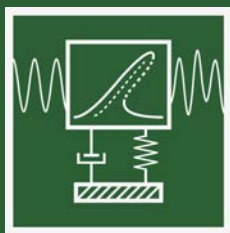


The 43rd International JVE Conference

Bennett University,
Greater Noida (Delhi), India
November 28-30, 2019



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BENNETT
UNIVERSITY

The 43rd International JVE Conference

Dynamics, Noise, Vibration and Smart Materials

November 28-30, 2019

Bennett University, Greater Noida (Delhi), India



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The 43rd International JVE Conference will be held in Bennett University, Greater Noida (Delhi), India. 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 of **Department of Mechanical and Aerospace Engineering, Bennett University** in India.

The main theme of the conference focuses on (but not limited to):
Dynamics, Noise, Vibration and Smart Materials

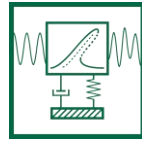
General Topics of the Conference:

- Materials and Measurements in Engineering
- Mathematical Models in Engineering
- Acoustics, Noise Control and Engineering Applications
- Mechanical Vibrations and Applications
- Fault Diagnosis Based on Vibration Signal Analysis
- Vibration Generation and Control
- Seismic Engineering and Applications
- Modal Analysis and Applications
- Vibration in Transportation Engineering
- Flow-induced Structural Vibrations
- Biomechanics and Biomedical Engineering
- Chaos, Non-linear Dynamics and Applications
- Dynamics and Oscillations in Electrical and Electronics Engineering
- Fractional Dynamics and Applications
- System Dynamics in Manufacturing System Modelling
- Dynamics of Smart and Functionally Graded Materials

Internationally renowned invited speakers and contributing authors from all over the world will present the latest advances in the area of engineering. 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 JVE 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, Semantic Scholar, Google Scholar, CNKI Scholar, cnpLINKer and Ulrich's Periodicals Directory.

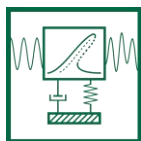


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The authors of best papers presented at the Conference will be invited to prepare the extended version of their papers (10-20 pages) which will be considered for publication in **Journal of Vibroengineering** (indexed in Web of Science, EI Compendex, EBSCO, Gale Cengage, Inspec, and more), **Journal of Measurements in Engineering** (indexed in Web of Science, EI Compendex, EBSCO, Gale Cengage, Inspec and more) and **Journal of Mathematical Models in Engineering** (indexed in EBSCO, Gale Cengage, DOAJ, Semantic Scholar, BASE, Ulric's Periodicals Directory and more).

The Conference Venue is at Bennett University
Plot No 8-11, Tech Zone II,
Greater Noida (NCR Delhi), UP 201310, India

On behalf of the Organizing Committee, we would like to welcome the delegates to the 43rd International JVE Conference. We hope that you would enjoy the conference and find the program of the Conference exciting. We look forward to meeting you in November 2019 in Greater Noida (Delhi).



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Chairs:

Prof. **Vinayak Ranjan** Bennett University, India

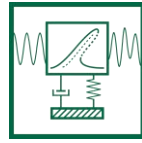
Prof. **Minvydas Ragulskis** JVE International and Kaunas University of Technology, Lithuania

Honorary Organizing Committee Members from Bennett University (India):

V. Jain	Chancellor, Bennett University, India
R. Shevgaonkar	Vice Chancellor, Bennett University, India
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P. Sathujoda	Mechanical and Aerospace Engineering, India

Organizing Committee:

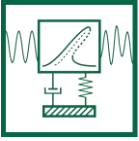
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K. Bousson	University of Beira Interior, Portugal
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M. Cao	Hohai University, China
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Z. Dabrowski	Warsaw University of Technology, Poland
Y. Davydov	Institute of Machine Building Mechanics, Russia
J. Duhovnik	University of Ljubljana, Slovenia
A. El Sinawi	The Petroleum Institute, United Arab Emirates
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L. E. Muñoz	Universidad de los Andes, Colombia
G. Panovko	Blagonravov Mechanical Engineering Research Institute, Russia
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M. A. F. Sanjuan	University Rey Juan Carlos, Spain



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S. Toyama	Tokyo A&T University, Japan
K. Uchino	The Pennsylvania State University, USA
A. Vakhguel	Nazarbayev University, Kazakhstan
P. Vasiljev	Lithuanian University of Educational Sciences, 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
M. Zakrzhevsky	Riga Technical University, Latvia



Conference Program

Day 1: November 28

Location: Reception, Block-A

09:00-10:00	Registration
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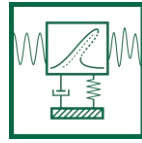
Day 1: November 28

Location: Lecture Hall (Ground Floor, Block-A)

10:00-11:00	Conference Opening Ceremony
	<p>Welcome Address by Prof. Vinayak Ranjan Head, Department of Mechanical and Aerospace Engineering, Bennett University, India</p> <p>Welcome Speech by Prof. Minvydas Ragulskis Professor, Center for Nonlinear Systems Department of Mathematical Modelling Kaunas University of Technology, Lithuania</p> <p>Inaugural Address by Prof. R K Shevgaonkar Vice Chancellor, Bennett University</p> <p>Address by Ms. Revati Jain Member, BCCL Board</p> <p>Address by Mr. Sachin Jain President, Bennett University</p> <p>Address by Prof. Sudhir Chandra Dean, School of Engineering and Applied Science Bennett University</p> <p>Felicitations of Dignitaries Release of the conference proceedings: Vibroengineering PROCEDIA VOTE OF THANKS</p>

Day 1: November 28

11:00-11:30	High Tea Break
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Day 1: November 28

Location: Lecture Hall (Ground Floor, Block-A)

	<p align="center">PLENARY SESSION Session Chairs: Prof. Minvydas Ragulskis and Prof. Vinayak Ranjan</p>
11:30-12:15	<p align="center">Invited Keynote Lecture: Vibro-Engineering in Armaments</p> <p align="center">Dr. Shri KPS Murthy Outstanding Scientist and Director, High Energy Materials Research Laboratory, Defence Research and Development Organization (DRDO), Pune, India</p>
12:15-13:00	<p align="center">Invited Keynote Lecture: Integrated Vehicle Health Management</p> <p align="center">Prof. Nalinaksh S. Vyas Department of Mechanical Engineering Indian Institute of Technology Kanpur and Chairman, Technology Mission for Indian Railways (TMIR), Ministry of Railways, Government of India</p>
13:00-13:45	<p align="center">Invited Keynote Lecture: Advancement in Superlubricity</p> <p align="center">Prof. Jianbin Luo Professor, Academician of Chinese Academy of Sciences, and Dean, Department of Mechanical Engineering, Tsinghua University, China</p>

Day 1: November 28

13:45-14:45	Lunch
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Day 1: November 28

Location: Lecture Hall (Ground Floor, Block-A)

	<p>PLENARY SESSION Session Chairs: Prof. Minvydas Ragulskis and Prof. Vinayak Ranjan</p>
14:45-15:30	<p>Invited Keynote Lecture: Innovations in Interventional Cardiology: TAVI and LAA Occlusion Procedures – Between Risk and Benefit</p> <p>Prof. Vincentas Veikutis Professor, MD, Lithuanian University of Health Sciences, Institute of Cardiology Lithuania, Europe</p>
15:30-16:15	<p>Invited Keynote Lecture: Numerical and Experimental Analysis of Dynamics of Mistuned Bladed Discs on Shaft</p> <p>Prof. Romuald Rzadkowski Head, Department of Aeroelasticity Institute of Fluid Flow Machinery, Poland and Fellow of IFToMM and ASME Committee Structures and Dynamics</p>

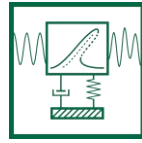
Day 1: November 28

16:15-16:30	<p>Tea / Coffee Break</p>
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Day 1: November 28

Location: Lecture Hall (Ground Floor, Block-A)

	<p>PLENARY SESSION Session Chairs: Prof. Minvydas Ragulskis and Prof. Vinayak Ranjan</p>
16:30-17:15	<p>Invited Keynote Lecture: Future Trend in Vibration-Based Condition Monitoring (VCM) of Machines</p> <p>Prof. Jyoti K. Sinha Head, Dynamics Laboratory School of Mechanical, Aerospace and Civil Engineering, The University of Manchester, UK</p>



17:15-18:00	<p>Invited Keynote Lecture: Vibro-Engineering with Air-Borne Defence Stores</p> <p>Dr. Himanshu Shekhar Scientist 'G' and Director (Administration), Technical Directorate of Director General (Armament & Combat Engineering), Defence Research and Development Organization (DRDO), Pune</p>
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Day 1: November 28

19:00	<p>Gala Dinner by Invitation</p>
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Day 2: November 29

Location: Reception, Block-A

08:00-09:00	<p>Registration</p>
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Day 2: November 29

Location: Lecture Hall (Ground Floor, Block-A)

	<p>ORAL SESSION 1 Session Chairs: Prof. Minvydas Ragulskis and Dr. Himanshu Shekhar</p>
09:00-09:15	<p>Santosh Sandanshiv. Effect of change in position of particle dampers on wind turbine blade for vibration suppression</p>
09:15-09:30	<p>Sundar M. Dynamic analysis of towing operation with military tracked recovery vehicle</p>
09:30-09:45	<p>Santosh Sandanshiv. Vibration suppression effects on rotating wind turbine blade using a particle damping method</p>
09:45-10:00	<p>Chenthil Prabu P S. Structural, shock and vibration analysis of special water filter</p>
10:00-10:15	<p>Pradyumn Mane. Optimization and analysis of novel thermoelectric module</p>
10:15-10:30	<p>Ashish Saurabh. Computational fluid dynamics (CFD) modelling of hybrid photovoltaic thermal system</p>

Day 2: November 29

10:30-10:45	<p>Tea / Coffee Break</p>
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Day 2: November 29

Location: Lecture Hall (Ground Floor, Block-A)

ORAL SESSION 2 Session Chairs: Prof. Vincentas Veikutis and Prof. Romuald Rzadkowski	
10:45-11:00	Vedanth Bhatnagar. Comparative study for modal analysis of circular plates with various cutouts and end conditions
11:00-11:15	Vedanth Bhatnagar. Comparative study for material effect on stress behavioural characteristics of rectangular plate
11:15-11:30	Arnab Bose. Natural frequency analysis of a functionally graded rotor system using three-dimensional finite element method
11:30-11:45	Anuj Yadav. Effects of accelerometer mass on natural frequency of a magnesium alloy cantilever beam
11:45-12:00	Akshaj Kulshreshtha. Sound radiation of simply supported rectangular plate using finite element method
12:00-12:15	Manish Chauhan. Dynamic stiffness method for free vibration analysis of thin functionally graded rectangular plates

Day 2: November 29

12:15-13:15	Lunch
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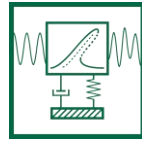
Day 2: November 29

Location: Lecture Hall (Ground Floor, Block-A)

ORAL SESSION 3 Session Chairs: Prof. Prabhakar Sathujoda and Prof. Minvydas Ragulskis	
13:15-13:30	Deepak Kumar Singh. Dynamic pressure on lock gate structure coupled with fluid
13:30-13:45	Vamsi Inturi. Hyperparameter optimization for enabling multi-level feature classification in a wind turbine gearbox
13:45-14:00	Ashish Kumar. Effect of slant angle variation on the drag force for Ahmed body car model
14:00-14:15	Vimal Chauhan. Numerical modelling of shear thickening fluid in nanosilica dispersion
14:15-14:30	Ravi Kumar. Modelling and simulation on behaviours of mild steel
14:30-14:45	Srijna Singh. Computational investigation of cavitating flow around two dimensional NACA 4424 and MHKF-240 hydrofoil

Day 2: November 29

14:45-15:00	Tea / Coffee Break
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Day 2: November 29

Location: Lecture Hall (Ground Floor, Block-A)

ORAL SESSION 4 Session Chairs: Prof. Vinayak Ranjan and Prof. Vincentas Veikutis	
15:00-15:15	Ganesh Naik Guguloth. Free vibration analysis of simply supported rectangular plates
15:15-15:30	Yash Gupta. Experimental study of self-sustainable hybrid solar photovoltaic cleaning mechanism coupled with water distillation unit
15:30-15:45	R. Manikantan. Unknown input reconstruction in non-linear dynamical systems using homotopy optimization
15:45-16:00	Shivam Yadav. Numerical simulation of vortex induced vibrations on a circular cylinder at different Reynold's number
16:00-16:15	Diplesh Gautam. Classification of diaphysis based on the mechanical response of femur bone
16:15-16:30	Sai Manoj Katakam. Experimental investigation of photovoltaic module system coupled with solar panel cleaning system

Day 2: November 29

16:30-16:45	Tea / Coffee Break
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Day 2: November 29

Location: Lecture Hall (Ground Floor, Block-A)

ORAL SESSION 5 Session Chairs: Prof. Romuald Rzadkowski and Prof. Prabhakar Sathujoda	
16:45-17:00	Amit Singh. Numerical analysis of temperature distribution in sliding contacts of pin on disc model
17:00-17:15	Krishna Dutt Pandey. PCA based health indicator for remaining useful life prediction of wind turbine gearbox
17:15-17:30	Nitish Kumar. Impact on auxetic and metal foams
17:30-17:45	Shubham Agarwal. Assessment of foot trajectories and ground reaction force in a trans-femoral amputee with Jaipur Knee and 3R20 knee joints
17:45-18:00	Shyamsundar Prabhakar Indra. Analysis of vibration based windmill coupled micromachined energy harvester
18:00-18:15	Sucheth Shenoy. Vibration analysis of cantilever beam in time domain and frequency domain using Arduino platform



Day 2: November 29

Location: Lecture Hall (Ground Floor, Block-A)

18:15-18:30

CLOSING SESSION

Session Chairs: **Prof. Minvydas Ragulskis and Prof. Vinayak Ranjan**

Day 3: November 30

City tour

Conference Location

The Conference Venue is at Bennett University
Plot No 8-11, Tech Zone II,
Greater Noida (NCR Delhi), UP 201310, India

