Registration form

Name: _____

Designation: _____

Organization: _____

Address for correspondence: _____
E-mail: _____

Phone: _____

Particulars of Registration Fee:

DD No.: _____ **Date:** _____

Amount: _____ **Bank:** _____
Transaction No.: _____
Date: **Signature:**
Place:

The details of the account is mentioned below:
Name – CONTNUING EDUCATION NIT ROURKELA
Acct. no. – 10138951784
Bank – State Bank of India
Branch - NIT Campus
IFS Code – SBIN0002109
Account type - Savings
Link for registration:
https://forms.gle/Qc13nGdg2ccc58ix6

Course venue

NIT Rourkela

The National Institute of Technology Rourkela (NIT Rourkela) was originally known as the Regional Engineering College Rourkela (REC Rourkela). It was founded on August 15, 1961, by India's first Prime Minister, Jawaharlal Nehru. It was granted autonomy in 2002 and currently operates as one of the NIT under the MHRD. NIT Rourkela provides graduate and post graduate degrees for 21 departments in Engineering, Science, Planning and Architecture, Management, and Humanities. The MHRD has recognized NIT Rourkela is ranked 16 (including IITs). The Times Higher Education World University Rankings 2018 placed NIT Rourkela 601-800 globally and 126 globally. The institute's 262-hectare campus is surrounded by beautiful hills, offering a stunning revitalizing setting suitable to study and research. The Institute's lush green campus accommodates all students, faculty, and staff. The campus provides everything a youth needs to build personal, social, and intellectual abilities.

Course deliverables

This 5 day basic electrochemistry course will cover fundamental aspects of electrochemistry and its techniques that are applicable in different sectors. The course will enable beginners to establish a solid foundation in electrochemistry before moving on to advanced topics. Exercises, hands-on practical sessions and virtual experiments throughout the course will help participants understand the basic concepts and fundamentals important to electrochemistry. It provides an excellent avenue for electrochemistry scholars, practitioners, industrialists, operation managers, battery and fuel-cell related engineers, quality control personnel and those involved in analysis to update their appreciation of electrochemistry and the awareness of the related emerging technologies.

Contact details

Dr. Adhidesh S. Kumawat

Coordinator

Assistant Professor

Dept. of Chemical Engineering

NIT Rourkela

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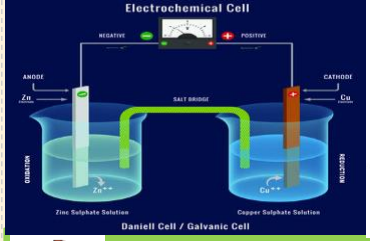
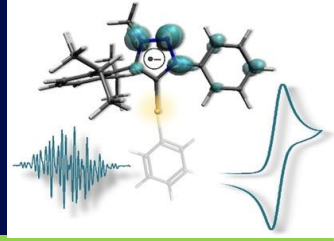
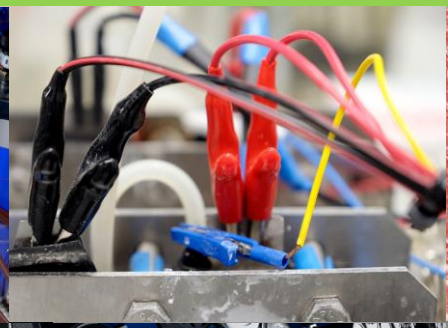
E-mail: kumawata@nitrkl.ac.in

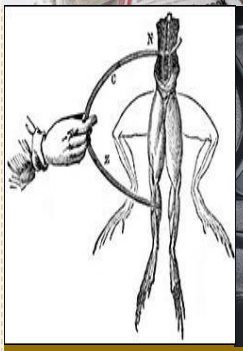




2nd Short term course On Electrochemistry – Fundamentals and Applications in Engineering (EFAE-22)

December 23 - 27, 2022





Organized by

Dept. of Chemical Engineering

National Institute of Technology Rourkela

Rourkela-769008

Odisha, India

Introduction to the course

The fields of electrochemistry and analysis of electrochemical processes have been evolved substantially in the last decade. This has been majorly due to the advancement in electronics and integration of electronics with physical sciences, for which electrochemistry establishes great avenues. It has touched every sector, starting from analysis (pH sensors), energy (batteries), industries (chlor-alkali , electrodeposition), healthcare (glucose sensors) and the list goes on. It has become imperative that the technological development going hand-in-hand with electrochemical advances in terms of knowledge, technologies, devices and even industrial processes. The glimpse of renewable and green technologies could be seen through electrochemical point-of-view.

Keeping the current scenario in purview, this course has been designed to explain the basic terminologies, fundamental aspects, thermodynamic and kinetic principles and various analytical techniques related to electrochemical processes. Eventually, the course intends to discuss the applications and industrial aspects of electrochemical practices and R&D that can accelerate the ultimate goal for achieving sustainability.

Course outline

Module – I	Introduction to Electrochemistry, Nernst equation and applications, terminology, Potentials and Thermodynamics of Cells, Butler-Volmer equation
	Electrochemistry Software practice
Module – II	Electrode kinetics, Potentiometry and Redox Titrations, Coulometry, Dynamic electrochemistry – Depletion layer and Cotrell equation
	Electrochemistry Software practice
Module – III	Electrochemical Techniques – Static and Dynamic measurements, Polarography – E1/2 half wave potential, Randles Sevcik equation and its implications, Voltammetric analysis applications – Glucose Sensor
	Electrochemistry Software practice
Module – IV	Applications of Electrochemistry
	Hands-on Demonstration – Electrochemistry Lab
Module – V	Applications of Electrochemistry
	Hands-on Demonstration – Electrochemistry Lab

Who should attend?

- young researchers and faculties
- Electrochemist, bachelor-master-doctoral scholars of engineering and science disciplines
- Industry personnel and those involved in battery, sensing and energy storage.
- Facility owners and users who are concerned with energy storage materials, battery and supercapacitors..

Successful participants who will attend the whole program will be given participation certificate.

Important Dates

Last date for receipt of application is 21st of December 2022 and the notification of acceptance will be by 22nd December.

Registration Fees

Research Scholars	: INR 100
Faculties from institutes	: INR 200
Industry delegates	: INR 300

- The course fee includes online course material.
- Participants (Faculty members and Ph.D. students) from NITRKL are exempted from paying registration fees.

Resource Persons

Dr. Adhidesh S. Kumawat
Assistant Professor, Dept. of Chemical Engineering, NIT Rourkela