All participants will get a signed copy of the book "Noise and Vibration Control" by Prof. M. L. Munjal

"The subject of noise control is taught in only a few IITs and IISc. A handful of experts cannot service a country of over a billion people. Hence, there is a need for such a course to be introduced as an elective at the senior under graduate level. The SERB course proposed here seeks to fill up this lacuna." - M.L.Munjal, Course Advisor

Prof. M. L. Munjal is Professor (Emeritus) at the Indian Institute of Science (IISc), Bangalore. He specializes in Acoustics of Mufflers/Silencers. He is the author of the book "Noise and Vibration Control" on which this course is based. For 17 years (until recently) he was convener of the Facility for Research in Technical Acoustics and Chairman of the National Committee for Noise Pollution Control, advising CPCB.

www.mecheng.iisc.ernet.in/~frita

Prof. A. R. Mohanty is a Professor of Mechanical Engineering at IIT Kharagpur with 30 years of experience in areas of noise control and machinery condition monitoring. He holds a PhD degree from the University of Kentucky, USA. He is a recipient of several awards, fellow of the Acoustical Society of India and the International Society of Engineering Asset Management.

http://www.iitnoise.com/

Teachers from Government Engineering Colleges will be accommodated on campus and will be reimbursed second A/C train fare or equivalent

"The course is meant to train the university college teachers/researchers so that they can upgrade themselves; and it is expected that they will introduce the course in their curriculum. This one-week course was first organized at IISc Bangalore in July 2014. It was well attended and appreciated. Now, it is being organized in the eastern region, and later will be repeated in other regions of the country. - S. S. Kohli, SERB

Prof. P. Chandramouli is Professor of Mechanical Engineering at IIT Madras. He holds a PhD from Ohio State University, USA. He is a recipient of Thomas French Achievement Award and C V Raman Award from the Acoustical Society of India. His primary research interests are in the areas of Non-linear and Multi-body Dynamics, Noise and Vibration.

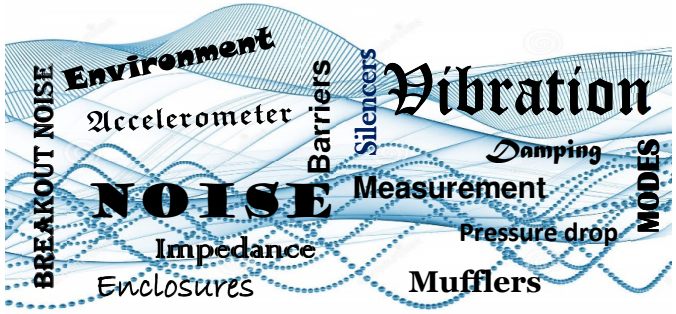
http://mech.iitm.ac.in/meiitm/personnal/p-chandramouli/

Prof. S. K. Kakoty is a Professor of Mechanical Engineering at IIT Guwahati. He is also the Head of Centre for Rural Technology and Dean (Infrastructure, Planning & Management). He earned his PhD from IIT Kharagpur. His research interest includes Tribology, Duct Acoustics, Mechanical System Design and Rural Technology.

http://www.iitg.ac.in/mech/files/faculty_CV/SKK_profile.pdf

SERB School on Noise and Vibration Control

4th -8th December, 2017



Organized by

Department of Mechanical Engineering
Indian Institute of Technology Guwahati
Guwahati 781039

Noise and Vibration Control

Objective of the School

- To spread knowledge in the emerging area of Noise and Vibration Control among the faculty members of academic institutions
- To enable them to teach applied aspects of technical acoustics, noise and vibration, their measurement and control.
- To encourage all engineering colleges of the country to offer elective courses in this domain
- To teach practicing engineers the strategies for industrial noise control and the art of designing for quietness

Noise and its measurement
Waves as moving disturbances; frequency range of human ear and human speech; octave and one-third octave bands; plane waves; spherical waves, wave solution, wave character; sound power level, intensity level, sound pressure level, particle velocity, farfield/nearfield, inverse square law; anti-logarithmic addition and subtraction of levels; A-weighting; sound level meter, intensity meter, etc.

Vibration and its measurement
Oscillation, basic dynamical elements, state variables; degrees of freedom; single DOF system; damping; Multi-DOF system, transmissibility, computation of natural frequencies and modes; critical speeds, electromechanical and electro-acoustics analogies; electrical analogous circuits; principle of impedance mismatch; accelerometer and vibrometer, instrumentation for vibration measurements.

Vibration Control
Vibration isolators; dynamic absorbers; damping and dampers; impedance mismatch; control of structure-borne sound; free-layer damping and constrained-layer damping; vibration control at the source; active vibration control; shock absorber.

Acoustic enclosures, hoods, wrappings and barriers
Basic principles; insertion loss, noise reduction and transmission loss; flanking transmission; acoustic leaks; acoustic lagging.

Mufflers and Silencers
Silencer performance metrics; silencer selection factors; electro-acoustic modelling; cascading of muffler elements; multiply connected mufflers; dissipative silencers; acoustic materials; combination mufflers; pressure drop considerations; break-out noise.

Strategies for noise control
Control of noise at the source, in the path, and at the receiver end; noise control of an existing facility; environmental impact assessment (EIA)

Registration Fees:
Academic Institutions (Govt.): Nil
Academic Inst., (Non-Govt.): **Rs.5,000/-**
Industry/Research Organizations: **Rs. 10000/-**

Participants must register for the course on or before 25th November 2017. Participants need to submit the Demand Draft favouring IIT Guwahati to the Course Coordinators.

Course Coordinators:
Prof. S. K. Kakoty
Dr Karuna Kalita
IIT Guwahati

Course Advisor:
Prof. M. L. Munjal,
IISc Bangalore

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Application Form

SERB School on Noise and Vibration Control
4th -8th December, 2017
A Short Term Course Sponsored by SERB, DST

Name: ……..

Position: ……...

Organisation: …….....

Mailing Address: ……

……..…….....

Email: ……..

Phone(s): ……

Accommodation: □ Required □ Not Required

Food Preference: □ Veg □ Non-Veg

Details of enclosed Demand Draft:

No.: …… Dated: ……

Amount (Rs): ……

Issuing Bank: ……

Date: Signature of Participant

Countersigned by HoD/ Head of the Institution with seal