonance</i>	ENG 237
5.	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 - 13:30</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.	Paweł Olejnik, Jan Awrejcewicz, Michal Fečkan	<i>Mathematical models of two parametric pendulums with modulated length</i>	ENG 004
5.	Olga Szymanowska, Bartłomiej Zagrodny, Wojciech Kunikowski, Jan Awrejcewicz, Paweł Olejnik	<i>Experimental investigation of a human-like rib cage model subjected to an impact load</i>	LIF 162
<b>Session 7C, 12:15 - 13:30</b>			
1.	Irina Demiyanshko, Aleksandr Vakhromeev, Evgeny Loginov, Violetta Mironova	<i>The dynamic behavior of the vehicle wheels under impact loads - FEM and experimental researches</i>	MAT 054
2.	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
3.	Mateusz Saków, Krzysztof Marchelek, Arkadiusz Parus, Mirosław Pajor and Karol Miądlicki	<i>Signal prediction in bilateral teleoperation with force-feedback</i>	MTR 039
4.	Mateusz Wojna, Grzegorz Wasilewski, Jan Awrejcewicz, Adam Wijata	<i>Dynamics of a double physical pendulum with magnetic interaction</i>	BIF 307
5.	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
<b>Closing of the conference, 13:35 - 13:55, assembly hall</b>			
<b>Lunch, 14:00 - 15:15</b>			