

## Learning objectives of this workshop

- ✓ To give young researchers an opportunity to interact with experts in the areas of energy storage devices.
- ✓ Understanding the principles of supercapacitors
- ✓ Learning about energy storage materials
- ✓ To demonstrate fabrication of real devices and check their electrochemical performances by cyclic voltammetry (CV)
- ✓ To uncover the importance of molecular simulation for energy storage materials
- ✓ To understand the behaviour of materials under various stress and strain
- ✓ To demonstrate electrochemical data analysis by python

## Training session

- ✓ The hands-on training sessions will provide participants practical experience to synthesize conducting polymers and various metal oxides. They will learn about different electrochemical techniques to check the performances of fabricated devices. A brief idea about the role of band gap in energy storage materials will be demonstrated by molecular simulation. They will also learn basics of CV data analysis by Python language

## Organizing Committee

### Patron

Prof. K. Umamaheshwar Rao  
(Hon. Director, NIT Rourkela)

### Chairman

Prof. Abanti Sahoo, Head & Professor  
Department of Chemical Engineering  
NIT Rourkela

### Principal Coordinator

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## KARYASHALA

(High-End Workshop)

on

Synthesis of electroactive  
hybrid composite materials and  
their application in  
supercapacitors for portable  
and smart electronics

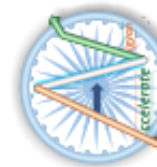
Mar 4 - Mar 10, 2024

Organized By

Department of Chemical  
Engineering  
National Institute of Technology  
Rourkela  
Odisha-769008



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## About NIT ROURKELA

National Institute of Technology, Rourkela stands tall as one of the prestigious institutes of India since 1961. It nurtures young brains in a very productive way keeping national importance as the priority. The institute offers diversified undergraduate and postgraduate courses in science, engineering, planning and architecture, management, and humanities. Fundamental theoretical studies and cutting-edge research innovations have been shaping a technologically advanced future. The Institute has a QS Asia ranking of 281-290, which is quite commendable. Apart from academic excellence, it has outstanding infrastructures of hostels, faculty and staff quarters, guest house, technology clubs, activity canters covering 262 hectares with full of greeneries. The primary mission of NIT Rourkela is to contribute to the field of science and technology and evolve as a globally recognized institute.

## About the Department

Chemical engineering is one of the most important disciplines which conceives process parameters and helps in developing technologies for the full-scale production based on experimental or simulated data.

The demand of Chemical engineers has been increasing because of the growing industries. Apart from traditional career options in the chemical, oil, and energy industries, chemical engineers have been becoming enthusiastic in biomedical, pharmaceuticals, environmental engineering, and electronic device fabrication. Chemical engineers play a very essential role in these areas since they involve the physical and chemical transformation of materials. To execute these jobs, Chemical engineers must have prominent knowledge in science and engineering principles associated with these technological processes.

## KARYASHALA

(High-End Workshop)

on

**Synthesis of electroactive hybrid composite materials and their application in supercapacitors for portable and smart electronics**

**Mar 4 - Mar 10, 2024**

### REGISTRATION FORM

Name of  
Scholar:.....

Name of  
Supervisor:.....

Department:.....

Institution:.....

Institute Address:  
.....

E-mail:.....

Mobile No:.....

(Letter of Recommendation from Supervisor need to be uploaded or sent through email)\*

Date: .....

Signature of Scholar.....

