



# Center for Atmospheric And Climate Sciences



Environmental Engineering Division  
Department of Civil Engineering, IIT Madras

## About Me

Equipped with a Master's degree in Environmental Sciences from Central University of Sikkim, I am a passionate researcher focused on environmental health. I possess a strong grasp of the link between particulate matter exposure and adverse health outcomes.. I aim for a research role where continuous learning and collaboration will directly contribute to deciphering the underlying complexities of this environmental health crisis

## Research Interest

- To quantify the overall Oxidative Potential (OP) of particulate matter (PM) using established acellular assays.
- Investigating the formation, stability, and concentration of Environmental Persistent Free Radicals (EPFRs) and their ability to generate Reactive Oxygen Species (ROS) within PM samples, using spectroscopic techniques.
- Establish correlations between PM chemical composition (e.g., transition metals, organic carbon, specific VOC-derived compounds) and the measured Oxidative Potential (OP), leading to a toxicological source apportionment of PM.

## Skills

Expertise in aerosol measurement and analytical chemistry, gained through hands-on operation of advanced instruments. Field experience includes size-segregated ambient sampling using the MOUDI and various PM samplers. Laboratory proficiency involves chemical characterization of samples utilizing Ion Chromatography (IC), ICP-MS, and Spectrofluorophotometry to derive detailed chemical profiles for source apportionment and toxicity assessments..



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