

## About the Workshop

Understanding atmospheric aerosols has become increasingly vital as they influence climate, air quality, radiation balance, and human health. Over the past few decades, remarkable progress in ground-based and satellite remote sensing—supported by modern retrieval algorithms and advanced data analysis techniques—has significantly enhanced our ability to monitor, characterize and model aerosol properties. The wealth of multi-platform observations has opened new avenues to explore aerosol sources, transformations, and their regional and global impacts. This one-day online workshop focuses on the measurement techniques, retrieval approaches, and scientific insights related to aerosols, highlighting recent advances and emerging research opportunities. We invite you to join us for the workshop on “AEROSOLS: MEASUREMENT, RETRIEVAL AND IMPACTS” to be held on 17 December, 2025.

## Workshop Content and Outline

This online workshop will cover the following topics:

- **Aerosol Physics, Optics, and Impacts**

*Sizes, Formation pathways, Particle behaviour, Scattering/absorption, Refractive index, Optical traits like SSA, Phase function, Radiative forcing, Health impacts*

- **Aerosol Chemistry**

*Core chemical composition of different aerosol types, Chemical transformation processes, measurement and challenges, Chemical Pathways Shaping Climate and Health Impacts, Case Studies*

- **Remote Sensing of Aerosols**

*Role of wavelength, viewing geometry and polarisation, Ground-based and satellite-based Instruments, Columnar and Vertical Distribution, Operational products, Validation, Physics-based retrievals and challenges, AI/ML-based retrieval approaches*

- **Modelling of Aerosols**

*WRF-Chem, CMAQ, GEOS-Chem frameworks, Emission inventories, Coupled chemistry–meteorology feedbacks, AI/ML based approaches, Case studies*

- **Hands-on Training**

*Downloading, Familiarisation and Visualisation of MODIS/SENTINEL/AERONET data, iAOD software*

## Course Registration

- Course updates and other details will be available on URL- <http://www.iirs.gov.in/Edusat-News/>
- **Registered through Nodal centres.** The participant's registration must be approved by the coordinator of nodal centers.
- The participants can register and see their application status through URL- <https://elearning.iirs.gov.in/edusatregistration/> . In case, the application is pending for approval then participants are advised to contact the coordinator of respective nodal center.

### Registered as “Individual registrations”-

- The participants with individual registration will be automatically approved. All the registered participants will get their login credentials for ISRO Learning Management System (LMS)- <https://isrolms.iirs.gov.in> .

## Important links

To participate in this programme the interested organisations /universities/departments/institutes have to identify coordinator at their end. The identified coordinator will register online his/her institute as nodal centre in IIRS website (<https://elearning.iirs.gov.in/edusatregistration/coordinator>)

## Award of Certificate

**Registered through Nodal centres** : Based on 70% attendance, students will be awarded a "Courses Participation Certificate."

**Individual Registration:** A "Course Participation" certificate will be given to everyone who devotes at least 70% of each session's hours to the course. The course participation certificate will be available for download in ISRO LMS.

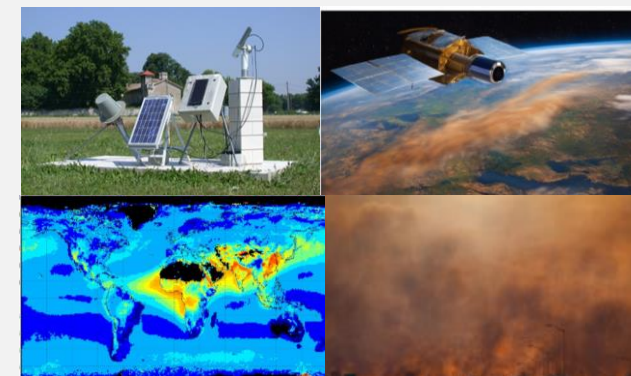
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## 1052th IIRS Outreach workshop



## One Day Online Workshop on

# “AEROSOLS: MEASUREMENT, RETRIEVAL AND IMPACTS”

**December 17, 2025**



### Organised by

**Indian Institute of Remote Sensing**  
Indian Space Research Organisation  
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