

## NIT ROURKELA

National Institute of Technology Rourkela is an institute of national importance created under the act of parliament. NIT Rourkela provides quality education in a diverse and multi-cultural environment. The mission of the institute is to become an internationally acclaimed institution of higher learning that will serve as a source of knowledge and expertise for the society and be a preferred destination for undergraduate and graduate studies. The institute is offering Ph.D. and M.Tech by Research programmes in 21 branches of Engineering. At present, the institute research centers are engaged in consultancy and research activities of several bodies such as DST, CSIR, DRDO, BARC, ISRO and private industries. The institute has an excellent placement record with a number of top ranking companies visiting the campus every year

## Department of Mechanical Engineering

The Department of Mechanical Engineering is one of the oldest departments of the early regional engineering college. The department has qualified and dedicated faculty members with the specialization in various areas. At present the department is conducting a UG program in Mechanical Engineering, six PG programs (Machine design and analysis, Production Engineering, Thermal Engineering, Industrial Cryogenics, Mechatronics and Automaton and Composites, plastics and timber) and research programs leading to Ph.D. The departments has good laboratory facilities.

## About the Programme

The 3-day short term training program on **'Experimental Approaches for Analysis and Condition-Monitoring of Machinery'** is scheduled to be held **during 5<sup>th</sup>-7<sup>th</sup> October 2016**. The main objective of this training program is to promote the importance of experimental techniques in stress and vibration analysis in the engineering sciences. The training program provides a forum in which the participants can obtain information about recent developments in theoretical/experimental techniques for condition monitoring and learn about the various processing methods for signals towards fault diagnostics. The short term course presents both traditional and modern methods of condition monitoring in industries. The course facilitates in learning several case studies and motivates the participants with limited background in the field for conducting experimental work using limited equipment at their laboratories.

## Beneficiaries

This program gives the developments in the areas of experimental methods for condition monitoring at basic level. It allows hands on experience on some simple to complex experimental approaches in stress and vibration engineering. By the end of this course, the participants can able to utilize the MATLAB toolboxes like signal processing for realizing the practical condition monitoring studies.

## Program Contents

- Basic concepts for experimental stress and vibrational analysis.
- Principles of Rotordynamics and condition monitoring of machinery.
- Common experiments needed in stress and fatigue analysis.
- Signal processing and analysis for condition monitoring using Fourier, Wavelet, Hilbert transforms.
- Fault simulator experiments.
- Intelligent soft computing methods in vibration and stress analysis.
- Interdisciplinary real world case studies.
- Guidelines for experimental works and publication procedure.

## Eligibility and Selection

Faculty members of AICTE approved Engineering colleges teaching Mechanical, Civil, Instrumentation, Electronics and Communication, Aerospace, and Automobile Engineering disciplines are eligible. There are limited seats and the selected participants will be informed through their e-mails. Kindly send scanned copy through e-mail well in advance.

## Registration

There is no registration fee. The course material and participation certificate will be provided free of cost (along with working lunch and tea). Based on budget, TA/DA will be provided. Accommodation may be provided to outstation participants in the institute quest houses/ hostel on prior request.

Three-day short term course on

EXPERIMENTAL APPROACHES FOR ANALYSIS AND CONDITION MONITORING OF MACHINERY

(5<sup>th</sup>-7<sup>th</sup> October 2016)

REGISTRATION FORM

(Please mail the information as scanned copy)

- 1. Name: \_\_\_\_\_
2. Designation/Dept. \_\_\_\_\_
3. Organization: \_\_\_\_\_
4. (i) Address for communication: \_\_\_\_\_
(ii) Phone/Fax: \_\_\_\_\_
(iii) E-mail: \_\_\_\_\_

5. Accommodation required at NIT-RKL? Yes/No

DECLARATION BY THE PARTICIPANT

The information furnished above is true to the best of my knowledge. I agree to abide by the rules and regulations governing the programme. If selected, I shall attend the programme for the entire duration. I also undertake the responsibility to inform the Coordinator sufficiently in advance, in case I am unable to attend the programme.

Date: Signature of Applicant

SPONSORSHIP CERTIFICATE

Certified that Dr./Mr./Ms ..... is an employee of our institute and is hereby permitted to attend the Three-day short term course on "Advanced Materials and Manufacturing", if selected.

Signature of the Head of the Institution (with seal)

How to Reach NIT Rourkela

Rourkela is situation in a lavish green environment in northern part of Odisha state. It is one of the five centers of SAIL (steel authority of India) and has a full-fledged 24x7 operating plant. NIT Rourkela is situated in the residential zone near to sector-1 and has a good campus with several boys and girls hostels and faculty residences within the campus. The NIT campus is about 10 km from Rourkela railway-station under south-eastern railway. The hiring charge for transport through auto is Rs.100 up to the guest house within the campus.

Important dates

Last date for receipt of application: 20<sup>th</sup> September
Information for selection : 21<sup>st</sup> September
Confirmation of participation : 24<sup>th</sup> September

Course Venue:

Computational Laboratory, Department of Mechanical Engineering for all presentation sessions.

Contact Information:

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Three-day Short term Course

on

EXPERIMENTAL APPROACHES FOR ANALYSIS AND CONDITION MONITORING OF MACHINERY

(5<sup>th</sup>-7<sup>th</sup> October 2016)

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Sponsored by TEQIP-II



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Department of Mechanical Engineering NATIONAL INSTITUTE OF TECHNOLOGY

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