

## Course Coordinator



**Prof. Mohammed Rajik Khan** is a Professor and former head, Department of Industrial Design, National Institute of Technology, Rourkela, Odisha, India. He received his B.E. degree in Mechanical Engineering from Madhav Institute of Technology and Science (MITS), Gwalior, India, in 2001, M.Tech. in Mechanical Engineering from National Institute of Technology, Kurukshetra, India in 2006 and Ph.D. degree in Mechanical Engineering with specialization in CAD from the Indian Institute of Information Technology, Design and manufacturing (IIITDM) Jabalpur, MP, India, in 2011.

His current research interests include Innovative Product Design, Assistive Devices for Elderly, Physical Ergonomics, MSDs, Geometric Modeling, Bio-Mechanical, CAD, etc.

## Resource Person

**Mr. Mahesh Suradkar** is an Application Engineer in 3D Engineering Automation LLP, Pune, India. He is a very experienced JACK and Human Simulation industrial trainer - with vivid experience in handling CAD, Simulation and Finite Element Software.

## Overview

Occupational ergonomics is a multidisciplinary perspective for promoting safety and health through effective work design. This 01-day, online workshop, provides guided practice in Siemens Tecnomatix Jack Software for human-centered design, simulation and ergonomics used by practitioners in the field. It's a premier human simulation tool for populating your designs with virtual people and performing human factors and ergonomic analysis. It helps you to improve the ergonomics of your product designs and refine industrial tasks. Jack, and its optional toolkits, provides human-centered design tools for performing ergonomic analysis of virtual products and virtual work environments. This workshop will deliver lessons on Jack to enable you to size your human models to match worker populations, as well as test your designs for multiple factors, including injury risk, user comfort, reachability, line of sight, energy expenditure, fatigue limits and other important human parameters.

## Objectives

1. To enable students to develop a strong base for solving occupational ergonomics problems.
2. To enable scholars to develop an understanding for seamlessly integrating human factors and ergonomics into the planning, design and validation stages of your product design and development work.
3. Upon completion of the training, the participants will gain the knowledge and understanding of complete steps involved to use Tecnomatix Jack software to address ergonomics problems.

## Course Contents

Course participants will learn these topics through online lectures and hands-on practical sessions

- Jack's Interface
- Working with Humans
- Working with Objects
- Animation System Module
- Task Simulation Builder

## Who can Participate:

Research Scholars (ID, Mechanical Engineering Department) from our Institution.

## Registration Fee:

No fee involved.

## Registration Process:

Spot registration at the venue is allowed. Room No.ID201; Schedule: 10 November 2023 @ 10.00am to 1.00pm and 2.00pm to 5.00pm

## About NIT Rourkela

NIT Rourkela is a Ministry of Education, Government of India funded premier national level institute of higher learning for engineering, science and technology located in the steel city of Rourkela, Odisha, India. The institute was established as Regional Engineering College Rourkela in 1961 and was elevated to a deemed university under the name of National Institute of Technology, Rourkela in the year 2002.

NIT Rourkela is ranked 16 in the NIRF Rankings 2023 of Indian Engineering Universities. Times Higher Education (THE) World University Ranking 2024 has placed NIT Rourkela in the rank band of 601-800 in Engineering and Technology (by subject). Also, ranked 59 in QS Southern Asia University Rankings, 2023.

The main objective of the Institute is to produce quality Engineers and Scientists in Graduate and Post-Graduate levels in various branches of engineering and science. The institute with a lush green campus area of 650 acres has twenty departments, three academic centers and six service centers. The Institute has a very vibrant campus life with ten hall of residence for students, residential quarters for employees and two guest houses for visitors. The Institute has been consistently ranked among the best technical institutes in India. The Institute has been modernized by several foreign collaborative research projects. A very good number of sponsored research and consultancy projects are running at present.

## ABOUT DEPARTMENT

The Department of Industrial Design aims to create the next generation Industrial designers and innovators who can provide innovative design solutions to the complex challenges faced by the industry and society. The Department offers a B.Tech and a M.tech program in Industrial Design. The Department has well qualified and experienced faculty, and good laboratory facilities. Currently, the Department is executing several consultancy and collaborative R&D projects with reputed industries and research organizations like DRDO, BRNS, ICMR, DST, etc. The Department also offers Ph.D programme in Industrial Design.

For details please contact

Principal Coordinator

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# Science and Engineering Research Board (SERB)

Sponsored

01 Day Workshop on

# Research Facility Training Program on Occupational Ergonomics

November 10, 2023



Organized by

**Department of Industrial Design  
National Institute of Technology Rourkela  
Rourkela, Odisha-769008**