

International Workshop On Computational Methods in Vibration & Acoustics (IWCMA-2015)

Focal Theme: Vibration and Acoustics

16th -21st March 2015



Organized By:



Department of Mechanical Engineering
Indian School of Mines, Dhanbad-826004
Jharkhand, India

Institute Website: www.ismdhanbad.ac.in

Workshop url: www.ismdhanbad.ac.in/workshop/iwcmva

Workshop Venue: Golden Jubilee Lecture Theatre (GJLT), ISM, Dhanbad-826004, INDIA

About Indian School of Mines (ISM) Dhanbad

Indian School of Mines (ISM) was set up by Government of India and formally inaugurated by the Viceroy Lord Irvin on 9th December 1926 on the model of Royal School of Mines, London. ISM was granted autonomy and become a Deemed University under UGC Act, 1956. In 1996, the Institute came under financial and administrative control of MHRD, Govt. of India. In the year 1997, ISM was affiliated to the IIT JEE for admission to its B.Tech. programmes. ISM is situated in the heart of the country's prime coking coal belt. It has fully residential campus of its own consisting of a graceful blend of old world and new style buildings. The school today is making foray into the newer areas of academic endeavors in tune with the changing times. The school is located at a distance of 3 km from Dhanbad Railway Station. Dhanbad is well connected by railways with other important cities of the country like Chennai, Delhi, Kolkata, Mumbai etc. The nearest airports are Kolkata (250 km) and Ranchi (180 km). Please visit <http://www.ismdhanbad.ac.in> for more details.

About the Department

Mechanical engineering department is one of the academic departments of ISM Dhanbad. In 1997, the institute began admitting students through the Joint Entrance Examination (IIT-JEE) conducted jointly by the Indian Institutes of Technology. Apart from the B.Tech programmes, this department has four post-graduation courses namely, M.Tech in Mechanical Engg with specialisations in Thermal Engineering, Machine Design, Manufacturing Engineering and Maintenance Engineering & Tribology. The department has equipped many of its laboratories with modern state of the art equipment and software along with potential research manpower to enhance the academic and research activities of the department. It is also rendering its services for doctoral research in various areas of Mechanical Engineering. Please Visit <http://www.ismdhanbad.ac.in/mechanical/> for more details.

Theme of the workshop IWCMA-2015:

The aim of the workshop is to gather experts from all over the world to update advances in computational methods in vibration and acoustics and to foster an environment conducive to exchanging ideas and information. The workshop will provide a common platform to bring together researchers, engineers, scientists, scholars and students to exchange and share their new ideas in broader domain of vibration and acoustics and discuss the practical challenges encountered and the solutions adopted. The national and international experts will address cutting-edge theories and computational methods that advance the fields of vibration and acoustics. This workshop will also provide a golden opportunity to students and researches to meet the professors working in different universities of USA, Canada, UK and India to seek career guidance in the field of vibration and acoustics.

The workshop will cover a wide varieties of topics by internationally and national experts as mentioned hereunder:

- Aero elasticity of composite wings
- Prosthetics and human motion modelling for prosthetics applications
- Dynamic stiffness method for free vibration analysis of metallic and composite plates

- Assistive robotics
- Free vibration of bending-torsion coupled beams with application to aircraft wings
- Active and passive control of mechanical and structural system
- Flow-acoustic Analysis of Multiply-Connected Mufflers
- Vibration of continuous systems with the effects of rotary inertia and shear deformation
- Noise control
- Mean Flow Distribution and back-pressure of complex muffler configurations
- Vibration analysis in the presence of uncertain parameters
- Vibration isolation
- Green's Function Method for 3-D Analysis of Mufflers
- Vibration/acoustics in gas turbines/wind turbines

About Workshop Speakers:

Chief Guest:
Prof. N. S. Vyas
Vice Chancellor,

Rajasthan Technical University, Kota
(On deputation from IIT Kanpur)

Prof N S Vyas is in the Department of Mechanical Engineering, IIT Kanpur, INDIA. Currently, he is also Vice Chancellor of Rajasthan Technical University, Kota Rajasthan. His research areas are

- Machine Dynamics
- System Identification and Parameter Estimation
- MEMS
- Instrumentation and Sensor Technologies
- Condition Monitoring & Neural Networks

Visit: <http://home.iitk.ac.in/~vyas/>



Prof. Rajiv Dubey
Chair, Department of Mechanical Engineering &
Director, Center for Assistive, Rehabilitation &
Robotics Technologies
University of South Florida, USA

His research areas are Human Motion modelling, Rehabilitation Robotics; Prosthetics and Orthotics; Dynamic Systems and Controls.

Prof. Rajiv Dubey will deliver lectures on

- Prosthetics and human motion modelling for prosthetics applications
- Assistive robotics
- Application of virtual reality in rehabilitation and job training for individuals with disabilities.

Visit: <http://carrrt.eng.usf.edu/people.htm>



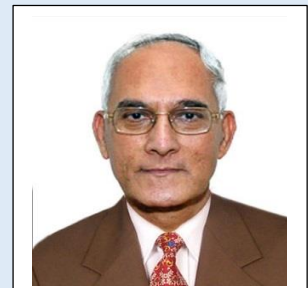
Honorary Prof. M. L. Munjal
Indian Institute of Science
Bangalore, India

His research areas are Technical Acoustics, Industrial and Automotive Noise Control.

Prof. Munjal will deliver lectures on

- Flow-acoustic Analysis of Multiply-Connected Mufflers.
- Mean Flow Distribution and Back-Pressure of Complex Muffler Configurations
- Green's Function Method for 3-D Analysis of Mufflers.

Visit: http://www.mecheng.iisc.ernet.in/?page_id=1170





Prof. Rama Bhat

**Associate Dean, Faculty of Engineering & Computer Science and
Professor, Department of Mechanical,
Concordia University, Canada**

His research areas are Random vibrations, rotor dynamics, structural acoustics, micro mechatronics. Prof. Bhat will deliver lectures on

- Noise control
- Vibration isolation
- Vibration /acoustics in gas turbines/ wind turbines.

Visit: <http://concape.concordia.ca/people/bio.bhat.shtml>



Prof. S. S. Rao

**Department of Mechanical and Aerospace Engineering
University of Miami, USA.**

His research areas are Multi objective optimization, Uncertainty models in engineering analysis, design and optimization, Reliability based design, Finite element and mesh free methods and Optimization and reliability of renewable energy systems. Prof. Rao will deliver lectures on

- Active and passive control of mechanical and structural systems,
- Vibration of continuous systems including the effects of rotary inertia and shear deformation (such as Thick beams and thick plates)
- Vibration analysis in the presence of uncertain parameters (Random eigenvalue problem, fuzzy vibration analysis, etc.)

Visit: <http://www.mae.miami.edu/people/indextest.php?id=74>

Prof. J. R. Banerjee **Department of Mechanical Engineering and Aeronautics City University London, London, United Kingdom**

His research areas are Structural Dynamics, Aero elasticity, Composite Materials, Dynamic Stiffness Formulation, Aircraft Design, Symbolic Computation.

Prof Banerjee will deliver lectures on

- Aero elasticity of composite wings
- Free vibration of bending-torsion coupled beams with application to aircraft wings,
- Dynamic stiffness method for free vibration analysis of metallic and composite plates

Visit: <http://www.city.ac.uk/people/academics/ranjan-banerjee>



Prof. P. K. Sarkar **Department of Mechanical Engineering Indian School of Mines, Dhanbad, India**

His research area includes Composite Materials, Solid Mechanics, Materials Science, Fracture Mechanics, and Mechanical Behaviors of Engineering Materials, Fracture Behavior of Fibre Reinforced Plastic Composites, Theory of Elasticity

Prof. P. K. Sarkar will deliver lectures on

Mechanical Behaviour of Engg. Materials, fracture mechanics

Visit: http://www.ismdhanbad.ac.in/cv/cv_prabirkumar.pdf



Note – List of Speakers from industry and academic institutions will be further updated.

Chief Patron

Shri P.K. Lahiri, IAS (Retd.)
Chairman, General Council & Executive
Board, Indian School of Mines, Dhanbad

Patron

Prof. D.C. Panigrahi, Director,
Indian School Of Mines, Dhanbad

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Dr. Rakesh Kumar, **Co-Convener**
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Sri. M. L. Chandravanshi
Sri. A. Mandal
Dr. S. S. Dasgupta

CERTIFICATION:

Every participant will receive a certificate for attending the International Workshop on Computational Methods in Vibration and Acoustics.

PROCEEDINGS:

The hard copy or soft copy of the workshop lectures will be available to the participants at the time of registration.

REGISTRATION FEE

			Registration
Category-A	Participants from R&D Organization, Industries & Academic Institutions (Registration fee includes food & accommodation)	Indian	INR 35,000
		Foreign	USD 850
Category-B	Participants of R&D Organization, Industries & Academic Institutions (Registration fee without food & accommodation)	Indian	INR 10,000
	Student Participants (Registration fee without food and accommodation)	Ph.D./ Research Scholar/ JRF/SRF	INR 6,000 (for Non-ISM students) INR 4,000 (for ISM Students)
		P.G/U.G	INR 4,000 (for Non-ISM students) INR 2,500 (for ISM Students)

Accommodation:

All the participants of category A will be provided accommodation at the Executive Development Centre/ Senior Academic Hostel at ISM campus or nearby hotel. **An early registration is requested for confirmation of accommodation at ISM campus.**

All the student participants from outside ISM of category B may be accommodated in Student Hostel on payment basis.

Important Dates:

Last Date for Registration: Students participants of ISM: 30 October 2014
Others Participants: 30 November 2014

Mode of Payment:

1. Filled up registration form with demand draft drawn in favour of “IWCMVA” payable at Dhanbad, Jharkhand may be sent to the Convenor at the correspondence address.
- OR**
2. Scanned copy of filled up registration form with online payment details may be sent to the email iwcmva@gmail.com

Details for online transaction:

Account Name: IWCMVA
Account Number: 34089078868
Bank Name: STATE BANK OF INDIA
Branch Name & Address: ISM CAMPUS, DHANBAD-826004, India
Branch Code: 001641
IFSC Code: SBIN0001641
MICR Code: 826002006
SWIFT CODE: SBININBB388 held with State Bank of India, Dhanbad, India
Email address of Bank: sbi.01641@sbi.co.in

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Industries, Government and Semi-Government Organizations, Manufacturers, Institutions are invited for sponsoring the workshop as indicated below:

Category	Amount
Platinum Sponsorship	INR 2,00,000
Diamond Sponsorship	INR 1,50,000
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Proceedings of the workshop will be published on this occasion. Advertisements are invited in the proceedings of the workshop, for which the tariffs are:

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Workshop Organizing Committee

Chairman : Prof. R.K. Das, Head, Department of Mechanical Engineering
Convener : Dr. Vinayak Ranjan, Associate Professor, Mechanical Engineering
Co-convener : Dr. Rakesh Kumar Assistant Professor, Mechanical Engineering

How to reach ISM:

- By Air to Kolkata airport (250 kms) and then you need to come to Howrah Railway or Sealdah Railway station to catch the train for Dhanbad (4-5 hours journey time).
- By Air to Ranchi airport (180 kms) and then you need to come to Ranchi Railway station to catch the train for Dhanbad. (4-5 hours journey time)
- Dhanbad is well connected by train from Delhi, Kolkata, Ranchi, Mumbai, Chennai, Patna, Varanasi and many more cities. For details of train services, **visit www.indianrail.gov.in**

Tour & Travels

Tours and travels packages may be arranged on demand to tourist spots to the nearby places on payment basis.

- Bodh-Gaya
- Madhuban , Parasnath
- Deoghar
- Varanasi
- Kolkata

For any tour and travel related query, Please contact Convener Dr. Vinayak Ranjan.

All the correspondence should be addressed to

Dr. Vinayak Ranjan Convener, IWCMVA 2015 and Associate Professor Department of Mechanical Engineering, Indian School of Mines(ISM), Dhanbad- 826004, Jharkhand, India Email: vinayakranjan@gmail.com iwcmva@gmail.com Tel : +91-326-2235635 Mobile: +91-9470383975	Dr. Rakesh Kumar Co-Convener, IWCMVA 2015 and Assistant Professor Department of Mechanical Engineering, Indian School of Mines(ISM), Dhanbad- 826004, Jharkhand, India Email: rakeshism@gmail.com iwcmva@gmail.com Tel : +91-326-223-5136 Mobile : +91-9471191668
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On
Computational Methods in Vibration and Acoustics
(IWCMA-2015)**

16th -21st March 2015

REGISTRATION FORM

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2. Designation: _____

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6. E-Mail : _____

7. Attending Workshop as :

Student ☐ Academics ☐ Industry/Organization/other ☐

8. Payment Mode:

Demand Draft ☐ Institutional Cheque ☐ Online Banking ☐

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