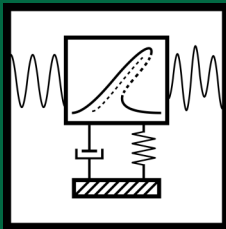


The 29th International Conference on VIBROENGINEERING

Vilnius, Lithuania
December 1st, 2017



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The 29th International Conference on VIBROENGINEERING

Vibration, Ultrasonic, Acoustic Technologies and Applications

1st December 2017, Vilnius, Lithuania



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The 29th International Conference on VIBROENGINEERING will be held during 1st of December 2017 in Vilnius, Lithuania. 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. This Conference is organized by JVE International with the partnership of Vilnius Gediminas Technical University (VGTU).

The main theme of the conference focuses on (but not limited to):

Vibration, Ultrasonic, Acoustic Technologies and Applications.

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 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 diverse areas of vibration engineering.

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, Google Scholar, CNKI Scholar and EBSCO.

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

The Conference Venue is located at Vilnius Gediminas Technical University, Mechanical Engineering Faculty (addr: J. Basanavičiaus g. 28, 03224 Vilnius, Lithuania).

On behalf of the Organizing Committee, we would like to welcome the delegates to the 29th 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 December 2017 in Vilnius.



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

Prof. **Chen Lu**, Beihang University, P. R. China

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J. Viba (Riga Technical University, Latvia)

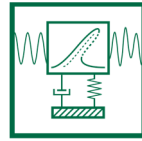
V. Volkovas (Kaunas University of Technology, Lithuania)

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)



Conference Program

Day 1: December 1

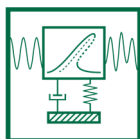
Location: Vilnius Gediminas Technical University

09:00-10:00	Registration
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Day 1: December 1

Location: Vilnius Gediminas Technical University

	PLENARY SESSION Session Chairs: Prof. Minvydas Ragulskis and Prof. Lu Chen
10:00-10:05	Conference Opening Ceremony
10:05-10:20	Welcome Speech: Minvydas Ragulskis . Vibroengineering – past, present and the future
10:20-10:40	Invited Keynote Lecture: Renaldas Raišutis , (Kaunas University of Technology, Kaunas, Lithuania). Ultrasonic measurement and non-destructive techniques for extreme conditions and nonconventional applications
10:40-11:00	Invited Keynote Lecture: Yujie Cheng , (Beihang University, Beijing, P. R. China). Visual cognition: a new approach to fault diagnosis
11:00-11:20	Invited Keynote Lecture: Vytautas Ostaševičius , (Kaunas University of Technology, Kaunas, Lithuania). Sensors and actuators for patient therapy and health monitoring
11:20-11:40	Invited Keynote Lecture: Alfonsas Vainoras , (Lithuanian University of Health Sciences, Kaunas, Lithuania). Local earth magnetic field: approach via frequencies to human health



11:40-12:00	<p>Invited Keynote Lecture: Algimantas Fedaravičius, (Kaunas University of Technology, Kaunas, Lithuania). Military training equipment: research, design and implementation</p>
12:00-12:20	<p>Presentation by Vibration Research Corporation: Pavel Fišer, Using Kurtosion® to Improve Your Random Vibration testing</p>

Day 1: December 1

Location: Restaurant Borsch

12:20-13:20	Lunch
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Day 1: December 1

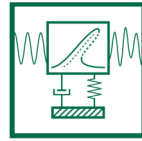
Location: Vilnius Gediminas Technical University

13:20-13:45	POSTER SESSION
P1	Darius Pauliukaitis . Research of synchronization of pneumatic vibroexciters operating on air-cushion with feeding pulsatile pressure
P2	Xinming Zhang . Numerical simulation analysis of valve spool double-nozzle with abrasive flow
P3	Xin Ming Zhang . Numerical simulation analysis of four-step variable-diameter pipe by solid-liquid two-phase grinding
P4	Xiaohua Liang . Analytic study on the foundation of shaker based on AIR spring
P5	Guohong Ma . Transient vibration analysis of BTA deep-hole drilling shaft system
P6	Shouguo Cheng . Dynamics analysis of reciprocating compressor with a clearance between crankshaft and connecting rod
P7	Irina Andreeva . Investigation of a family of cubic dynamic systems

Day 1: December 1

Location: Vilnius Gediminas Technical University

	<p>ORAL SESSION 1 Session Chairs: Prof. Anatoli Vakhguelt and Prof. Lu Chen</p>
13:45-14:00	Ievgeniia Golinka . Vibroacoustic handling and levitation of microparticles in air
14:00-14:15	Sandra Mikuckytė . Numerical study of lateral bending influence on lumbar intervertebral disc
14:15-14:30	Sabine Upnere . Dynamic displacement estimation using data fusion



14:30-14:45	Andrius Romualdas Juknevičius. Analysis of high frequency vibrations and heat impact on human hands
14:45-15:00	Wojciech Jamrozik. Diversity controlled rotating machinery fault detection
15:00-15:15	Aistis Augustaitis. Kinematic characteristics of hollow ball under different braking conditions
15:15-15:30	Tadas Telksnys. Construction of soliton solutions to nonlinear differential equations using operator techniques
15:30-15:45	Anatoli Vakhguelt. Electromagnetic acoustic boiler tubes inspection with robotic device
15:45-16:00	Gražvydas Kazokaitis. Research and analysis of spherical magnetic drive for attitude control on nano satellites

Day 1: December 1

Location: Vilnius Gediminas Technical University

16:00-16:15	Coffee Break
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Day 1: December 1

Location: Vilnius Gediminas Technical University

	ORAL SESSION 2 Session Chairs: Prof. Minvydas Ragulskis and Dr. Yulie Cheng
16:15-16:30	Vilma Petrauskiene. Application of dynamic visual cryptography for optical control of chaotic oscillations
16:30-16:45	Audrius Čereska. Intelligent control and performance evaluation of a novel precise positioning stage
16:45-17:00	Inga Timofejeva. The evaluation of synchronization between human heart rate variability and Earth's magnetic field
17:00-17:15	Algimantas Danilevičius. The investigation of traffic flow dynamics of road with traffic lights
17:15-17:30	Mikalai Zhurauski. Rheological and damping characteristics of adaptive materials for layered structures
17:30-17:45	Giedrius Janušas. Nanoporous aluminum oxide membranes for biomedical micro hydraulic devices
17:45-18:00	Kestutis Pilkauskas. Dynamical behavior of universal rocket transportation launching device on rough road with discrete obstacles
18:00-18:15	Mantas Landauskas. Interpolation based internal smoothing approach to short-term time series prediction
18:15-18:30	Amir Esmael Forouhid. Noise emissions from highway with the use of measuring and modeling
18:30-18:45	Vitalij Chigarev. Theoretical and experimental investigations of micro robots based on piezoelectric triangular plates



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Day 1: December 1

Location: Vilnius Gediminas Technical University

	CLOSING SESSION Session Chairs: Prof. Minvydas Ragulskis and Prof. Lu Chen
18:45-19:00	Closing Ceremony

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