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31 International Conference Vibrations in Physical and Technical Systems

Wednesday

9.00-9.30	**Opening ceremony**	
9.30-10.45	**Chairman: MICHAŁ GUMINIAK**	
9.30-10.15	**Plenary lecture** <u>Marcin Kamiński</u> Rafał Bredow	On application of probabilistic entropies in structural vibrations
10.15-10.30	Mieczysław Kuczma	Dynamics of shape memory alloy truss structures
10.30-10.45	<u>Przemysław Litewka</u> Roman Lewandowski	Modeling of temperature influence on harmonic vibrations of viscoelastic layered plates
10.45-11.15	**Coffee break**	
11.15-12.30	**Chairman: PRZEMYSŁAW LITEWKA**	
11.15-11.30	<u>Agnieszka Tomaszewska</u> Milena Drozdowska Piotr Aschenbrenner	Modal identification for the muscle rehabilitation progress monitoring
11.30-11.45	<u>Milena Drozdowska</u> Anna Szafrańska Agnieszka Tomaszewska	Uncertainty of modal characteristics in structural damage detection: a study on beam using two modal analysis techniques
11.45-12.00	<u>Roman Starosta</u> Paweł Fritzkowski	Inertial drive of a body sliding on a horizontal plane
12.00-12.15	<u>Piotr Kędzia</u> Krzysztof Magnucki	Free flexural vibration o a functionally graded rectangular plate
12.15-12.30	<u>Bartosz Kruszyński</u> Filip Sarbinowski	Comparison of the efficiency of two flow energy harvesting technologies
12.30-13.45	**Photo + Lunch**	
13.45-14.30	**Chairman: MIECZYSŁAW KUCZMA**	
	Plenary lecture Marcos Valdebenito	Advanced simulation methods for analysis and design in stochastic linear dynamics

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14.30-15.45	**Chairman: JERZY RAKOWSKI**	
14.30-14.45	Piotr Kowalski Adrian Alikowski	Determination of the resonant frequency of the anti-vibration metamaterial under sinusoidal and noise signal forcing-analysis of experimental and numerical results
14.45-15.00	Ali Fasihi Grzegorz Kudra Maryam Ghandchi Tehrani Jan Awrecewicz	Nonlinear dynamics of simply supported spinning pipes conveying fluid
15.00-15.15	Mohammad Parsa Rezaei Grzegorz Kudra Mojtaba Ghodsi Krzysztof Witkowski Jan Awrejcewicz	Nonlinear Henky's beam model for beam structures
15.15-15.30	Muhammad Junaid U Rehman Grzegorz Kudra Jan Awrejcewicz	Analysis of 1DOF and 2DOF mechanical parametric oscillator by analitical and numerical approach
15.30-15.45	Magdalena Sosnowska Magdalena Lachowicz Adam Podhorecki	A new formulation of the problem of thermodiffusion with large changes in temperature and concentration of the diffusing substance
15.45-16.15	**Coffee break + poster session**	
poster	Jerzy Rakowski Dariusz Buchaniec	Application of the finite difference method (FDM) in dynamic calculations of variable cross-section beams
16.15-17.45	**Chairman: ALEXANDER PROKOPENYA**	
16.15-16.30	Stanisław Strzelecki	Effect of turbulent oil film on the dynamic characteristics of 2-lobe journal bearings
16.30-16.45	Małgorzata Abramowicz Piotr Szewczyk Karol Federowicz	Experimental determination of dynamic and static elastic modulus o high-performance lightweight concrete
16.45-17.00	Agnieszka Pełko-Sawenko Małgorzata Abramowicz	Damage detection in steel-concrete composite beams using methods wavelet transform, mode shape curvature-based and the residual force

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17.00-17.15	Klaudia Pędziwiatr Małgorzata Abramowicz	Determination of natural frequencies of steel-concrete composite floor using RFEM 6 software
17.15-17.30	Henryk Ciurej	Sensitivity analysis of multiple eigenvalues and associated eigenvectors of quadratic eigenproblem
17.30-17.45	Leon Budzicz Jerzy Cieślik Henryk Ciurej	Simulation of explosive demilition of a cooling tower for various pre-weaking effects
18.00-20.00	**Sandwich dinner**	

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Thursday

8.30-10.00	**Chairman: MARCIN KAMIŃSKI**	
8.30-9.15	**Plenary lecture** Roman Lewandowski Przemysław Litewka	Free and steady-state vibration o viscoelastic beams and plates
9.15-9.30	Andrzej Rysak Martyna Sedlmayr	Estimation of the numerical error of the solution of a nonlinear dynamic system by reference to the law of physics
9.30-9.45	Hanna Weber Radosław Iwankiewicz	The influence of temperature changes on the non-linear dynamic response of the guy line in the guyed tower to stochastic seismic excitation
9.45-10.00	Małgorzata Jarosińska	Changes in the damping ratio and energy transfer ratio due to damage to the composite beam
10.00-10.30	**Coffee break**	
10.30-11.45	**Chairman: AGNIESZKA TOMASZEWSKA**	
10.30-10.45	Marcin Kamiński Michał Guminiak Zdzisław Pawlak Magdalena Łasecka-Plura Maciej Przychodzki	Stochastic eigenvibrations of plane frames with flexible viscoelastic nodes
10.45-11.00	Marcin Kamiński Michał Guminiak Agnieszka Lenartowicz Maciej Przychodzki	Selected problems of stochastic dynamics of plates
11.00-11.15	Marcin Kamiński Maciej Przychodzki Michał Guminiak Agnieszka Lenartowicz	Natural vibrations of plates resting on viscoelastic supports with randomly variable parameters
11.15-11.30	Robert Salamon Grażyna Sypniewska-Kamińska Henryk Kamiński	Estimation of parameters of the mathematical model of air resistance force for Euler's pendulum

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11.30-11.45	Aleksandra Rachwalska <u>Grzegorz Cieplok</u>	Coupling the LIGGGHTS Solver with an external system of differential equations
11.45-12.00	**Coffee break**	

12.00-13.15 Chairman: ZDZISŁAW PAWLAK

12.00-12.15	<u>Tomasz Walczak</u> Michał Guminiak Marcin Kamiński	Estimation of the dynamic gait parameters with the probabilistic approach
12.15-12.30	<u>Weronika Kandulska</u> Matylda Kryś Tomasz Walczak	Estimating moments of forces in human joints using artificial intelligence methods
12.30-12.45	<u>Matylda Kryś</u> Weronika Kandulska Tomasz Walczak	Application of artificial neural networks to determine the human center of mass
12.45-13.00	<u>Anna Knitter-Piątkowska</u> Olga Kawa Michał Guminiak	Damage localization in the main steel structural elements using a dynamic structural response signal and discrete wavelet transform
13.00-13.15	Tomasz Garbowski <u>Anna Knitter-Piątkowska</u> Tomasz Gajewski Damian Mrówczyński	Enhanced dynamic strength analysis of corrugated board packaging under transport loads
13.15-14.15	**Lunch**	

14.15-16.15 Chairman: ANDRZEJ RYSAK

14.15-14.30	<u>EC TEST SYSTEMS</u>	Presentation by the Representative of EC TEST SYSTEMS - the partner of the VibSys Conference
14.30-14.45	<u>Tomasz Garbowski</u> Maciej Zaborowicz Aram Cornaggia Przemysław Borecki	Optimizing sensor placement for vibration and deflection analysis in bridge structures
14.45-15.00	Maciej Obst	Static and dynamic tests of LDPE film made from recycled materials
15.00-15.15	Dariusz Kurpisz	Experimental investigations in range of glued joints

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15.15-15.30	Wiktor Rakowski Konrad Woźniak Maciej Obst Dariusz Kurpisz Sebastian Głowiński	Test stand for dynamic testing of pneumatic energy absorbers
15.30-15.45	Magda Kaźmierczak-Sobińska Jarosław Jędrysiak	Vibrations of functionally graded thin plates with various size of microstructure
15.45-16.00	Maria Teresa Tejedor-Sastre Elena Carreras Casanova Christian Vanhille	Some recent results on the nonlinear propagation of ultrasound in bubbly media
16.00-16.15	Ewelina Ogińska Dariusz Grzelczyk Jan Awrejcewicz Grzegorz Wasilewski	Dynamics of a physical pendulum forced by neodynium magnet and electric coils
16.15-18.30	**Excursion**	
18.30-21.00	**Gala dinner**	

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Friday

8.30-10.00	**Chairman: ROMAN STAROSTA**	
8.30-9.15	**Plenary lecture** Alba Sofi	Dynamic analysis of linear and nonlinear beams with fractional derivative elements crossed by moving loads
9.15-9.30	Zdzisław Pawlak Zbigniew Pozorski Civan Yavas	Reduction of excessive vibrations of bar structures by viscoelastic layers embedded in the nodes
9.30-9.45	Civan Yavas Zdzisław Pawlak Olga Kawa	Evaluation of the energy dissipation capacity of the damping tape system depending on its configuration
9.45-10.00	Anna Sygulska Jerzy Suchanek	Acoustic adaptation of the auditorium in the cultural centre in Pobiedziska
10.00-10.30	**Coffee break**	

10.30-11.45	**Chairman: ANNA KNITTER-PIĄTKOWSKA**	
10.30-10.45	Alexander Prokopenya	Periodic motion of a swinging atwood's machine with two oscillating masses
10.45-11.00	Andrzej Urbaś Jacek Stadnicki	Development of dynamics metamodel concepts of an eccentric crank-rocker mechanisms
11.00-11.15	Tamara Fastovska Dirk Langemann Iryna Ryzhkova	Nonlinear dynamics and asymptotic behaviour of bresse beams with transmission boundary conditions
11.15-11.30	Wojciech Siekierski Krzysztof Ziopaja	The analysis of the impact of slab track application on dynamic behaviour of existing short steel bridges
11.30-11.45	Izabela Kowalczyk Łukasz Domagalski	Optimization and analysis of plates with variable stiffness distribution in terms of dynamic properites
11.45-12.00	**Break**	

12.00-13.15	**Chairman: WOJCIECH SIEKIERSKI**	
12.00-12.15	Mykhailo Marchuk Volodymyr Bodnar Vira Pakosh	The behavior of a plate strip compliant to transversal shear in transonic and hypersonic lows
12.15-12.30	Serhii Kharchenko Sylwester Samborski Farida Kharchenko	Research on the effectiveness of vibrating sieve sifters

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12.30-12.45	Valerii Chikovani Serhii Holovach Hryhorii Strokach Vadym Avrutov	The development features and design of a vibratory gyroscope with a metallic cylindrical resonator
12.45-13.00	Elif Nur Yaşar Gürhan Ertaş	Active vibration control using arduino uno with a DC motor having an eccentric mass
13.00-13.15	Szymon Długosz Rafał Sieńko Łukasz Bednarski	Fibre optic sensor, railway's vibration, strain and displacement measurement system, based on distributed acoustic sensing technology
13-15-13.45	**Closing ceremony**	
13.45-14.45	**Lunch**	

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