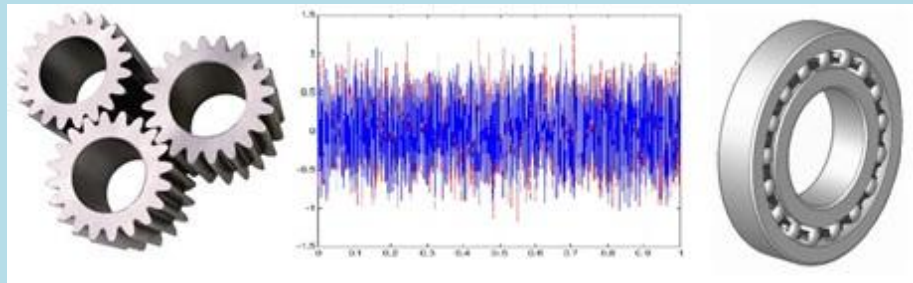
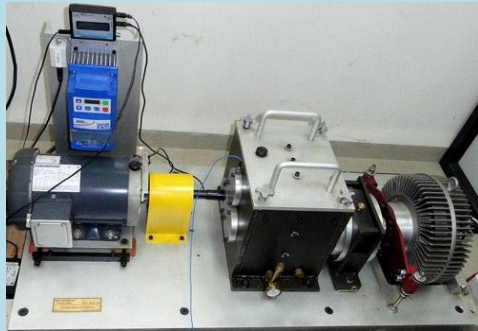


A SHORT TERM COURSE  
ON  
**Condition Monitoring of Rotating Machine  
Elements**  
(21-23 December 2015)



**Course Coordinator**  
**Dr. Anand Parey**



**Discipline of Mechanical Engineering**  
**INDIAN INSTITUTE OF TECHNOLOGY INDORE**

### About the Course

Rotating machines elements like bearings, gears, fans, rotors, shafts are very common in every industry. Failure of these elements causes huge monetary losses. Condition monitoring of these elements can help in preventing the catastrophic failure of these elements thereby saving down-time and monetary losses. Noise and vibration monitoring are two most widely used techniques for fault diagnosis of bearing and gears. Acoustic emission, wear debris analysis, oil analysis etc. are some other techniques for bearing and gear fault diagnosis. Various soft computing techniques like artificial neural network, support vector machine etc. are very useful in fault classification. This short-term course is aimed at providing the sound fundamental knowledge to the participants on above-mentioned various aspects of bearing and gear fault diagnosis. Participants will be given an opportunity to explore some of the state-of-art equipments and facilities available at IIT Indore in the field of fault diagnosis.

### COURSE CONTENTS:

The **lectures** will cover following topics:

- Basics of noise and vibration
- Basics of acoustic emission, wear debris analysis and oil analysis.
- Measurement of Noise and Vibration
- Frequency Analysis (Detection and classification of faults).
- Vibration analysis of bearings, gears, rotors etc.
- Use of ANN, SVM, GA for fault classification.
- Modal analysis and testing

**Training/Demonstration and Hands-on Sessions:** A hands-on sessions of total 3 hours duration will be conducted on bearing and gear fault diagnosis and modal testing.

## PROFILE OF THE SPEAKERS:

| FACULTY   | AREA OF EXPERTISE  |
|---|--|
| <b>Dr Anand Parey (IITD)</b><br>Associate Professor,<br>IIT Indore        | Gear Fault Diagnosis, Dynamic Modelling of Gear Boxes, Signal Processing of Rotating Machines.   |
| <b>Dr P.K. Kankar (IITR)</b><br>Assistant Professor,<br>IITDM Jabalpur    | Vibrations, Condition Monitoring, Nonlinear Dynamics, Soft Computing   |
| <b>Dr M. Amarnath (IITM)</b><br>Assistant Professor,<br>IITDM Jabalpur    | Condition Monitoring and Fault Detection in Rotating Machinery, Acoustics and Vibration Analysis, Lubricating Oil Analysis, Non-Destructive Testing. |
| <b>Dr. Manoj Chouksey (IITD)</b><br>Assistant Professor,<br>SGSITS Indore | Modal Analysis and Testing of Rotating Machines  |

## WHO SHOULD ATTEND?

- Condition monitoring Engineer/ Manager/ Supervisor.
- Maintenance Engineer/Manager/Supervisor.
- Electrical Engineer/Manager/Supervisor.
- Professionals working in R & D organization.
- Faculty of Engineering/Polytechnic College.
- Research scholar, post graduate and undergraduate student.

## COURSE FEE:

**Rs. 25,000\*** (for industry personnel)

**Rs. 15,000\*** (for faculty members)

**Rs. 10,000\*** (for students)

The course fee includes study material, breakfast, lunch, and tea for the entire course duration.

\*including service tax

**Group discount:** 15% group discount will be given if more than two participants come from same organization.

**MODE OF PAYMENT:** Through **Cheque / Demand Draft** in favor of **Registrar, IIT Indore**. The completely filled registration form along with the **Cheque / Demand Draft** should be sent to the following address on or before **15<sup>th</sup> December 2015**.

**ACCOMMODATION:** Accommodation can be arranged, if required, in hostel/guest house @ **Rs.250 per day** subject to the availability. Limited seats are available. Participants will be selected on first-come-first serve basis. Please send request for hostel accommodation to the course coordinator.

## Address for correspondence

**Dr. Anand Parey**

Mechanical Engineering Discipline

**Indian Institute of Technology Indore**

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Tehsil MHOW, Distt. INDORE, (MP) India

**E-mail:** [anandp@iiti.ac.in](mailto:anandp@iiti.ac.in); [anandparey@hotmail.com](mailto:anandparey@hotmail.com)

**Phone:** 0732 4240716 (O), 09425053943(M)

**REGISTRATION FORM**

**Name :**

**Designation:**

**Institution/Organization:**

**Address:**

**E-mail id:**

**Phone/Mobile No.:**

**Accommodation Required: Yes / No ( if yes please fill the form)**

**Payment details**

Cheque / Demand Draft no. \_\_\_\_\_ dated \_\_\_\_\_  
bank \_\_\_\_\_ amount in Rs. \_\_\_\_\_ drawn at \_\_\_\_\_

**Signature of the applicant with date**

**APPLICATION FORM FOR HOSTEL ACCOMMODATION**

**Name of the candidate:** \_\_\_\_\_

**Name of course:** Condition Monitoring of Rotating Machine Elements

Sex (Male/Female) : \_\_\_\_\_

Age: \_\_\_\_\_

Period From \_\_\_/\_\_\_/\_\_\_: \_\_\_ am/pm to \_\_\_/\_\_\_/\_\_\_: \_\_\_ am/pm

(DD/MM/YY: am/pm)

Email-ID : \_\_\_\_\_

Mobile No. : \_\_\_\_\_

Booked

by \_\_\_\_\_

**For office use only**

**Course/conference coordinator**

**Confirmation of booking**

**(Hostel supervisor)**

**Hostel Guideline**

- Most important: All the guest needs to carry photo id card.
- Candidate or course coordinator can fill this form and send to [hostel@iiti.ac.in](mailto:hostel@iiti.ac.in)
- Hostel will provides twin sharing room with cot, mattress, RO, Geyser (Additional facilities like bed sheet, pillow, blanket, etc will be provided on the basis of availability at nominal charges).
- Candidates need to pay in cash INR 250/- per day per person on arrival. Charges may vary based on institute guidelines.
- This does not include dining charges.  
Current dining charges (in INR) are as follows:  
Breakfast: 25/- Lunch: 40/-Hi Tea: 16/-Dinner: 45/-
- Candidates need to report to hostel office (address above) on arrival.
- All the candidates are required to follow hostel rules and code of conduct.