



SRM
INSTITUTE OF SCIENCE & TECHNOLOGY
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TWO-DAY CERTIFIED COURSE

Environmental Analysis for Emerging Contaminants

3rd and 4th February 2025

Venue: SRM Institute of Science and Technology, Kattankulathur, Chennai

Timings: 10:00 AM to 05:00 PM

Organizer

Prof. Paromita Chakraborty

REACH

Directorate of Research

SRM Institute of Science and Technology

Cerified Course

The "Environmental Analysis for Emerging Contaminants" certificate course was successfully organized on the 3rd and 4th of February 2025 as part of Phase II of the India-Norway cooperation project on capacity building for reducing plastic and chemical pollution in India (INOPOL). The Centre for Research in Environment, Sustainability Advocacy, and Climate Change (REACH) spearheaded the initiative under the Directorate of Research at SRM Institute of Science and Technology (SRMIST). The course aimed to enhance capacity building in environmental monitoring and pollution mitigation, particularly in analyzing emerging contaminants that pose ecological and human health risks.



Bringing together a diverse group of academicians, Ph.D., and postgraduate students, the program provided an interdisciplinary platform for learning and discussions on advanced environmental analysis techniques. The event was led by Prof. Paromita Chakraborty (Head – REACH), an expert in environmental sustainability, ensuring high-quality knowledge transfer and skill development.

Objective of the Course

1. To enhance participants' knowledge of environmental monitoring methodologies.
2. To introduce extraction protocols for detecting emerging contaminants.
3. To foster knowledge-sharing among academicians, researchers and students.

Key Highlights

- The sessions were led by **Prof. Paromita Chakraborty**, Head of REACH, who provided expert guidance throughout the program.
- Participants received hands-on training in high-end analytical techniques used for monitoring and detecting emerging contaminants in the environment.
- The course featured interactive discussions and practical demonstrations on extraction protocols for contaminants, ensuring a thorough understanding of the subject.

Day 1–Forenoon Session:

Technical session on sample collection and preparation for POP's Analysis

Discussed about the sample collection from different matrices such as sediments, water, air and the transport pathways of the emerging contaminants, different extraction techniques and final preparation for POP's Analysis.



Day 1–Afternoon Session:

Practical session on Filtration, Solid Phase Extraction, Microwave extraction, and Column cleanup for POPs analysis



Various instruments used for extraction technique such as solid phase extractor, Soxhlet apparatus, microwave assisted extractor, Rotary evaporator, and Air samplers such as PM 2.5 Air sampler, High volume Air sampler PM 10,

Day 2–Session:

Analytical Techniques class for POPs & Practical session on Instrumental analysis of POP



Outcomes:

1. Enhanced Knowledge on Emerging Contaminants – Participants gained an in-depth understanding of pollutants such as microplastics, persistent organic pollutants (POPs), and other hazardous substances affecting the environment.
2. Hands-on Training in Environmental Monitoring – Exposure to real-world sampling, analysis, and monitoring techniques to assess contamination levels in air, water, and soil.
3. Expertise in Advanced Analytical Techniques – Practical experience in high-end analytical instruments like GC-MS, GC-ECD, and other spectrometric methods used for detecting and quantifying emerging contaminants.



4. Proficiency in Extraction & Detection Protocols – Learning extraction methods (e.g., solid-phase extraction (SPE), Soxhlet apparatus, MARS) to isolate contaminants from environmental samples.
5. Interdisciplinary Learning – Interaction with academicians and researchers for knowledge-sharing and networking opportunities.
6. Capacity Building for Pollution Reduction – Aligning with the India-Norway INOPOL Project, the course contributed to developing skills required for policy-making, research, and industrial applications to reduce plastic and chemical pollution in India.
7. Encouragement for Future Research & Innovation – Motivating Ph.D. and postgraduate students to pursue research in environmental sustainability, risk assessment, and pollution mitigation strategies.

This programme successfully equipped participants with scientific, technical, and analytical skills necessary for tackling environmental contamination challenges.