

Mechanical Engineering Department

The erstwhile Regional Engineering College, Rourkela was converted to a deemed to be university and renamed National Institute of Technology, Rourkela on 26th June 2002. It was declared as an institution of national importance by the act of parliament on 15th August 2007. The institute has made a rapid stride in earning a reputation as a place of higher learning in the field of engineering during the last decade. The mechanical engineering department is one of the oldest departments being set up from the date of inception of the institute in the year 1961. It is the first QIP center of the Institute. The department offers five specialisations under M.Tech degree and has more than hundred Ph.D. research scholars enrolled. The department is well equipped with infrastructure to meet the requirements of UG, PG courses and to carry out advanced level research work.



How to reach NIT Rourkela?

Rourkela is on the Howrah (Kolkata) - Mumbai main line of South Eastern Railway. The railway station and intrastate bus stand are 6kms and 2kms from NIT Rourkela campus, respectively. The airports near to Rourkela are Ranchi, Bhubaneswar and Kolkata. Rourkela is well connected to these cities by rail and train frequency is very good.

Important Dates

Last Date of registration: 5th Dec. 2016

Selection Intimation to the applicant: 8th Dec. 2016

(Through E-mail only)

Course Date: 15th – 17th Dec. 2016.

A Short Term Course

on

Applied Mathematics and Mechanics of Composite and Functional Materials (AMMCFM-2016)

15th Dec. – 17th Dec. 2016



Organised by



Department of Mechanical Engineering
National Institute of Technology
Rourkela 769008 India

Address for correspondence

Dr. Subrata Kumar Panda

Coordinator, AMMCFM-2016

Department of Mechanical Engineering

National Institute of Technology

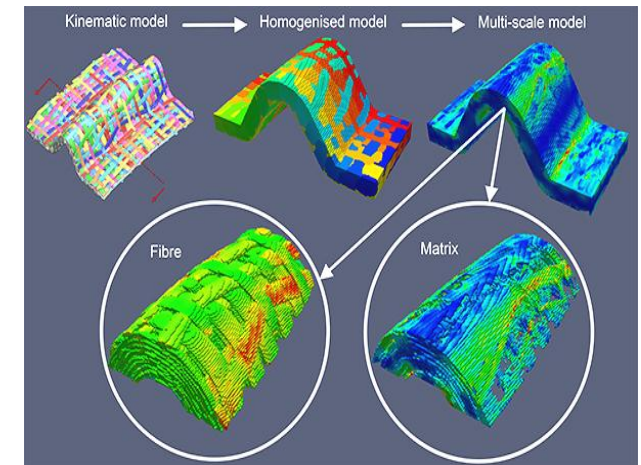
Rourkela 769008 ODISHA INDIA

Ph. No: 0661-2462529(O) 09658583368 (M)

Email: ammcfm@gmail.com, pandask@nitrkl.ac.in

Introduction

Composites became more and more to a significant topic for innovative engineering solutions. At this point of time, they are the best alternative for steel and comparable metals in terms of stiffness, mechanical properties and weight saving. In general, composites are made out of fibers, which are embedded in a complex polymer matrix. The simulation and modeling of composite structure can be realized in several ways. The necessary explanation of the mechanics of composite structure in accordance with the physical reality is also very much important. The finite element method is widely used for the complex boundary value problems encountered in advanced composite structure. In addition, the complicated geometries and variations of material properties can also be handled using FEM ease. Due to these advantages, FEM has emerged as a versatile and powerful tool in computational engineering. Due to the exponential development of computing power, the process of optimizing structures has rapidly evolved in last decades from the experience and knowledge of engineers to automatic tools based on more or less classical mathematical algorithms and techniques. These advancements have enabled the possibility of efficiently treat complicated problems where the mechanical intuition is very limited, and this may reduce the cost of long periods of design through trial and error. By the end of this program, participants will have a comprehensive understanding of processing, modeling and analysis of composites including other functional materials.



Course outline

Module I

Introduction

Introduction to mechanics of composite and functional materials and their types

Module II

Modelling

Steps of mathematical modeling for the realisation of physical model. The material model using FEA tool/MATLAB

Module III

Structural Analysis

Experimental and numerical static and dynamic analysis of composite and functional material modelling and analysis.

Module IV

Case study and hand on practice

Lab based work including experimental work for layer structure including the functional materials.

Who should attend?

All practicing engineers working in private, public, government organizations/industries, scientists/engineers from R&D establishments, faculties, research scholars and students from engineering institutions are eligible to apply.

Resource persons

Faculties from NIT Rourkela and professionals from industries.

Course fee

Professionals from Industry & R&D units: **Rs. 4,000/-**

Faculty from Academic Institutions: **Rs. 2,500/-**

Students/Research Scholars: **Rs. 1,500/-**

The course fee includes course material and working lunch.

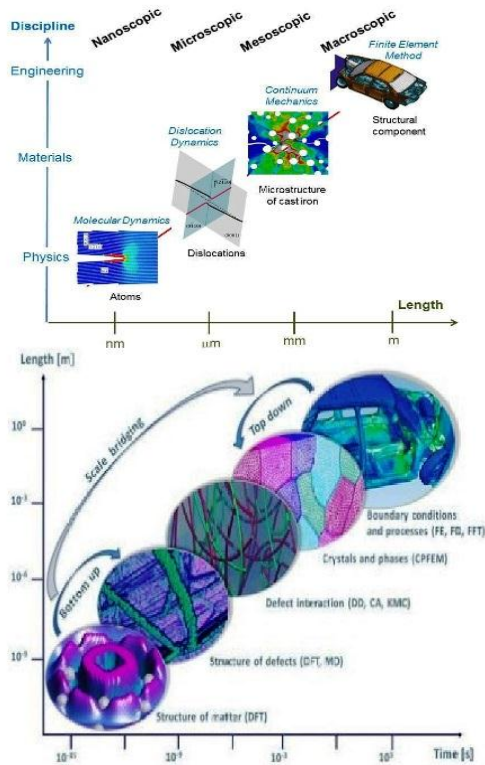
Participant who attends the full course will be issued a certificate of participation.

How to apply?

Interested participants may send their application in prescribed form along with the registration fee to the program coordinator on or before Dec 5th, 2016.

Mode of Payment

All payments should be made through A/C Payee Demand Draft drawn in favour of "Continuing Education, NIT Rourkela" payable at SBI, NIT Campus Branch, Rourkela (Code-02109).



Boarding and Lodging

Accommodation on twin sharing basis can be arranged in the institute hostels/guest house subject to availability and on prior payment.*

Room tariff (May change without notice).

Twin sharing per person per day: Rs.600/- (South Block)

Twin sharing per person per day: Rs.300/- (North Block)

Breakfast and dinner can be availed in the hostel/guest house on payment.

There are also many good hotels in Rourkela; the same can be booked on request and prior payment.

(*In hostels the accommodation can be arranged with a subsidiary rate for student participants)

Note:

- Incomplete registration form/without DD will be rejected.
- Registration fee is non-refundable.
- No TA/DA will be provided to the participants.
- Only limited number of participants will be selected on first-cum-first serve basis.

APPLICATION FORM

Short Term Training Program

on

Applied Mathematics and Mechanics of Composite and Functional Materials (AMMCFM-2016)

(15th Dec. – 17th Dec. Dec. 2016)

Last date of registration: 5th Dec. 2016

Name:

Gender: M / F

Highest Qualification:

Designation:

Organisation:

Address: -----

E-mail: -----

Mobile No: -----

Details of registration fee:

D.D. No:

Amount:

Date:

Place:

Signature

Date: