



11th IICAQM WINTER SCHOOL ON AI FOR AIR QUALITY MANAGEMENT



Venue: Indian Institute of Technology Madras

Maintaining good air quality has become a crucial challenge, particularly in urban areas where pollution levels are often exacerbated by rapid industrialization, vehicular emissions, and other human activities. Air quality modelling helps predict and manage air pollution by identifying sources, tracking pollutant levels, and informing policy decisions. This enables effective strategies to mitigate air pollution's adverse effects on human health and the environment. By understanding air quality dynamics, policymakers can develop targeted interventions to reduce emissions and improve public health. Accurate air quality modelling also facilitates emergency response planning during pollution episodes. Furthermore, it supports urban planning and infrastructure development that prioritizes air quality. Effective air quality management ultimately contributes to sustainable development and environmental protection.

Registration link:

https://conf.code.iitm.ac.in/conf/IICAQM_Winterschool/login

Register Now

Eligibility

Ph.D./M. Tech./M. Sc or Final
year B.E./B. Tech. students
from IITS/NITs/AICTE/UGC
recognized colleges;
Professionals working in Air
Quality Management



14th - 18th Dec



Contact

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Registration Fee

Students	Rs. 12,500/-	Studying in IITs, IISc, NITs, Universities, Colleges, Institutes Approved by AICTE/ UGC
Professionals	Rs. 25,000/-	Working in a State and Central Pollution Board, Research Organization, Public Sector Undertakings (PSUs), Industry and NGO's

- Students must provide a bonafide certificate issued by the institute/organization. Accommodation will be provided only to students with valid Student ID.
- Registration fee payments should be made online. Payment is a must to complete the registration.
- Registration fee include electronic copy of lecture handouts, Lunch, IICAQM 2026 proceedings and conference kit.

Module 1: Fundamentals and Measurement of Urban Air Quality

1. Urban Air Quality: Processes, Phenomena and Key Pollutants.
2. Urban Micro-meteorology and Its Role in Air Quality Management.
3. Air Quality Measurement and Monitoring Techniques.
4. Introduction to Air Quality Modelling Approaches.
5. Hands-on Demonstration of Air Quality.

Module 2: Indoor Air Quality, Health, and Sustainability

1. Indoor Air Quality: Sources, Pollutants and Exposure
2. Indoor Air Quality Measurement and Monitoring.
3. Indoor Air Quality Modelling: Approaches and Application
4. Indoor Environmental Exposure and Human Health Risk Assessment
5. Hands-on Training on Indoor exposure assessment models (AirQ+ and MPPD).

Module 3: Concepts and Applications of Machine Learning in Air Quality Management

1. Basics of Machine Learning - Selection, Development and Evaluation of ML Models.
2. Explainable and Interpretable AI.
3. Emerging AI Applications in Air Quality Management
4. Hands-on Training on Air Quality Data Analysis and ML Modelling.

Module 4: Air quality management and policy making

1. Urban Air Quality Management: Principles, Concepts and Application
2. Citizen Science and Community-Based Air Quality Management (AQM)
3. Role of Air Pollution Perception in AQM
4. Communicating Air Quality Science for Public and Policy Action

Module 5: Pre-conference workshop

1. To explore AI-driven approaches for air-quality monitoring, forecasting, and data-informed pollution management.

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