

About NIT Rourkela

The erstwhile **Regional Engineering College (REC) Rourkela** was converted to a deemed university and renamed as **National Institute of Technology, Rourkela** on 26th June, 2002. It was declared as **An Institution of National Importance** through the parliament act 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 as well as technology during the last decade. NIT Rourkela provides quality education in a diverse and multi-cultural environment. The mission of the institute is to meet the needs of the industry and commerce by providing human resource with the required knowledge and skill and also by promoting, dissemination, developing and transferring technology. The institute strives hard 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 as well as post graduate students along with advanced research.



Mechanical Engineering Department

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. The department offers various PG specializations and presently has more than hundred PhD scholars enrolled. The department is well equipped with

infrastructure to meet various requirements of UG, PG courses and to pursue advanced level of research.

How to Reach NIT Rourkela?

Rourkela is on the Howrah (Kolkata)-Mumbai main line of South Eastern Railway. The railway station and intrastate bus terminus are 8 Km and 2Km from the NIT campus, respectively. The airports near to Rourkela are Ranchi, Bhubaneswar, Raipur and Kolkata. It is well connected to major cities of India by direct rail link. Frequency is good.

Dates to Remember

Last Date of Registration: May 24, 2014

Intimation Regarding Selection: May 31, 2014
(Through Email only)

Course Duration: June 6-8, 2014

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.

Address for Correspondence

Dr. SAURAV DATTA

COURSE COORDINATOR, MOOMAM-2014

Assistant Professor

Department of Mechanical Engineering

National Institute of Technology

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Resource Person(s) from NITRKL

Dr. SAURAV DATTA, Assistant Professor, ME

Prof. SS MAHAPATRA, Professor, ME

A Short Term Course

On

Multi-Objective Optimization Methods and Applications in Manufacturing (MOOMAM-2014)

6th to 8th June, 2014



To be Organized By



**Department of Mechanical Engineering
NATIONAL INSTITUTE OF TECHNOLOGY
ROURKELA-769008, ODISHA, INDIA**

Coverage/ Theme of the Course

In recent technological era, globalization has brought new challenges for the manufacturing industries, towards improving quality and productivity simultaneously, in order to reduce costs and to increase the performance of the machine tools. Process simulation is one of the most important aspects in any manufacturing/production context. Process efficiency or process performance yield is evaluated in terms of different objective functions or process output responses. Therefore, finding the best optimal parameter combination can lead towards improvement of the overall process efficiency.

The performance of the process can be improved by applying optimization to the simulation model with respect to its process control parameters. Single objective optimization method often creates conflict, when more than one response variables need to be optimized simultaneously. In order to minimize cost and to maximize production rate simultaneously; multi-objective optimization approach should be explored. In this course, multi-objective optimization methods are to be discussed which are applicable for manufacturing environment for quality improvement and offline quality control any process/product.

Important Topics

**Quality versus productivity in manufacturing
Optimization problems in manufacturing
Multi-criteria decision making (MCDM) and
multi-objective optimization**

Taguchi's optimization philosophy

**Taguchi based multi-response optimization
approaches**

Desirability function approach

Utility theory

TOPSIS

Grey relational analysis

MOORA method

Fuzzy Inference System (FIS)

Principal Component Analysis (PCA)

Hybrid optimization philosophies

Six-Sigma

Prospective Participants

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

Course Fee

Professionals from Industry and R&D units:

Rs. 10,000/-

Outstation Participants

(Faculties/Research Scholars/Students):

Rs. 3,500/-

The course fee includes working lunch and refreshment during programme days. After successful completion of the course, participants will be issued a certificate of participation. **Course fee doesn't include accommodation.**

Mode of Payment

All payments should be made through A/C payee Demand Draft drawn in favor of "Continuing Education, NIT Rourkela" payable at SBI, NIT Campus Branch, Rourkela-769008 (Code-2109). Demand draft along with completely filled application form should reach the course coordinator **on or before May 24, 2014**. Registration form can also be downloaded from www.nitrkl.ac.in.

How to Apply?

Interested participants may send their application in prescribed form along with the registration fee to the programme coordinator **on or before May 24, 2014**.

Boarding and Lodging

Accommodation (Twin Sharing) may be arranged in the institute guest house/ hostel, if registration is made on-time; however it is chargeable. The participants registering late should arrange accommodation of their own. Plenty of hotels are there in and around the city.

REGISTRATION FORM

Short Term Course

On

**Multi-Objective Optimization Methods and
Applications in Manufacturing
(MOOMAM-2014)**

6th to 8th June, 2014

Last Date of Registration: May 24, 2014

Name:

Gender: M/F.....Date of Birth.....

Highest Qualification:

Designation:

Organization:

Address:

Email ID:

Mobile Number:

Payment Details

DD Number:

Amount:

Date & Place:

Signature

Participants are requested to bring scientific calculator for the tutorial session.