Two-week Workshop on

Emission Minimization Approaches and Performance of Pollution Control Equipment in Chemical & Allied Process Industries

Under the auspicious occasion of the Platinum Jubilee Celebrations of IIT Kharagpur

Date: November 16-27, 2026 **Venue: Department of Chemical Engineering, IIT Kharagpur**

Overview of the workshop

Environmental issues in Chemical and Allied Process Industries

Types of pollution

Air pollution: Source Reduction, Raw material substitution, Green chemistry, Process modification, Catalyst improvement, Equipment modernization, Resource Conservation, Water conservation, Energy efficiency, Heat recovery, Material recovery, Waste Minimization, Process optimization, Recycling and reuse, Solvent recovery, By-product utilization, Cleaner Production, Good housekeeping, Preventive maintenance, Leak detection, Inventory control., Selection and Design of Air Pollution Control Equipment's like Bag Houses, ESP, Cyclone Separator

Water pollution: Treatment Technologies , Physical Treatment, Screening, Sedimentation, Oil-water separator, Filtration. Chemical Treatment, Neutralization, Coagulation, Flocculation, Oxidation, Biological Treatment, Activated sludge process, Trickling filter, UASB reactor, Membrane Bioreactor (MBR), Advanced Treatment, Reverse Osmosis (RO), Ultrafiltration (UF), Nanofiltration (NF), UV Disinfection

Solid & Hazardous Waste Management: Waste characterization, Storage and handling, Incineration, Secure landfill, Composting, Co-processing in cement kilns, Resource recovery Compliance with emission standards Environmental legislation, Hands on Practice Sessions on Advanced Pollution Sampling, Monitoring, Analysis and Design.

Aim and Objectives

By the end of the workshop, participants will be able Understand major sources of pollution in chemical and allied industries. Apply pollution minimization techniques. Evaluate the performance of pollution control equipment. Understand environmental regulations and compliance. Improve resource efficiency through cleaner production.

Topics to be Covered

- Industrial Air Emissions: Sources, Characteristics & Environmental Impact
- Emission Minimization & Cleaner Production Strategies
- Environmental Regulations & Compliance Standards
- SOx & NOx Control and Flue Gas Desulfurization (FGD)
- Carbon Capture, Resource Recovery & Circular Economy Approaches
- Stack Emission Monitoring, CEMS & Performance Evaluation of Pollution Control Equipment
- Industrial Case Studies, Best Practices & Emerging Technologies

Organized by

Department of Chemical Engineering
Indian Institute of Technology Kharagpur
Kharagpur, Paschim Medinipur
West Bengal, India- 721302
Website: www.iitkgp.ac.in

Why to attend?

To provide participants with comprehensive knowledge of emission sources, prevention strategies, pollution control technologies, industrial best practices, performance evaluation of pollution control equipment, regulatory frameworks, and recent technological advancements. The programme will include expert lectures, industrial case studies, interactive discussions, and practical insights from academia and industry.

Who can attend?

- EHS, Sustainability & Pollution Control Professionals
- Officials from CPCB, SPCBs & Government Agencies, Plant EHS in charge, safety workers
- Faculty Members & Academicians
- Chemical engineers, Scientists, Researchers & R&D Professionals

Industry Professionals (Chemical & Allied Process Industries)

UG, PG, Ph.D. Scholars, PDF of chemical and environmental engineering

Programme Highlights

- Expert Lectures
- Industrial Case Studies
- Practical Design Concepts
- Equipment Performance Evaluation
- Sustainable Manufacturing Practices
- Course Materials
- Networking Opportunities
- Certificate of Participation

Registration Fees

Category Classification	Payable	Fee (Rs)
Industry	YES	100/=
Non-IIT Kharagpur Student	YES	100/=
Researchers	YES	100/=
IIT Kharagpur Student	NO	00
IIT Kharagpur Faculty/Staff	NO	00

Workshop Fees:

Fees Category	Fees (Rs.)
Faculty	6000/=
Industry	20000/=
Non-IIT Kharagpur Student	2500/=
Researchers of R&D Organization	5000/=
IIT Kharagpur Student	00
IIT Kharagpur Faculty & Staff	00

Nature of Participation: Hybrid Mode. For outstation participants accommodation and flooding charges will be extra. Participants required accommodation at IIT Kharagpur Campus should book their accommodation at least 30 days in advance.

Workshop coordinator: Prof. B. C. Meikap
Professor (HAG)
Department of Chemical Engineering, Indian Institute of Technology Kharagpur
Kharagpur 721 302, West Bengal, INDIA
Phone: 913222283958; Mobile: +919474624980; +918637893578
E-Mail: bcmeikap@che.iitkgp.ac.in; bcmeikap@gmail.com; bcmeikap@yahoo.in

About IIT Kharagpur

Established in **1951**, the **Indian Institute of Technology Kharagpur (IIT Kharagpur)** is the first and one of the most prestigious institutions among the IITs. Recognized as an **Institution of Eminence**, IIT Kharagpur is renowned for its excellence in education, research, innovation, and industry collaboration. Spread over a **2,100-acre** eco-friendly campus, the Institute offers world-class academic programmes across engineering, science, technology, management, law, architecture, and interdisciplinary studies. With a vibrant research ecosystem, state-of-the-art facilities, and a global network of distinguished alumni, IIT Kharagpur continues to contribute significantly to technological advancement, sustainable development, and nation-building.

About the Chemical Engineering Department

The **Department of Chemical Engineering, Indian Institute of Technology (IIT) Kharagpur**, established in **1951**, is one of India's oldest and most prestigious chemical engineering departments. Renowned for excellence in teaching, research, and innovation, the department has made significant contributions to chemical process engineering, energy, environmental engineering, separation processes, reaction engineering, advanced materials, and sustainable technologies. With state-of-the-art laboratories, distinguished faculty members, and strong collaborations with industry and academia, the department continues to lead cutting-edge research and develop innovative solutions to address global industrial and environmental challenges.