About the 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 centre 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.

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.

Important Dates

Last Date of registration: **12th June. 2023**

Selection Intimation to the applicant: **15th June. 2023**

(Through E-mail only)

Course Date: 26th – 30th June. 2023.

About the Institute

National Institute of Technology (NIT), Rourkela, was founded as Regional Engineering College, Rourkela, in 1961. It is a prestigious Institute with a reputation for excellence at both undergraduate and postgraduate levels, fostering the spirit of national integration among the students, close interaction with industry and a strong emphasis on basic and applied research. It has been consistently ranked within the TOP 20 engineering institutes for five consecutive years as per MHRD's NIRF Ranking, Govt. of India.

How to apply?

Interested participants may send their application in prescribed form along with the registration fee to the email id: asmmmnitr@gmail.com on or before June 15th, 2023.

Organizing Committee

Patron

Prof. K. Umamaheshwar Rao

Hon. Director, NIT Rourkela

Chairman

Prof. Susanta Kumar Sahoo

HOD Mechanical Engg., NIT Rourkela

Coordinator

Prof. Subrata Kumar Panda

Department of Mechanical Engineering

Co-coordinator

Dr. Behera Srinivas

Department of Mechanical Engineering

A Hands on Workshop on

Advance Structural Material and Multiscale Modelling(ASMMM-2023)

Skill- Based Learning for Present and Future Innovations

During

26th June – 30th June

Organised by

Department of Mechanical Engineering
National Institute of Technology
Rourkela 769008 India

Address for correspondence

Coordinator

Prof. Subrata Kumar Panda

Professor

Department of Mechanical Engineering

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

Email: pandask@nitrkl.ac.in

Co-coordinator

Dr. Behera Srinivas

Assistant Professor

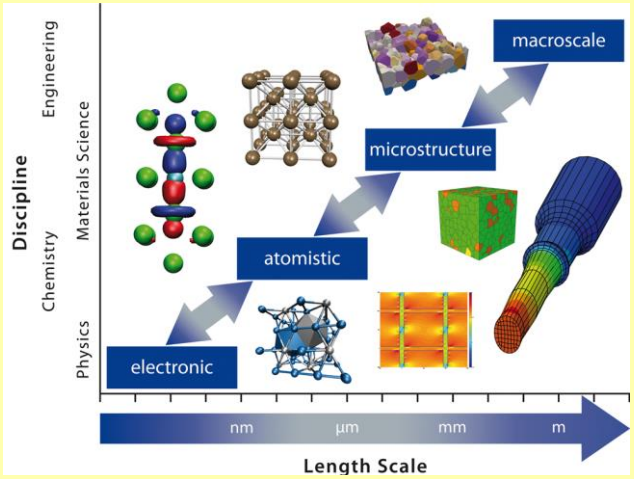
Department of Mechanical Engineering

Ph. No: 9700012002(M)

Email: srinivasb@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 fibres, which are embedded in a complex polymer matrix. The simulation and modelling 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, modelling and analysis of composites including other functional materials



Course outlines

Module I: Introduction

Introduction to composite, functional materials and their classifications. Failure theories and their importance in design.

Module II: Modelling

Steps of mathematical and simulation modeling for the realisation of physical model. Implementation of material modelling steps via FEA tool/ MATLAB/ ABAQUS/ Gmsh/ ANSYS,

Module III: Structural Analysis

Fabrication, characterization, Experiment and numerical analysis (static and dynamic) of various advanced material modelling.

Module IV: Case study and hands on practice

Lab based work including experimental work for layer structure with and without functional materials

Resource persons

Faculties from NIT Rourkela and professionals from industries.

Course fee

Professionals from Industry & R&D units:	**₹ 10,000/-**
Faculty from Academic Institutions:	**₹ 4,500/-**
Students/Research Scholars:	**₹ 3,000/-**

The course fee includes course material and working lunch. Participant who attends the full course will be issued a certificate of participation.

Mode of Payment

Please transfer the Fee amount to the following bank account (details given below). Attach the payment receipt along with the application form for registration.

Name: CONTINUING EDUCATION, NIT ROURKELA
SBI Account No: 10138951784
Bank: State Bank of India Branch: NIT Campus Rourkela
IFSC Code: SBIN0002109
No registration fee for students and faculty of NIT Rourkela

Boarding and Lodging

Accommodation on single/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).
Single occupancy per day: ₹600 + 12% GST (North Block)
Single occupancy per day: ₹950 + 12% GST (South 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/payment 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
Advance Structural Material and Multiscale Modelling
(ASMMM-2023)
(26th June – 30th June 2023)
Last date of registration: 12th June 2023

Name:

Gender: M / F

Highest Qualification:

Designation:

Organization:

Address: ----------

E-mail: ----------

Mobile No: ----------

Details of registration fee:

UTR No. / UPI Transaction ID:

Amount: **Date:**

Place: **Signature**

Date: