

About the Workshop

Water pollution due to oil spills, accidental dumping of crude oil, petroleum by-products, and hazardous organic solvents from chemical industries has posed significant challenges for the marine ecosystem. The dreaded impact of the oil spill and industrial effluents discharged into water bodies is enormous and associated with an adverse effect on biodiversity. The above factors have increased demand for an effective solution to remove toxic dye, oily effluents, and organic solvents mixed with water. Traditional practices like gravitational separation, skimming, flotation, centrifugation, flocculation, and coagulation have shortcomings. The significant drawbacks include low separation efficiency, prolonged separation time, high energy requirements, man-hours, and complicated steps that warrant autonomous technology. In this context, macroporous sorbents are considered an economical and viable bid for oil recovery owing to their ease of fabrication, availability, and round-the-clock operational capability.

The proposed workshop tries to address the above pivotal issues and challenges related to water contamination and give an overview of the possible solutions in terms of developing macroporous sorbent, filtration membranes (including metallic mesh, fabrics, textiles, and thin film), and manufacturing challenges associated with it such that future technologists and researchers from industries and academia can come up with novel strategies to develop a permanent solution preventing water contamination.

Target Audience

The conference is open to faculties, research scholars, students, and professionals from Industries, and research laboratories and student/faculty/staff members of NIT Rourkela and other academic institutes.

Registration Fee : Nil

Last date of registration : 19th March 2025

Link will be sent ONLY to the registered participants.

ORGANIZING COMMITTEE

Patron

Prof. K. Umamaheshwar Rao
Director, NIT Rourkela

Co-Patron

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Dean-SRICCE, NIT Rourkela

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Student Volunteers

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3-DAY
NATIONAL
WORKSHOP ON



ADVANCED MATERIALS FOR TOXIC DYE REMOVAL AND OIL- SPILL REMEDIATION (AMTDROR'25)

20-22 March 2025
(Virtual mode)



Organized by



Department of Ceramic Engineering
National Institute of Technology,
Rourkela

Sponsored by

Anusandhan National Research Foundation
(ANRF)



ABOUT THE DEPARTMENT

The Department of Ceramic Engineering at NIT Rourkela was established by Prof. B.N. Samaddar in 1994 and has traversed a long path specializing in the development of traditional and advanced ceramics and nurturing future ceramists for the nation. It boasts state-of-the-art high-temperature furnaces going up to 1700°C and sophisticated analytical instruments like FESEM, XRD, dilatometer, DSC, TGA, BET surface area, electrochemical workstation, Arbin battery tester, etc. The faculty members conduct sponsored research from industry, DST, DBT, BRNS, NRB, and Nanomission, focusing development of futuristic materials like photocatalysts, electrocatalysts for hydrogen generation, and industrial toxic dye degradation, solid oxide fuel cells, lithium-ion batteries, graphene-based supercapacitors, nanomaterials for water, energy, and environment, advanced ceramics from polymeric precursors, materials development for tokamak fusion reactors, nanocarriers for drug delivery to name a few as well as improved industrial products like advanced refractories and glass.

ABOUT THE HOST INSTITUTE

The National Institute of Technology Rourkela (NIT Rourkela) is an institute of national importance created under the Act of Parliament. NIT Rourkela provides quality education in a diverse and multi-cultural environment. The vision of the institute is to become an internationally acclaimed institution of higher learning that will serve as a source of knowledge and expertise for society and be a preferred destination for undergraduate and graduate studies. The institute offers Ph.D., M.Tech., B.Tech., MBA, and M.Sc. programs in 21 branches of engineering, management, and science. The institute research centers are engaged in consultancy, research, and developmental activities and have received funding from several bodies such as BARC, BRNS, CSIR, DST, DBT, DAE, DRDO, ISRO, ICMR, and other private industries. It's consistently ranked within the TOP 20 engineering institutes for 5 consecutive years as per MOE's NIRF ranking (15), Govt. of India, and has retained a good world ranking among its peer institutes. The city of Rourkela is a bustling industrial town, cosmopolitan by nature, and is well connected to all parts of the country by road, rail, & air. It is en route to the Howrah-Mumbai main line of the South-Eastern Railway. Nesting amidst greenery on all sides. The NIT campus is approximately 7 km from Rourkela railway station. The nearest airports are Rourkela (7 km), Jharsuguda (130 km), Ranchi (165 km), Kolkata (450 km), and Bhubaneswar (315 km) from NIT Rourkela.

PREREQUISITES

The entire workshop will be virtual and shall have the following prerequisites:

- Participants must have access to the laptop/desktop with a stable internet connection.
- Participants must possess a Google account (xxxx@gmail.com).

TOPICS TO BE COVERED

Industrial Dye Degradation, Heavy Metal Removal, Photocatalysis, Oil-Spill Remediation, Desalination, Bio-remediation, Membrane for Wastewater Treatment, Micro and Nanofiltration, Innovative Concepts in Industrial Water Treatment & Management

REGISTRATION DETAILS

Registration is FREE. Please scan the QR code or fill out the Registration form

Please Note

- Incomplete registration forms will not be considered.
- E-certificates will be provided to the candidates who will attend entire sessions spanning over 3 days.
- There is no registration fee for the participants from the host institute.
- Joining link(s) through Google Meet/Zoom/MS-Team will be shared in due course of time.



Scan the QR code to register online

or go to link <https://forms.gle/nwRJEohYZjgM8Mrk7>

Resource Persons

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Dr. Arun Chowdhury (Mob. 9040929708)
Ms. Adyashakti Dash (Mob. 6371692391)
Department of Ceramic Engineering, NIT Rourkela, Odisha

REGISTRATION FORM

Salutation: Prof. Dr. Mr. Ms. Mrs. Other

Name :

Affiliation :

Organization :

Area of Research :

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Email :

Contact (Whatsapp) :

Alternate No. :

Date:

Signature:

Note

Registration is mandatory (the link for the workshop will be sent ONLY to the registered candidates).

Copies of this form can be used, if necessary.

Please send the filled-in form to the coordinator on or before March 19, 2025.

The details of the workshop and the form can also be downloaded from the institute website:

<https://www.nitrkl.ac.in>.