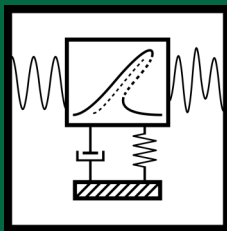


# International Conference VIBROENGINEERING

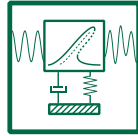
Liberec, Czech Republic  
May 30th – June 1st, 2017



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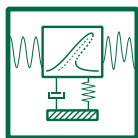


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**The 25<sup>th</sup> International Conference on VIBROENGINEERING**

**May 30th – June 1st, 2017 in Liberec, Czech Republic**



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## **International Conference on VIBROENGINEERING**

May 30 – June 01, 2017 in Liberec, Czech Republic.

The main theme of the Conference: **“Vibration and Acoustics in Automotive Industries – Problems and Applications”**

Topics of the Conference:

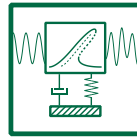
- Acoustics, Noise Control and Engineering Applications
- Chaos, Nonlinear Dynamics and Applications
- Fault Diagnosis Based on Vibration Signal Analysis
- Flow Induced Structural Vibrations
- Fractional Dynamics and Applications
- Mechanical Vibrations and Applications
- Modal Analysis and Applications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

International Conference on VIBROENGINEERING will be held in Liberec, 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 and Technical University of Liberec.

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.

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

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 SCI and other major databases) and other esteemed International Journals.

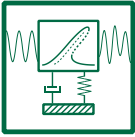


### **Chairs of the Conference:**

Rudolf Martonka (Technical University of Liberec, Czech Republic)  
Minvydas Ragulskis (Kaunas University of Technology, Lithuania)

### **Members of the Organizing Committee:**

Ladislav Ševčík (Technical University of Liberec, Czech Republic)  
Lubomír Pešík (Technical University of Liberec, Czech Republic)  
Petr Lepšík (Technical University of Liberec, Czech Republic)  
V. Babitsky (Loughborough University, UK)  
M. Bayat (Tarbiat Modares University, Iran)  
K. Bousson (University of Beira Interior, Portugal)  
I. Blekhnman (Mekhanobr - Tekhnika Corporation, Russia)  
M. Brennan (University of Southampton, UK)  
R. Burdzik (Silesian University of Technology, Poland)  
M. S. Cao (Hohai University, China)  
Lu Chen (Beihang University, China)  
F. Chernousko (Institute for Problems in Mechanics, Russia)  
Z. Dabrowski (Warsaw University of Technology, Poland)  
J. Duhovnik (University of Ljubljana, Slovenia)  
Y. Davydov (Institute of Machine Building Mechanics, Russia)  
R. Ganiev (Blagonravov Mechanical Engineering Research Institute, Russia)  
W. H. Hsieh (National Formosa University, Taiwan, R.O.C.)  
V. Lyalin (Izhevsk State Technical University, Russia)  
R. Maskeliūnas (Vilnius Gediminas Technical University, Lithuania)  
L. E. Muñoz (Universidad de los Andes, Colombia)  
G. Panovko (Blagonravov Mechanical Engineering Research Institute, Russia)  
N. Perkins (University of Michigan, USA)  
L. Qiu (Nanjing University of Aeronautics and Astronautics, China)  
S. Rakheja (Concordia University, Canada)  
V. Royzman (Khmelnytskyi National University, Ukraine)  
M. A. F. Sanjuan (University Rey Juan Carlos, Spain)  
A. El Sinawi (The Petroleum Institute, United Arab Emirates)  
G. Song (University of Houston, United States of America)  
S. Toyama (Tokyo A&T University, Japan)  
K. Uchino (The Pennsylvania State University, USA)  
A. Vakhguel't (Nazarbayev University, Kazakhstan)  
P. Vasiljev (Vilnius Pedagogical University, Lithuania)  
V. Veikutis (Lithuanian University of Health Sciences, Lithuania)  
J. Viba (Riga Technical University, Latvia)  
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)  
Algazy Zhauyt (Kazakh National Research Technical University, Kazakhstan)



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## Conference Program

**Day 0: May 30**

**Location: Technical University of Liberec**

18:00-21:00	<b>Registration</b>
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**Day 1: May 31**

**Location: Technical University of Liberec**

08:00-09:00	<b>Registration</b>
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**Day 1: May 31**

**Location: Technical University of Liberec**

	<b>PLENARY SESSION</b>
10:00-10:20	Opening Speech: <b>Minvydas Ragulskis.</b> Vibroengineering – past, present and the future.
10:20-10:40	Plenary Speech: <b>Shigeki Toyama.</b> Waterproof ultrasonic motor.
10:40-11:00	Plenary Speech: <b>Rudolf Martonka.</b> Fiber composites for car seats.
11:00-11:20	Plenary Speech: <b>Marco Troncosi.</b> Experimental HALTs with sine-on-random synthesized profiles.

**Day 1: May 31**

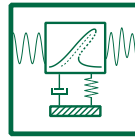
**Location: Technical University of Liberec**

11:30-12:30	<b>Lunch at the University Canteen</b>
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**Day 1: May 31**

**Location: Technical University of Liberec**

	<b>SESSION 1</b> Session Chairs: <b>Rudolf Martonka</b> and <b>Shigeki Toyama</b>
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12:30-12:45	<b>Andrzej Buchacz.</b> Beam elements as approximate models of vibrating mechanical subsystems of freight wagons.
12:45-13:00	<b>Alfredo Reyes-Salazar.</b> Combination rules for steel buildings under seismic loading: MDOF vs SDOF systems.
13:00-13:15	<b>Edén Bojórquez.</b> Maximum inter-story drift demands of steel frames in terms of the intensity measure INp.
13:15-13:30	<b>Onur Kilinc.</b> Vibration based diagnosis of wheel defects of metro train sets using one period analysis on the wayside.
13:30-13:45	<b>Petr Kulhavy.</b> Comparison of modal characteristic of wrapped and winded composite tubes from carbon prepreg.
13:45-14:00	<b>Pavel Kučera.</b> Analyses of truck powertrain torque and vibration.

**Day 1: May 31**

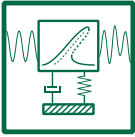
**Location: Technical University of Liberec**

14:00-14:30	<b>Coffee Break</b>
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**Day 1: May 31**

**Location: Technical University of Liberec**

	<b>SESSION 2</b> Session Chairs: <b>Marco Troncosi</b> and <b>Minvydas Ragulskis</b>
14:30-14:45	<b>Hely Gonzalez-Rivera.</b> Nanometric displacement measurement based on interference fringes deflection.
14:45-15:00	<b>Francisco Javier Alvarez Ramirez.</b> Low-intensity acoustic waves detection using an interferometer.
15:00-15:15	<b>Petr Kulhavy.</b> Study of the acoustic attenuation in plaster composites in dependency on added fiber reinforcement.



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15:15-15:30	<b>Ondrej Novak.</b> Numerical simulation and measurement of car strut under shock vibration.
15:30-15:45	<b>Jiayu Chen.</b> An approach to fault diagnosis for rotating machinery based on feature reconstruction with LCD and t-SNE.
15:45-16:00	<b>Jiayu Chen.</b> A fault diagnosis method for a practical engineering application based on CEEMD and ELM.
16:00-16:15	<b>Elias Tomeh, Tomáš Oudrnický.</b> Influence of gear grip quality on noise levels of gearbox.
16:15-16:30	<b>Jan Novák.</b> Measurement of speed irregularities.
16:30-16:45	<b>Elias Tomeh, Tomáš Oudrnický.</b> Noise level of reverse motion gearing of gearbox.
16:45-17:00	<b>Martin Mazac, Elias Tomeh.</b> Vibration diagnostics of small hydroelectric power station machinery.

**Day 1: May 31**

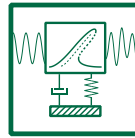
**Location: Technical University of Liberec**

17:00-17:30	<b>Coffee Break</b>
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**Day 1: May 31**

**Location: Technical University of Liberec**

	<b>Closing Session</b>
17:30-17:45	Chairs <b>Dr. Rudolf Martonka</b> and <b>Prof. Minvydas Ragulskis</b> Ideas, Cooperation and Projects Meeting All Conference participants are welcome to attend
17:45-18:00	<b>Best Papers Awards, Closing Ceremony</b>



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**Day 1: May 31**

**Location: Restaurant near Technical University of Liberec**

18:15-19:45	Conference Dinner
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**Day 2: June 01**

10:00	Bus pick up at the Hotel entrance for the excursion to SKODA Factories
10:00-14:00	Back to the Hotel after the Excursion

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