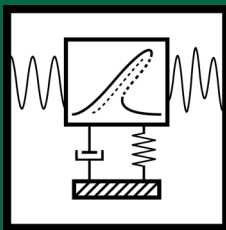


International Conference VIBROENGINEERING

Brno, Czech Republic
31st August – 1st September, 2016



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THE 21-ST INTERNATIONAL VIBROENGINEERING CONFERENCE

**31-st August – 1-st September 2016, Brno, Czech Republic
PROGRAM**

The 21-st International VIBROENGINEERING Conference will be held on August 31 – September 01, 2016 in Brno, one of the main industrial cities in Czech Republic. Scientists from different Countries (China, Russia, Lithuania, Czech Republic, Poland, Turkey and India) will present their latest research results during the Conference. Its purpose is to provide a platform for scientists, engineers and practitioners throughout the world to exchange ideas and present their latest research results in the areas of civil infrastructure, typically bridge engineering, hydraulic engineering, offshore engineering, and transportation structures, in order to further promote the Vibroengineering and its applications. The Conference is organized by JVE International in partnership with Brno University of Technology. The venue for the conference is Hotel Bobycentrum.

The main theme of the conference will be – but not limited to - Noise and vibrations in automotive industries and transportation engineering.

Conference Topics: Modelling & Simulation in Vibroengineering, Measurement & Signal Processing, Vibration Coupling & Interaction, Modal Analysis & Identification, Nonlinear Vibration & Dynamics, Noise & Uncertainty & Control, Diagnostics, Monitoring & Assessment, Biomedical Vibration Engineering.

Internationally renowned invited speakers and contributing authors from all over the world will present the latest advances in the thriving area of Vibroengineering. This conference will feature a broad range of high-level technical papers from all over the world. Invited distinguished experts will present

brilliant presentations for our technical sessions and discussions with a focus on the conference theme. The conference will provide you with an opportunity to communicate with other scientists and engineers about recent research advances, and exchange ideas in innovative science and technologies, meet old friends and make new business partners in the areas of civil infrastructure, typically bridge engineering, hydraulic engineering, offshore engineering, and transportation structures.

All accepted short papers (4-6 pages length Proceedings format) intend to address the hottest issues in Vibroengineering of dynamical systems and will be published in VIBROENGINEERING PROCEDIA.

The program of the Conference is arranged into one Invited Speakers Session and 6 Oral Sessions at Hotel Bobycentrum. On behalf of the Organizing Committee, we would like to welcome the delegates to International Conference VIBROENGINEERING 2016.

Conference Program

Day 0: August 30

Location: Hotel Bobycentrum

17:00-21:00	Registration (at the Conference Registration Desk)
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Day 1: August 31

Location: Hotel Bobycentrum

08:15	Bus Transport from Hotel Bobycentrum to Brno University of Technology
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Day 1: August 31

Location: Brno University of Technology

07:00-10:00	Registration (at the Conference Registration Desk)
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Day 1: August 31

Location: Brno University of Technology

09:00-09:05	Opening Ceremony Welcome Message from the Dean of Mechanical Engineering Department, Brno University of Technology
09:05-09:20	Opening Speech Prof. Minvydas Ragulskis “VIBROENGINEERING – Past, Present and the Future”

Day 1: August 31

Location: Brno University of Technology

	Invited Key-Note Speakers Session
	Session Chairs Prof. Václav Píšťek (Czech Republic) and Prof. Minvydas Ragulskis (Lithuania)
09:20-09:50	Invited Talk by Prof. Jiří Tůma (Czech Republic) “Actively controlled journal bearing enabling to expand limits of stability”
09:50-10:20	Invited Talk by Dr. Yujie Cheng (China) “Vibration-based fault diagnosis and performance assessment: A method using visual cognition”
10:20-10:50	Invited Talk by Dr. Rudolf Martonka (Czech Republic) “Live tests of car seats”
10:50-11:20	Invited Talk by Dr. Hang Yuan (China) “Fault diagnosis for electromechanical components based on the compressed sensing”

Day 1: August 31		Location: Brno University of Technology
11.20-12:20	Lunch	

Day 1: August 31		Location: Technical Museum
12.30-14:30	EXCURSION to Technical Museum	

Day 1: August 31		Location: Technical Museum
14:30	Bus Transport from Technical Museum to Hotel Bobycentrum	

Day 1: August 31		Location: Hotel Bobycentrum
	ORAL SESSION 1	
	Session Chairs Dr. Yujie Cheng (China) and Prof. Václav Pištěk (Czech Republic)	
15:00-15:15	Prof. Václav Pištěk “Rheological models of high viscosity silicone fluids”	
15:15-15:30	Dr. Pavel Kučera “Truck vibrations caused by unbalanced rotating shaft”	
15:30-15:45	Dr. Pavel Novotny “Complex strategy for a development of highly elastic couplings”	
15:45-16:00	Dr. Grzegorz Żak “Generalized dependency maps based on fractional lower order covariance in application to local damage detection”	
16:00-16:15	Dr. Mikhail Sharonov “Building and optimizing a model of low level for two-phase filtration”	
16:15-16:30	Dr. Michal Janousek “Truck driveline vibration modeling using multi-body system”	

Day 1: August 31		Location: Hotel Bobycentrum
16.30-17:00	Coffee Break	

Day 1: August 31

Location: Hotel Bobycentrum

	ORAL SESSION 2
	Session Chair Dr. Hang Yuan (China) and Dr. Merin Thomas (India)
17:00-17:15	Dr. Petr Lepšík “Loss factor estimation of the plywood materials”
17:15-17:30	Dr. Mikhail Sharonov “Building surrogate models for two-phase flow of fluids in porous media based spatial radial basis approximation”
17:30-17:45	Dr. Tien Tran Xuan “Simulation model of seat with implemented pneumatic spring”
17:45-18:00	Dr. Jozef Dluhoš “Difficulties in computational modelling of piston/liner interaction”

Day 1: August 31

Location: Hotel Bobycentrum

19:00-24.00	GALA DINNER
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Day 2: September 1

Location: Hotel Bobycentrum

	ORAL SESSION 3
	Session Chairs Dr. Pavel Novotný (Czech Republic) and Dr. Michal Pająk (Poland)
09:00-09:15	Dr. Darius Mažeika “Cleaning of the surface contaminated by micro-particles by means of vibrations”
09:15-09:30	Dr. Krzysztof Michalczyk “The influence of damping coating geometrical-material parameters on helical spring longitudinal vibration amplitudes”
09:30-09:45	Dr. Altan Onat “A linear Kalman filtering scheme for estimation of secondary vertical suspension of railway vehicles”
09:45-10:00	Dr. Mikhail Sharonov “Generalized mathematical model of a linear single-axis accelerometer as an integral part of the inclinometer”
10:00-10:15	Dr. Merin Thomas “Suppression system for offshore cylinders under vortex induced vibration”
10:15-10:30	Dr. Mikhail Sharonov “Radial basis approximation of single-phase flow in porous media based on Green’s function”

Day 2: September 1

Location: Hotel Bobycentrum

10.30-11:00	Coffee Break
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Day 2: September 1

Location: Hotel Bobycentrum

	ORAL SESSION 4
	Session Chairs Prof. Chen Lu (China) and Dr. Kamil Rehak (Czech Republic)
11:00-11:15	Dr. Lubomír Drápal “Investigation of torsional vibration of unconventional crank train”
11:15-11:30	Dr. Michal Paják “Rotating systems misalignment identification using fuzzy clustering method”
11:30-11:45	Dr. Darius Mažeika “Design and the main parameters of the tube-shaped ultrasound wave guide wire”
11:45-12:00	Dr. Bartłomiej Kasprzyk “Comparison of numerical analyses with the real frequency test for the distribution transformer based on the natural frequencies and mode shapes”
12:00-12:15	Dr. Mikhail Sharonov “Methods of physical impact of natural gas in order to improve the safety of its transportation through main pipelines”
12:15-12:30	Dr. Pavel Novotný “Computational simulation of the turbocharger rotor mechanical noise”

Day 2: September 1

Location: Hotel Bobycentrum

12.30-14:00	Lunch
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Day 2: September 1

Location: Hotel Bobycentrum

	ORAL SESSION 5
	Session Chairs Dr. Yujie Cheng (China) and Dr. Pavel Novotný (Czech Republic)
14:00-14:15	Dr. Onur Kılınç “Fault severity detection of ball bearings and efficiency of one-period analysis in early fault diagnosis of rotating machinery”
14:15-14:30	Dr. Mikhail Sharonov “Modelling of flow of two-phase mixture in curved channel pipeline”
14:30-14:45	Dr. Jacek Wodecki “A new segmentation method of roadheader signal based on the statistical analysis of waiting times”

14:45-15:00	Dr. Ales Prokop “Numerical simulation of single stage gearbox with tooth damage”
15:00-15:15	Dr. L. Pešík “Comparison of hydraulic and pneumatic damping of driver’s seats”
15:15-15:30	Dr. Piotr Kruczek “Diagnostics of bearings in hoisting machine by cyclostationary analysis”

Day 2: September 1

Location: Hotel Bobycentrum

15:30-15:45	Coffee Break
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Day 2: September 1

Location: Hotel Bobycentrum

	CLOSING SESSION
15:45-16:05	Pavel Fišer (VIBRATION RESEARCH Eastern Europe Country Manager) “Acceleration of vibration testing by Fatigue Damage Spectrum”
16:05-16:15	BEST PAPERS AWARDS
16.15-16.20	CONCLUDING REMARKS – CLOSING SESSION Dr. Kamil Rehak and Prof. Minvydas Ragulskis

Day 2: September 1

Location: Hotel Bobycentrum

17:00-19:00	BEER TASTING AT BREWERY “LUCKY BASTARD”
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