



**SERB Sponsored
National Workshop
on**

**Atmospheric Aerosol Measurements
and Modeling over India: Past decade,
Current status, and Challenges ahead
[26th – 28th July, 2023]**



ORGANIZED BY

**Center for Atmospheric and Climate Sciences
Indian Institute of Technology Madras
Chennai – 600 036
and
Indian National Young Academy of Sciences**

CONVENER

**Prof. Sachin S. Gunthe,
Center for Atmospheric and Climate Sciences (CACS)
IIT Madras**

CO-CONVENERS

**Dr. Shweta Yadav Dr. Anubhab Roy
Central University of Jammu CACS, IIT Madras**

VENUE

**Natural Aerosol and Bioaerosol High Altitude (NABHA)
Laboratory, College of Engineering Munnar,
Munnar – 685 612**

Background

Atmospheric aerosols play a critical role in climate change and air quality, with their interaction with cloud representing largest uncertainty in current and future understanding of the climate change. But their behavior and impact remain poorly understood, particularly over the Indian region. Over the past decade, efforts have been made to measure and model atmospheric aerosols properties over India, a region with significant aerosol emissions from both natural and anthropogenic sources.

The measurement campaigns have involved ground-based instruments and satellite observations, with largely focusing on understanding the spatial and temporal variation of aerosol concentrations. The data obtained has enabled the development of aerosol models that can simulate the behaviour of aerosols over the Indian region.

However, despite significant progress, there remain several challenges in this field. The complex interplay between aerosols, climate, and air quality requires more extensive and detailed measurements that cover a broad range of aerosol types and sources. Additionally, accurate modelling of aerosols at regional scales requires sophisticated techniques and large computational resources, which can be challenging to acquire and operate. Further the understanding of formation of secondary aerosols with improved understanding of multiphase and complex processes, and underlying mechanism is necessary.

The continuing efforts to understand atmospheric aerosols over India are critical for improved climate and air quality predictions. Further research and investment in measurement and modelling technologies will help address the current challenges and ultimately lead to a better understanding of the impact of atmospheric aerosols on the region.

The proposed symposium will address and brainstorm some of these issues through lectures by eminent speakers, and poster and oral presentations by the selected participants all across India.

ABOUT NABHA (NATURAL AEROSOL AND BIOAEROSOL HIGH ALTITUDE) LABORATORY

The unique geoclimatic location of Western Ghats provide excellent opportunity to investigate the properties of atmospheric aerosols and trace gases at the same location under contrasting prevailing winds depending upon the seasonal winds. With this motivation, situated at 1600 meters asl on the premise of College of Engineering Munnar, NABHA laboratory offers excellent opportunity to study the pristine air masses arriving at the observational site during Southwest monsoon season. These air masses originate over Indian ocean and represents the cleaner conditions. During the winter season, the observational site experiences the Northeasterly winds bringing the continental pollution at the site.



ABOUT COLLEGE OF ENGINEERING MUNNAR

College of Engineering Munnar (CEM), approved by All India Council for Technical Education (AICTE), New Delhi, is an Institute of higher learning established by Government of Kerala and is managed by the Centre for Continuing Education Kerala (CCEK). The Institution is currently affiliated to APJ Abdul Kalam Technological University Kerala from 2015 onwards.

Since its inception, CEM has been priding itself on creating professional opportunities for its students and equipping them to become highly successful on their chosen field. Located in one of the most scenic cities in the India, and associated with one of the finest universities in the region, the campus attracts students from all over the country. It is established in 26 acres of land in the Kannan Devan hills, just one kilometer from Munnar town.

ABOUT MUNNAR

Munnar is a scenic hill station in the southwestern state of Kerala, India. It is situated at an altitude of 1,600 meters above sea level and is known for its picturesque tea plantations, lush green forests, gushing waterfalls and diverse flora and fauna. The town boasts of several tourist attractions like Eravikulam National Park, Anamudi Peak, Mattupetty Dam, Echo Point, and Pothamedu View Point. It is also home to several hiking and trekking trails, making it a popular destination among adventure enthusiasts. Munnar's pleasant climate and serene ambiance make it an ideal place to unwind and relax in the lap of nature.



CONFIRMED SPEAKERS

Prof. Gufran Beig, NIAS, IISc, Bangalore
Dr. G. Pandithurai, IITM Pune
Prof. Shubha Verma, IIT Kharagpur
Prof. Sachin S. Gunthe, IIT Madras
Dr. Vijay Kanawade, University of Hyderabad
Dr. A. Jayakumar, Ministry of Earth Sciences
Dr. Shweta Yadav, Central University of Jammu
Dr. S. K. Mehta, SRM University

And poster/oral presentations by the shortlisted candidates.

REGISTRATION DETAILS AND TIMELINE

REGISTRATION FEES

Doctoral students from recognized institutions: INR 3000
Post-doctoral fellows/Faculty members: INR 5000

The registration fee includes the IIIAC equivalent return train ticket from nearest train station, local accommodation, food, registration kit, and symposium charges. An excursion to the scenic locations is also included in registration fees.

IMPORTANT DATES

Deadline for registration/nomination: 3/Jul/2023
Notification to the selected participants: 5/Jul/2023
Deadline for registration payment only for selected candidates: 8/Jul/2023

Limited [Maximum 35] participants will be shortlisted on the basis of statement of purpose. Shortlisted candidates will be invited to deposit registration fees and to submit an abstract. Mode (Poster/oral) of presentation will be communicated as recommended by the screening committee.

REGISTRATION PROCESS

The mode of payment for the registration, accommodation confirmation, and other details will be informed after 5th July only to the shortlisted candidates. Shortlisted candidates are required to pay the registration fees before 8th July failing to which the registration would be automatically cancelled.

E-mail : info@cacs.iitm.ac.in

Registration link is available at cacs.iitm.ac.in

Registration can be done by Scanning the QR code or just clicking on

<https://tinyurl.com/bdcf26c4>



MAJOR THEMES

- ❖ Aerosol research: International and Indian context
- ❖ Current trends in advancement of chemical and physical properties of aerosol: Indian perspective
- ❖ Atmospheric aerosols and health impact: A perspective from measurements and modeling over India
- ❖ Aerosol–Cloud–Biosphere Interaction on regional scale
- ❖ Role of Emission inventories in understanding the aerosol processes in atmosphere
- ❖ Importance of national network for aerosol measurements: Indian scenario.

FOR FURTHER DETAILS PLEASE CONTACT

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