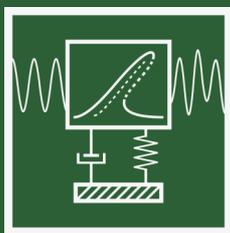


The 32nd International Conference on VIBROENGINEERING

Brno, Czech Republic
May 22-24th, 2018



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The 32nd International Conference on VIBROENGINEERING

Dynamics and Acoustics in Automotive Engineering

22-24th May 2018, Brno, Czech Republic



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The 32nd International Conference on VIBROENGINEERING will be held during 22-24th of May 2018 in Brno, Czech Republic. 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 order to further promote the Vibroengineering and its applications to the aerospace, automobile, energy and other industries. The Conference is organized by **JVE International** in partnership with **Brno University of Technology**.

The main theme of the conference focuses on (but not limited to):
Dynamics and Acoustics in Automotive Engineering.

General Topics of the Conference:

- Acoustics, Noise Control and Engineering Applications
- Chaos, Nonlinear Dynamics and Applications
- Fault Diagnosis Based on Vibration Signal Analysis
- Flow Induced Structural Vibrations
- Fractional Dynamics and Applications
- Mechanical Vibrations and Applications
- Modal Analysis and Applications
- Oscillations in Biomedical Engineering
- Oscillations in Electrical Engineering
- Seismic Engineering and Applications
- Vibration Generation and Control
- Vibration in Transportation Engineering

Internationally renowned invited speakers and contributing authors from all over the world will present the latest advances in the area of Vibroengineering. This conference will feature a broad range of high-level technical presentations including invited distinguished experts. The conference will provide an opportunity to communicate your recent research advances, exchange ideas in innovative engineering technologies, meet old friends and make new business partners in the area of Vibroengineering. With your participation, this Conference will prove to be an exciting scientific event, a fruitful opportunity to promote scientific research and technological development of Vibroengineering and its applications.

With your participation, this conference will prove to be a very exciting event, a fruitful opportunity, to promote scientific research and technological development of vibration engineering and its applications.

All papers presented at VIBROENGINEERING Conferences are published as short Conference papers in Vibroengineering PROCEDIA. Conference papers published in Vibroengineering PROCEDIA are indexed in EI Compendex, Scopus, Inspec, Gale Cengage, EBSCO, Google Scholar and CNKI Scholar.

The authors of best papers presented at the Conference will be invited to prepare the extended version of their papers (10-20 pages) which will be considered for publication in Journal of VIBROENGINEERING (indexed in Web of Science, EI Compendex, EBSCO, Gale Cengage and

Inspec), Journal of Measurements in Engineering (indexed in Web of Science, EI Compendex, EBSCO, Gale Cengage and Inspec) and Journal of Mathematical Models in Engineering (indexed in EBSCO, Gale Cengage).

The Conference Venue is at Rectorate of Brno University of Technology - Antonínská 548/1, 601 90 Brno.

On behalf of the Organizing Committee, we would like to welcome the delegates to the 32nd International Conference on VIBROENGINEERING. We hope that you would enjoy the conference and find the program of the Conference exciting. We look forward to meeting you in May 2018 in Brno.



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Chairs:

Prof. **Vaclav Pistek** (Brno University of Technology, Czech Republic)

Dr. **Kamil Rehak** (Brno University of Technology, Czech Republic)

Dr. **Ales Prokop** (Brno University of Technology, Czech Republic)

Prof. **Minvydas Ragulskis** (JVE International, Lithuania)

Organizing Committee:

Lu Chen (Beihang University, China)

V. Babitsky (Loughborough University, UK)

M. Bayat (Roudehen Branch, Islamic Azad University, Iran)

K. Bousson (University of Beira Interior, Portugal)

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V. Volkovas (Kaunas University of Technology, Lithuania)

J. Wallaschek (Leibniz University Hannover, Germany)

Mao Yuxin (Zhejiang Gongshang University, China)

M. Zakrzhevsky (Riga Technical University, Latvia)



Conference Program

Day 0: May 22

Location: Brno University of Technology

16:00-19:00	Registration
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Day 1: May 23

Location: Brno University of Technology

09:00-10:00	Registration
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Day 1: May 23

Location: Brno University of Technology

	PLENARY SESSION Session Chairs: Tautvydas Ragulskis and Dr. Kamil Rehak
10:00-10:05	Conference Opening Ceremony
10:05-10:20	Welcome Speech: Tautvydas Ragulskis . Vibroengineering – past, present and the future
10:20-10:40	Invited Keynote Lecture: Shigeki Toyama , (Tokyo Noko University of Technology, Japan) Ultrasonic stent motor
10:40-11:00	Invited Keynote Lecture: Petr Porteš, Lubor Zháňal, Jan Fojtášek , (Brno University of Technology, Czech Republic) Complex Approach to Computations and Analysis of Vehicle Dynamics
11:00-11:20	Invited Keynote Lecture: Alexander Shokhin , (Mechanical Engineering Research Institute of the Russian Academy of Sciences, Russia) Experimental analysis of the oscillations of two-mass system with self-synchronizing unbalance vibration exciters
11:20-11:40	Presentation by Vibration Research Corporation



Day 1: May 23

Location: Brno University of Technology

11:40-12:00	Coffee Break
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Day 1: May 23

Location: Brno University of Technology

	ORAL SESSION 1 Session Chairs: Dr. Kamil Rehak and Dr. Hao Zhang
12:00-12:15	Maja Anachkova. Impact testing of end-winding in two hydro generators in different temperature state
12:15-12:30	Lubomír Drápal. Investigation of an engine block load by means of crank train rotating parts
12:30-12:45	Hao Zhang. A method for describing large rotations with a combination of axial and transverse Euler vectors
12:45-13:00	Mária Tješšová. Assessment of dynamic effects on spine due to different dynamic loading or various seating position in a car
13:00-13:15	Pavel Novotny. Simulation approach for a solution of turbocharger rotordynamic noise
13:15-13:30	Pavel Kučera. Transmission error analysis for heavy-duty gearbox

Day 1: May 23

Location: Brno University of Technology

13:30-14:45	Lunch
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Day 1: May 23

Location: Brno University of Technology

	ORAL SESSION 2 Session Chairs: Dr. Aleš Prokop and Dr. Prabhakar Sathujoda
14:45-15:00	Martin Jonak. Experimental verification of the power required for the movement of the tracked vehicle
15:00-15:15	Aleš Prokop. Heavy-duty transmission gear shift investigation by virtual prototypes
15:15-15:30	Prabhakar Sathujoda. Shaft crack detection during shut-down using continuous wavelet transform
15:30-15:45	Jan Fojtasek. Heavy commercial vehicle yaw control simulation
15:45-16:00	Roman Zajac. Determination of the modal parameters on the thin flat structures
16:00-16:15	Kamil Rehak. Parameter effecting the experimental determination of modal properties



16:15-16:30	Dmitry Kondratov. Hydroelasticity of three elastic coaxial shells interacting with viscous incompressible fluids between them under vibration
16:30-16:45	Toufik Djedid. Active control of the nonlinear bending behavior of magnetorheological elastomer sandwich beam with magnetic field

Day 1: May 23

Location: Brno University of Technology

	CLOSING SESSION Session Chairs: Tautvydas Ragulskis and Dr. Kamil Rehak
16:45-17:00	Closing Ceremony

Day 2: May 24

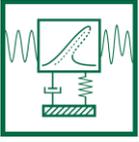
Location: Brno University of Technology

	VOLUNTARY EXCURSION
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Conference Location

Conference opening ceremony and conference sessions will be held in Brno University of Technology, Rectorate conference room. The address is Rectorate of Brno University of Technology – Antonínská 548/1, 601 90 Brno.





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