Contents

Resume of Sachchida Nand Tripathi

Personal Information

Name	: Sachchida Nand Tripathi
Nationality	: Indian
Date of birth	: July 24, 1971
Official address	: National Aerosol Facility building, Room no. 101, Indian Institute of Technology Kanpur, 208016, India
Telephone	: +91 512-6797845
Primary email	: snt@iitk.ac.in
Alternate email	: sachchida.tripathi@gmail.com
URL	: https://home.iitk.ac.in/~snt/
Residence	: House No.: 628, Type VI, Indian Institute of Technology Kanpur
Mobile	: +91 9415050540
Present designation	: Dean, Kotak School of Sustainability and HAG Professor, Department of Civil Engineering, Indian Institute of Technology Kanpur

Board Member

January 2025 onwards — Director Airawat Research Foundation, IIT Kanpur

Position Held

Jan 2025 – Present	Project Director, Airawat Research Foundation (AI-CoE for Sustainable Cities)
Jul 2024 – Present	Dean, Kotak School of Sustainability, IIT Kanpur
May 2023 – Present	Professor, Department of Sustainable Energy Engineering, IIT Kanpur
May – Jul 2022	Senior Fellow, Institute for Advanced Sustainability Studies (IASS), Potsdam, Germany
Nov 2019 – Present	Adjunct Professor, Centre of Excellence for Research on Clean Air (CERCA), IIT Delhi
Aug 2018 – Present	HAG Professor, Department of Civil Engineering, IIT Kanpur
Jun 2018 – Jul 2021	Head, Department of Civil Engineering, IIT Kanpur
Dec 2015	Visiting Professor, School of Civil Environmental Engineering, Georgia Institute of Technology, USA
Nov 2014 – Oct 2017	Coordinator, Centre for Environmental Science & Engineering, IIT Kanpur
Nov 2014 – Oct 2016	Adjunct Professor, Department of Earth Sciences, IIT Kanpur

Jun – Jul 2014	Visiting Professor, School of Civil Environmental Engineering, Georgia Institute of Technology, USA
May – Jul 2012	Professor, Laboratoire de Physique et Chimie de l'Environnement, University of Orleans, France
Apr 2012 – Jul 2018	Professor, Department of Civil Engineering & CESE, IIT Kanpur
Aug 2009 – Jul 2010	Senior Fellow, NASA Goddard Space Flight Center, Greenbelt, Maryland, USA
Jan 2008 – Mar 2012	Associate Professor, Department of Civil Engineering & CESE, IIT Kanpur
May – Jul 2006	Visiting Associate Professor, Centre for Climate System Research, University of Tokyo, Japan
Jun 2004	Visiting Researcher, NOAA Aeronomy Laboratory, Boulder, USA
Jul 2003 – Dec 2007	Assistant Professor, Department of Civil Engineering, IIT Kanpur
Jan 2002 – Jul 2003	Post-Doctoral Research Assistant, Atmospheric, Oceanic & Planetary Physics, University of Oxford, UK
Dec 2000 – Dec 2001	Visiting Scientist, Environmental Assessment Division, BARC, Mumbai

Academic Background

Ph.D. (Meteorology), University of Reading, UK (2000)

M.Tech. (Environmental Engineering), MNNIT, Allahabad (1995)

B.Tech. (Civil Engineering), IIT BHU (1992)

Citation Analysis

Google Scholar >16,838 citations; H-Index: 71 Sachchida Nand Tripathi - Google Scholar

ISI Web of Knowledge >11,757 citations; H-Index: 61 http://www.researcherid.com/rid/J-4840-2016

Scopus >13,087 citations; H-Index: 63 Scopus: AUID # 21935606200

ORCID Profile https://orcid.org/0000-0002-6402-4680

Field of Specialization

Climate Change, Air Quality, Nuclear Safety, Infrastructure Monitoring, Urban Governance

Extensive research in the past few decades has brought a sharp focus on aerosols as the single most important atmospheric component guiding sustainable development through their impact on air quality, weather, global climate, and public health. My research addresses these highly topical environmental questions through a comprehensive, science-centric approach, avoiding ad hoc methods. To conserve resources and ensure societal relevance, I have adopted an interdisciplinary framework that seamlessly links air quality, public health, and climate change. The people-centric

nature of my work has uniquely contributed to technological innovations and informed policy guidelines for securing clean air in India.

I led a study providing evidence of the aerosol-induced cloud invigoration effect (AIvE) during the Indian summer monsoon, demonstrating the importance of aerosol-cloud feedback via cloud condensation nuclei. A subsequent study, published in Nature Communications, showed the occurrence of AIvE throughout the Indian region, significantly altering cloud structures, radiation budgets, and monsoon rainfall patterns.

In the past decade, I have undertaken seminal work in developing state-of-the-art air quality monitoring and management technologies in India. I am credited with implementing the first large-scale, dense, real-time sensor-based air quality network across two major Indo-Gangetic Plain states, which has encouraged several Urban Local Bodies (ULBs) to adopt these technologies for improved decision-making. This work has enabled a paradigm shift making affordable, accurate, and scalable air quality data accessible to policymakers, climate researchers, and environmental groups at a nationwide level. This network is the second largest network globally.

My research group pioneered AI/ML-enabled dynamic hyper-local source apportionment (RTSA) methods, further enhancing real-time understanding of pollution sources. Our new study also discovered the genesis of night-time air pollution, providing mechanistic insights into nanoparticle growth preceding severe haze pollution in Delhi, primarily driven by biomass burning emissions.

Urban sanitation infrastructure is inadequate in many low-income countries, leading to the presence of highly concentrated, uncontained faecal waste streams in densely populated areas. My pioneering work through international collaboration focuses on Detection and Quantification of Enteric Pathogens in Aerosols Near Open Wastewater Canals in Cities with Poor Sanitation, published in Environmental Science and Technology Journal.

As part of my commitment to nuclear safety and aerosol research, I established the National Aerosol Facility (NAF) at IIT Kanpur to enable academia's active participation in nuclear safety studies. The NAF specifically addresses aerosol safety issues relevant to Pressurized Heavy Water Reactors (PHWRs).

As Project Director of the AI Centre of Excellence (AI-CoE) for Sustainable Cities, an MoE initiative under the mission "Make AI in India, Make AI Work for India", I lead a consortium of premier Higher Education Institutes and industry partners developing scalable AI-driven solutions for energy forecasting, air quality monitoring, flood management, digital twins for urban mobility, and smart microgrid planning—aimed at creating resilient and sustainable cities. Some of the above-mentioned technologies are already being deployed in several cities in conjunction with state governments and city administrations.

I also lead the International Centre of Excellence on Advanced Technologies for Monitoring Air quality iNdicator (ATMAN), established under the aegis of the Principal Scientific Adviser's Office, Government of India. As an expert member of the Steering Committee, I have created a nationwide alliance of technical institutes (IITs, NITs, and National Laboratories) through the National Knowledge Network (NKN) to support the National Clean Air Programme (NCAP) by building local capacities in air quality management.

I continue to mentor several startups in clean technology and air monitoring sectors—many of which have become market leaders—and have guided over 25 Ph.D. scholars.

Professional Recognitions

- European Geophysical Union (EGU). (2025). *Alexander von Humboldt Medal*.
- Indian Institute of Technology Kanpur. (2024–2027). *Sir M. Visvesvaraya Chair Professor*.
- Infosys Science Foundation. (2023). *Infosys Prize in Engineering and Computer Science*.
- Institute of Advanced Sustainability Studies, Potsdam, Germany. (2021–2022). *Fellow.*
- Science and Engineering Research Board (SERB), Department of Science & Technology, Government of India. (2021–2026). *J. C. Bose National Fellow.*
- Indian Institute of Technology Kanpur. (2021–2024). *Arjun Dev Joneja Faculty Chair*.
- Indian National Science Academy. (2020). *Elected Fellow.*
- Government of Uttar Pradesh. (2018). *U.P. Ratna Award*.
- Banaras Hindu University. (2015). *Distinguished Alumnus Award*.
- The National Academy of Sciences, India. (2015). *Elected Fellow.*
- Indian Institute of Technology Kanpur. (2015–2018). *Rajeeva and Sangeeta Lahri Chair Professor*.
- Indian National Academy of Engineering. (2015). *Elected Fellow.*
- Council of Scientific and Industrial Research (CSIR). (2014). *Shanti Swarup Bhatnagar Prize in Earth, Atmosphere, Ocean and Planetary Sciences*.
- Indian Institute of Technology Kanpur. (2009–2012). *Sir M. Visvesvaraya Research Fellowship for Excellence in Teaching and Research*.
- National Aeronautics and Space Administration (NASA). (2009–2010). *Senior Fellowship*.
- National Academy of Sciences, India (NASI) & SCOPUS. (2009). *Young Scientist Award for Highest Citation in Earth Sciences*.
- All India Council for Technical Education (AICTE). (2003). *Young Teacher Career Award*.

Service to Community

67. Editorial Advisory Board, *Future Cities*, Emerald Publishing (2026–present).

66. External Board Member, NIHR Global Health Research Centre for Non-Communicable Diseases (NCDs) and Environmental Change (2025–present).

65. Member, Research Advisory Council, Bose Institute (2024–2027).
64. Editor, *Aerosol Science and Technology* (AS&T), American Association for Aerosol Research (2024–present).
63. Member, Academic Council, Shri Mata Vaishno Devi University, Jammu & Kashmir.
62. Member, Board of Governance, Guru Ghasidas Vishwavidyalaya, Bilaspur.
61. Member, Board of Governance, Rajkiya Engineering College, Ambedkar Nagar (U.P.).
60. Member, High-Powered Steering Committee, NIRANTAR (National Institute of Research and Application of Natural Resources to Transform, Adapt and Build Resilience) (2023–2025).
59. President, Indian Aerosol Science and Technology Association (IASTA) (Jan 2023–Dec 2025).
58. External Member, Research and Development Board, Coal India Limited (June 2022).
57. Member, Committee on Sustainability, Association of Academies and Societies in Sciences in Asia (AASSA) (2022).
56. Life Member, South Asian Meteorological Association (2022–present).
55. Editor, *Transactions of INAE*, flagship journal of Indian National Academy of Engineering (2022–present).
54. Technical Advisor, Government of Telangana on Air Quality Management (2021–present).
53. Member, Building and Works Committee, Indian Institute of Information Technology, Lucknow (2020–present).
52. Member, R&D Subcommittee, Commission on Air Quality Management in NCR and Adjacent Regions, Government of Uttar Pradesh (2020–present).
51. Member, Indo-Finnish Working Group on Sustainability, Department of Science and Technology (2020–present).
50. Member, National Committee for India–IIASA Programme, TIFAC, Department of Science and Technology (2020–present).
49. Coordinator, National Knowledge Network to National Clean Air Mission, MoEFCC (2020–2024).
48. Member, Programme Advisory Committee (PAC) on Civil, Infrastructure and Transportation Engineering, SERB, DST (2020–2023).
47. National Nodal Faculty, National Knowledge Network to National Clean Air Program, MoEFCC (2019–2020).
46. Member, Technology Assessment Panel, India CEO Forum for Clean Air, CII (2019).
45. Member, Expert Working Group on Hazardous Waste Import/Export, MoEFCC (2019–2020).
44. Member, Expert Committee, Climate Change Programme (CCP), DST (2019).
43. Member, Committee on Retrofitting Vehicles and DG Sets, MoEFCC (2019).
42. Member, Scientific Advisory Committee (SAC), National Atmospheric Research Laboratory (2019).
41. Member, Steering Committee, National Clean Air Program (NCAP), MoEFCC (2019).

40. Member, Advisory Committee, CCIVA 2019, IIT Kharagpur.
39. Member, Cloud Seeding Committee, Government of Uttar Pradesh (2018).
38. Member, Technical Expert Committee (TEC) for Petcoke and Alternative Fuels, MoEFCC (2018).
37. Member, International Advisory Committee, International Aerosol Conference (2018).
36. Member, National Advisory & Technical Programme Committee, AC3 Conference, Bose Institute, Darjeeling (2017).
35. Member, Technical Programme Committee, IASTA Conference on Aerosols & Climate Change, PRL Ahmedabad (2016).
34. Member, Advisory Council, Mahamana Malaviya Research Centre for Ganga Development & Water Resource Management, Govt. of India (2016–present).
33. Expert Member, Committee on Environment & Climate Change, MoEFCC (2016–present).
32. Expert Member, Environmental Domain, MHRD IMPRINT Programme (2016–present).
31. Expert Member, Indian National Climate Change Committee, MoWR (2015–present).
30. Member, Institute International Relations Committee (2015–2016).
29. Session Convener, Indo-German Frontiers of Engineering Symposium, Potsdam, Germany (2014).
28. Session Chair, "Aerosol Characterization: Chemical," 8th Asian Aerosol Conference, Sydney, Australia (2013).
27. Session Convener, Indo–U.S. Frontiers of Science Symposium, Agra, India (2013).
26. Member, National Advisory Committee, CAIPEEX, MoES (2008–2013).
25. Evaluator, UNEP Atmospheric Brown Clouds Project, Bangkok (2012–2013).
24. Alternate Member, Nanotechnologies Sectional Committee, MTD 33 (2011).
23. Member, High-Level Working Group, Aerosol & Cloud Nucleation, IMD, MoES.
22. Member, National Fire Facility, IIT Kanpur.
21. Member, Geophysical Research Letters Editor Search Committee.
20. Member, National Steering Committee, Cloud, Aerosol & Precipitation Enhancement Experiment, MoES.
19. Expert Member, DST Fast Track Scientist Committee.
18. Member, Publications Committee, American Geophysical Union (2008–2010).
17. Member, Editorial Board, *Indian Journal of Aerosol Science and Technology*.
16. Member, Executive Committee, IASTA.
15. Member, Science Team, ISRO Mars Orbiter Mission (Planex Programme).
14. Convener, Session on Climate Effects of Aerosols & Clouds, AOGS Meeting, Bangkok (2007).
13. Participant, Indo-US Frontier of Science & Technology Meeting, New Delhi (2006).
12. Reviewer for DST & CSIR project proposals.
11. Participant, ISRO National Campaigns (Land Campaign II, ICARB).

10. Fellow, Centre for Advanced Studies, IIT-BHU, Varanasi.
9. Member, Steering Committee, ISRO Space Borne Lidar Project.
8. Member, Steering Committee (Cloud Studies), CTCZ Experiment, DST.
7. Member, Indian Association for Aerosol Science and Technology.
6. Member, American Geophysical Union.
5. Reviewer for multiple journals (*JGR, Atmospheric Environment, Tellus B, Aerosol Science and Technology*, etc.).
4. PI/Co-PI for ISRO, DST, AICTE projects; cumulative research funding: ₹500 Lakhs.
3. Panelist, Workshop on Nanoparticles, IIT Bombay (2005).
2. Member, Technical Committee, Asian Aerosol Conference, Mumbai (2005).
1. Convener, Technical Committee, IASTA Aerosol, Clouds & Indian Monsoon Conference, Kanpur (2004).

Other Recognitions

- Member, Advisory Board, *Environmental Science: Atmospheres*, Royal Society of Chemistry (2021–2023).
- Member, Editorial Advisory Board, *Environmental Science & Technology Letters* (2020–present).
- Member, Scientific Advisory Committee (SAC), National Atmospheric Research Laboratory (NARL) (2019–present).
- Associate Editor, *Journal of Indian Geophysical Union* (2018–present).
- Expert Member, Committee on "Aerosol, Radiation and Trace Gases," NARL, Gadanki (2018–present).
- National Coordinator, Department of Science and Technology's National Network Programme on Climate Change and Aerosol (2018–2021).
- Member, Research Council, CSIR–National Environmental Engineering Research Institute (2017–2020).
- Member, Editorial Board, *Journal of Aerosol Science* (2016–2019).
- Member, Advisory Board, *Environmental Science: Processes & Impacts*, Royal Society of Chemistry (2016–2018).
- Academic Editor (Editorial Board Member), *PLOS ONE* (2014).

Administrative Experience

18. Dean, Kotak School of Sustainability, IIT Kanpur (2024–2027).
17. Chairman, *Udghosh*, Annual Sports Festival, IIT Kanpur (2022).
16. Head, Department of Civil Engineering, IIT Kanpur (2018–2021).
15. Coordinator, Sustainable Habitat Theme, Vishwajeet Proposal, IIT Kanpur (2017).
14. Member, Institute Information Cell (IC), IIT Kanpur (2016–2017).
13. Coordinator, Centre for Environmental Science and Engineering, IIT Kanpur (2014–2017).

12. Member, Senate Library Committee, IIT Kanpur (2013–2014).

11. Organizer, Alumni Seminar Series, Department of Civil Engineering, IIT Kanpur (2012–2013).

10. Coordinator, Academic Senate, IIT Kanpur (Oct 2012–Oct 2013).

9. Member, Advisory Committee, Centre for Environmental Science and Engineering, IIT Kanpur (2011–2012).

8. Member, Departmental Postgraduate Committee (DPGC), Environmental Engineering & Management Programme, IIT Kanpur (2012–2014).

7. Member, Institute Research Development Committee, IIT Kanpur (2010–2012).

6. Faculty In-Charge, Computer Laboratory, Department of Civil Engineering, IIT Kanpur (2008–2009).

5. Warden-in-Charge, Hall V, IIT Kanpur (Mar–Jun 2008).

4. Warden, Hall V, IIT Kanpur (2005–2008).

3. Convenor, DPGC, Environmental Engineering & Management Programme, IIT Kanpur (2004–2005, 2005–2006, 2011–2012).

2. Organizer, Alumni Seminar Series, Department of Civil Engineering, IIT Kanpur (2003–2004).

1. Member, Departmental Undergraduate Committee (DUGC), IIT Kanpur (2003–2004, 2012–2014).

Theses Supervised

(a) Ph.D. Theses Supervised

S. No.	Name	Year of passing	Title of the thesis/Current position
26.	Suman Kumar	Ongoing	Investigation of air quality impacts using portable sensor network
25.	Rachna Devi	Ongoing	Investigation of air quality impacts using portable sensor network
24.	Neha Sinha (Jointly with Dr. Deepika Swami, SEE)	Ongoing	Flood hazard mapping and exploration of nature-based solutions for urban floods for the city of Hyderabad
23.	Akanksha	Ongoing	Dynamic hyper source attribution of $PM_{2.5}$ using hybrid method that combines sensors, real time chemical speciation and radiocarbon isotopic measurements
22.	Sidyant Kumar	2025	Shock induced drop atomization ***Current position:*** Not known
21.	Vaishali Jain	2025	Spatio-temporal variation of NMVOCS and $PM_{2.5}$ in Delhi and Lucknow using advanced techniques ***Current position:*** Humboldt Postdoc Fellow, Max Planck Institute of Chemistry, Germany
20.	Himadri Sekhar Bhowmik	2025	Comparison and Integration of Offline and Online Techniques for Source Identification of Winter-Time Water-Soluble Organic Aerosols in Delhi and their Implications on Human Health ***Current position:*** Postdoctoral Researcher,

			Institute of Climate and Energy Systems – Troposphere, Forschungszentrum Jülich GmbH
19.	Ashutosh Shukla	2024	Source apportionment using UMR and PMF and network analysis ***Current position:*** University of California, Davis, USA
18.	Manish Kumar	2024	Understanding Deposition, Resuspension and Cloud Formation Potential of Aerosols in Context of Severe Nuclear Accident ***Current position:*** Assistant Professor, TKIET, Warana University, Maharashtra
17.	Suneeti Mishra	2024	New Particle Formation and Particle growth study in the Delhi NCR(India) with connection to Haze Formation ***Current position:*** Postdoctoral Fellow, Paul Scherrer Institute PSI, Switzerland
16.	Vipul Lalchandani	2023	Chemical characterization of particulate matter, and understanding organic aerosol sources and evolution at downwind location of Delhi during winter season. ***Current position***: Senior Associate, Air Quality Observations group, CSTEP, Bengaluru
15.	Gaurav Mishra	2021	Growth characteristics of cesium compound aerosols under various saturation conditions ***Current position***: Research Scientist, IRSN, France
14.	Kunal Ghosh	2021	Role of ion in aerosol microphysical processes (modeling and experimental studies) ***Current position***: Research Scientist, University of Leeds, UK
13.	Navaneeth M. Thamban	2021	Evolution of size, composition and mixing state of carbonaceous aerosols in Indo-Gangetic Plain ***Current position*:** Postdoctoral Fellow, University of Manchester, UK
12.	Anil Kumar Mandariya	2021	Impact of ambient relative humidity on the growth and evolution of organic aerosol ***Current position:*** Postdoctoral, Interuniversity Laboratory of Atmospheric Systems (LISA), France
11.	Anubhav Dwivedi	2020	Experimental and numerical study on micro-physical properties of aerosols and its behaviour under varying thermal-hydraulic conditions ***Current position*:** Postdoctoral Fellow, GCARE, University of Surrey, UK
10.	Manish Joshi	2018	Formation and evolution characteristics of nuclei mode particles in dense atmospheric and confined aerosol environments ***Current position*:** Scientific Officer 'E', BARC,

			Mumbai
9.	Shamjad P.M.	2017	Impact of carbonaceous aerosol absorption and mixing state on direct radiative forcing in Kanpur-India ***Current position*:** Scientist, Qatar Environmental and Energy Research Institute, Doha
8.	Chandan Sarangi	2017	Understanding aerosol-surface-cloud-rainfall interactions within Indian summer monsoon region ***Current position*:** Assistant Professor, Department of Civil Engineering, IIT Madras
7.	Abhishek Chakraborty	2016	Fog and organic aerosols interactions: processing, sources, and composition ***Current position*:** Assistant Professor, Centre for Environmental Science and Engineering, IIT Bombay
6.	Deepika Bhattu	2016	Effect of aerosol size, chemical composition, mixing state and volatility on cloud condensation nuclei activity in the ambient atmosphere ***Current position*:** Associate Professor, Department of Civil and Infrastructure Engineering, IIT Jodhpur
5.	Chiranjib Chaudhari	2015	Characteristics of historical climate change over Indo-Gangetic basic: Observational analysis and numerical modelling ***Current position*:** Chief Research Officer, Geosapiens Inc., Canada
4.	Daya Shankar Kaul	2014	Understanding the formation of organic aerosol in urban environment during foggy and non-foggy episodes ***Current position*:** Associate Professor, PDE University, Gujarat
3.	J. Jaidevi	2012	Effects of fine particulate matter on human health and climate ***Current position***: Associate Professor, IITRAM, Ahmedabad
2.	Sumit Kumar Mishra	2011	Numerical estimation of optical properties of pure and polluted mineral dust particle ***Current position***: Principal Scientist, NPL, New Delhi
1.	Sagnik Dey	2008	Aerosol radiative effects in Kanpur in the Indo-Gangetic basin, northern India ***Current position*:** Head & Chair Professor, Policy Studies, IIT Delhi

(b) M.Tech Theses Supervised

S. No.	Name	Year of	Title of the thesis/Current position

		passing	
43.	Aditya Kushwaha	Ongoing	Particulate Matter Forecasting
42.	Varad Patil	Ongoing	Vision-Based Estimation of Ambient Particulate Matter Concentrations Using Co-located CCTV Surveillance Imagery and Low-Cost Sensors
41.	Bhairavi Sanjay Pustode	Ongoing	Source apportionment study on a mobile platform
40.	Pranshu Bajpai	Ongoing	Spatio-Temporal AI framework for air pollution attribution and short-term forecasting using mobile monitoring data
39.	Hrushikesh Nandi	Ongoing	Calibration of Low-Cost Sensors
38.	Apoorva	2026	Impact of Seasonal transition and Anthropogenic Episodes on $PM_{2.5}$ in Urban and Industrial Lucknow
37.	Kartikay Singhal	2026	On spot source apportionment using sophisticated instruments and portable sensors across different source categories in a city
36.	Aseem Dubey	2024	Improving Low-Cost $PM_{2.5}$ Sensor Accuracy through Predictive Modelling using Machine Learning
35.	Saurabh Kumar Maurya	2024	Optimal Deployment of Movable Sensors for Air Quality Monitoring
34	Nishant Ajnoti	2023	Hybrid Instruments Network Optimization for Air Quality Monitoring
33.	Ayush Nagal	2021	Robust Statistical Calibration and Characterization of Portable Low-Cost Air Quality Monitoring Sensors
32.	Saurabh Kukreti	2020	Impact of variability in initial and boundary conditions of meteorology on the simulated particulate matter concentrations over Delhi during winters using WRF-Chem
31.	Pratapaditya Ghosh	2020	Understanding the non-local and local contributions during a high $PM_{2.5}$ loading winter episode over the megacity of Delhi using WRF-Chem
30.	Shubham Naresh	2019	Spatial and temporal variability in ionic and metal composition of $PM_{2.5}$, across five sites of Gangetic plain; seasonality in secondary inorganic aerosol and preliminary source apportionment ***Current position*:** Environmental Engineer, THDC India Limited, Rishikesh
29.	Himadri Sekhar Bhowmik	2019	Inter and Intra seasonality in carbonaceous species (EC, OC) of $PM_{2.5}$ aerosol over five sites of Indo-Gangetic plain, preliminary source apportionment and case study on multi-day regional SOA formation during winter at Faridabad ***Current position***: Postdoctoral Researcher, Institute of Climate and Energy Systems – Troposphere, Forschungszentrum Jülich GmbH

28.	Saad Ahmed	2018	Application of microwave radiometer in now casting of convective activity ***Current position***: Senior Engineer, Tata Consulting Engineers, Noida
27.	Mithun Krishnan K.V.	2017	Seasonal dynamics of surface energy balance over a semi-natural grass land in central Indo-Gangetic Basin
26.	Geet George	2017	Characterisation of cloud vertical structure (CVS) and cloud radiative forcing (CRF) over Kanpur ***Current position*:** Ph.D. Student, Max Planck Institute for Meteorology, Hamburg
25.	Bhuvana Joshi	2016	Real time size resolved analysis of organics in Kanpur city: A comparative study between fog and no-fog periods ***Current position*:** Assistant Professor, Govt. Engineering College, Banswara, Rajasthan
24.	Kuntamukkala Pavan Kumar	2016	Black carbon aerosol microphysical properties variation and electron microscopy study of $PM_{2.5}$ in Kanpur ***Current position*:** Software Engineer, Tech Mahindra, Pune
23.	Tirthankar Chakraborty	2015	Understanding urban micrometeorology and its impact on the heat island of greater Kanpur ***Current position*:** Ph.D. Student, Yale University, USA
22.	Kundan Kumar	2015	Aerosol Direct Radiative forcing over Indo-Gangetic basin during pre-monsoon season using WRF-CHEM ***Current position*:** Assistant Executive Engineer, Panchayat Raj Circle, Adilabad, Telangana
21.	Vipul Lalchandani	2014	The need for site-, season- and instrument-specific calibrations of a photo-reference method for determining aerosol Black Carbon concentrations and examining color signal of Organic carbon particles ***Current position*:** Bengaluru
20.	Amit Sharma	2014	Assessing health impact of Particulate Matter using Weather Research Forecasting-Chem model over IG Basin ***Current position*:** Ahmedabad
19.	Anubhav Dwivedi	2013	Investigation of activation kinetics of laboratory generated and ambient particles ***Current position*:** Postdoctoral Fellow, Aarhus University, Denmark
18.	Rosalin Dalai	2013	Role of aerosol type and mixing state on CCN activity ***Current position***: IIT Bhubaneswar
17.	Shamjad P.M.	2011	Hygroscopicity, mixing state and enhanced

			absorption of aerosols ***Current position***: Postdoctoral Fellow, KAUST, Saudi Arabia
16.	Priya Choudhry	2011	Validation of MODIS-retrieved AOD over Indo-Gangetic Plain ***Current position***: Group Engineer, SNC-Lavalin Atkins, Bengaluru
15.	Monika Srivastava	2011	Aircraft-based CCN Closure ***Current position*:** BBD University, Lucknow
14.	Pawan Kumar Bharti	2010	A study of inter and intra variation seasonal of surface Cloud Condensation Nuclei and chemical closure in Kanpur ***Current position*:** SIDBI, Ludhiana
13.	Vishnu Patidar	2009	First surface, spatial and vertical measurements of Cloud Condensation Nuclei (CCN) over Indian CTCZ region ***Current position***: Environmental Engineer
12.	Jariwala Chinmay G.	2009	An observational and laboratory study on the effects of Cloud Condensation Nuclei and black carbon aerosol on fog persistence ***Current position*:** Environmental Engineer, Dar AL-Handasah, Pune
11.	Vivek Pratap Singh	2008	An experimental investigation of the effects of environmental and fog condensation nuclei parameters on rate of fog dissipation ***Current position***: Engineer, Manali
10.	Sanjay Prakash Baxla	2008	A study of ambient ultra-fine aerosols using SMPS. ***Current position*:** Sr. Process Design Engineer, SS GAS LAB ASIA PVT LTD, New Delhi
9.	Anirban Roy	2008	Measurement and simulation of particulate aerosols ***Current position:*** Postdoctoral Researcher, Carnegie Mellon University, USA
8.	Anil Kumar D. Vanga	2007	A numerical study of new particle formation in cirrus cloud ***Current position*:** Engineer, Jones Lang LaSalle, Mumbai
7.	Sudip Chakraborty	2006	Long term changes in surface and columnar water vapor over North India ***Current position*:** Research Scholar, NASA Jet Propulsion Laboratory, Pasadena, CA
6.	Abani Patnaik	2006	Climatology of cloud and aerosol over the Indian subcontinent and adjoining oceans ***Current position*:** Offshore Structural Engineer, L&T, Mumbai
5.	Roma Srivastava	2006	Study of trace gas concentration over Kanpur region ***Current position*:** Lecturer, Hindustan College of

			Engineering, Agra
4.	Parul Sharma	2006	Study of aerosol chemical composition over Kanpur region ***Current position*:** Sr. Director (HTEM), Lexis Nexis Risk Solutions, California
3.	Tanveer Ahmed	2005	Charging of radioactive aerosols containment wall of pressurized water reactor ***Current position*:** Data Scientist, TCS North America
2.	Nagesh Chinnam	2005	Analysis of ambient particles by high volume sampler and PM_{10}
1.	Shyam Kishor	2005	Investigation into seasonal and diurnal formation of atmospheric nitrate

(c) Dual Degree B.Tech–M.Tech Theses Supervised

S. No.	Name	Year of passing	Title of the thesis/Current position
5.	Bharath Kumar	2015	Source Apportionment of Sub Micron Aerosol Over Kanpur ***Current position:*** Business Analyst, ZS Associates, Gurgaon
4.	Karn Vohra	2015	A chamber study to understand aerosol deposition phenomena ***Current position:*** Research Fellow, University of Birmingham, UK
3.	Alabhya Mishra	2014	Electrical properties of Titan and Earth Atmospheres ***Current position:*** Data & Systems Architect, Flag Asset Management, Sydney
2.	Arun Yadav	2013	An evaluation of WRF-Chem model over the Indian Domain ***Current position:*** Chief Technology & Product Officer, MakeMyIndia, Bengaluru
1.	Akhilesh Rawal	2012	Study of ion-aerosol near-cloud mechanism to explain cosmic ray cloud-climate conundrum ***Current position:*** Advisory CTO, Abhi Loans, Bengaluru

(d) B.Tech Projects Supervised

S. No.	Name	Year of passing	Title of the thesis
5.	Praveen/Naveen	2007	A study of effects of black carbon on cloud microphysical properties using a two-dimensional cloud model

4.	Nikhil/Gaurav	2006	Retrieval of aerosol organic carbon obtained due to biomass burning from various locations of the world
3.	Shiwesh/Sameer	2005	Parameterization of collision efficiency between of electrically charged aerosol particles and cloud of droplets
2.	Ashwyn/Sandip	2005	Numerical investigation of atmospheric fogs
1.	Abhishek/Chandel	2004	Comparison of satellite derived aerosol parameters with ground measured data over Gangetic Basin

Publications

249. Kumar, S., Tripathi, S. N., and Kumar, S. (2026). "Instability mechanisms of the bag-stamen breakup." *Physics of Fluids*, 38(2), 023328. https://doi.org/10.1063/5.0310488.

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31. Haryana fog spreads over Kanpur – *Dainik Jagran*, Nov 7, 2016
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26. 'Rain plane' to take off from Lucknow today – *Hindustan Times*, Jul 11, 2016
25. To study atmosphere, IIT Kanpur releases weather balloons – *Hindustan Times*, Jul 7, 2016
24. Quicker, more accurate monsoon predictions soon – *Hindustan Times*, Jun 8, 2016
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22. IIT Kanpur will start performing tests about nuclear accidents – *Dainik Jagran*, Feb 24, 2016
21. IIT Kanpur to get Asia's first aerosol facility soon – *Hindustan Times*, Feb 18, 2016
20. IIT Kanpur research team finds reason behind Tamil Nadu floods – Dec 2, 2015
19. Cleaning our environment is everyone's responsibility – *Hindustan*, *Amar Ujala*, *Dainik Jagran*, Aug 25, 2015
18. Dust, other ions can cause health problems – *The Pioneer*, Aug 25, 2015
17. Pollution: particulate matter in India higher than WHO limit – *The Hindu*, May 7, 2015 https://www.thehindu.com/sci-tech/Pollution-particulate-matter-in-India-higher-than-WHO-limit/article60167057.ece
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15. Winners of Shanti Swarup Bhatnagar Awards – *Live Mint*, Nov 17, 2014 https://www.livemint.com/Money/p9bzT3mZ7mwyEqJeOgbWrJ/Shanti-Swarup-Bhatnagar-Awards-2014.html
14. Ravana is 'troubling' even after burning up – *Dainik Jagran*, Oct 6, 2014
13. Dr. Tripathi's research on aerosols – *Dainik Jagran*, Sep 28, 2014
12. Monitoring of air pollution, IIT Kanpur – *Dainik Jagran*, Sep 2, 2014
11. Smoke from field fires can travel up to 1,000 km: Study – *Times of India*, Nov 12, 2012 https://timesofindia.indiatimes.com/home/environment/pollution/smoke-from-field-fires-can-travel-up-to-1000km-study/articleshow/17188057.cms
10. Thick layer of carbon beyond the cloud: Distressful – *Dainik Jagran*, Sep 27, 2012
9. Weather is changing due to thick carbon layer – *Dainik Jagran*, Apr 22, 2012
8. Is monsoon pattern changing? Indo-UK study to find if climate change affecting seasonal rains – *Times of India*, Mar 1, 2012 https://timesofindia.indiatimes.com/home/environment/global-warming/is-monsoon-pattern-changing-india-uk-study-will-try-to-find-out/articleshow/12086837.cms
7. Thick Layer of Carbon in the Sky, Weather Cycle will be Affected – *Dainik Jagran*, Sep 16, 2011
6. Insights into Titan's Ionosphere – *Nature India*, Jul 25, 2011 https://doi.org/10.1038/nindia.2011.110
5. JGR Planets paper (Michael et al., 2009) – Among top 5 downloads that week
4. Biting dust in Mars – *Nature India*, Jul 28, 2008 https://doi.org/10.1038/nindia.2008.249
3. Lifting the veil from Jupiter cloud – *Nature India*, Apr 9, 2008 https://doi.org/10.1038/nindia.2008.177
2. Aerosols: The Earth's sun shield – *The Hindu Survey of Environment*, 2008
1. Pollution, aerosols, and the climate change – *The Hindu*, Sep 4, 2006

Teaching Experience and Coursed offered

- Earth and Environment — taught twice at the postgraduate level (class size ~15).
- Atmospheric Physics and Chemistry — taught three times at the postgraduate level (class size ~25).
- Fate and Transport of Contaminants in Natural Systems — taught twice at the postgraduate level (class size 10–50).
- Environmental Quality and Pollution — taught three times at the undergraduate level (class size 60–80).
- Computational Methods in Engineering — taught four times at the undergraduate level (class size 160–400).
- Advanced Mathematics for Civil Engineers (Numerical Methods Module) — taught three times at the undergraduate level (class size 55–70).
- Modeling of Natural Systems — taught twice at the postgraduate level.
- Air Pollution and its Control (Co-taught) — taught once at the postgraduate level (class size ~30).

Courses Tutored:

- Computational Methods in Engineering (five times).

- Mechanics of Solids (four times).
- Fluid Mechanics (two times).

Organizational Achievements

2. Summer School on "Sustainable Cities" — held at Indian Institute of Technology Kanpur, organized by the Centre for Environmental Science and Engineering, June 2–27, 2013. Conducted in collaboration with University of Minnesota, Georgia Tech, National Academy of Engineering (NAE), Yale University, NCAR, and University of Colorado. Sponsored by USAID and NSF. Attended by more than 30 students and scientists from IITs, collaborating universities, ROI, and ICLEI.

1. DST Training School on "Aerosol-Cloud Interaction" — held at Indian Institute of Technology Kanpur, March 7–15, 2009. Attended by more than 25 students and scientists from IITs, universities, and research laboratories including NPL, SPL, IITM, and IMD.

Workshops/Symposia Organized

18. Airawat Research Foundation – Centre of Excellence in Artificial Intelligence for Sustainable Cities: Roundtable on *"Addressing Urban Sustainability Challenges – Budgetary Recommendations to Finance Ministry"*, New Delhi, January 2025.
17. Smart Transportation for Reducing Emissions and Congestion in Indian Cities (STREC): Workshop at IIT Kanpur Outreach Center, NOIDA, July 20, 2024.
16. Brainstorming Workshop on Sustainable Cities: National Aerosol Facility (NAF), IIT Kanpur, March 9, 2024.
15. Indian Aerosol Science and Technology Association Conference: Hotel Vivanta, Navi Mumbai, December 12–14, 2023.
14. Online Training Program on Air Quality Management: Funded by World Bank, February–March 2022.
13. North Indian Air Pollution Meeting: Online (Zoom), August 23–24, 2020.
12. IITK–UPPCB Workshop: *"National Knowledge Network (NKN) to support National Clean Air Programme"*, Indira Gandhi Pratishthan, Lucknow, October 14–15, 2019.
11. IITK–PSI Workshop: *"Early Results from Delhi Air Quality Experiment 2017–18 and Future Forward"*, India International Centre, New Delhi, October 26–27, 2018.
10. DST Meeting: National Network Programme on Aerosol (NNP-A) under Climate Change Programme, IIT Delhi, October 23, 2018.
9. IITK–MoES Workshop: *"Real-time Nationwide Low-Cost Sensor Network for Air Quality Monitoring"*, Ganga Auditorium, MoEFCC, New Delhi, August 29, 2018.
8. DST–UKIERI Workshop: *"Introduction to Earth Observation Techniques: Applications to Land and Atmosphere"*, IIT Kanpur, March 26–28, 2018.
7. DST National Workshop: *"Aerosols: Science and Application"*, IIT Kanpur, May 11–12, 2017.
6. DBT–RCUK Workshop: *"Biological Solutions to Reducing Industrial Waste, Environmental Inefficiency and Pollution in India"*, CESE, IIT Kanpur, March 21–23, 2017.
5. Theme Meeting: *"Aerosol Behavior Studies in a Nuclear Reactor under Severe Accident Conditions"*, IIT Kanpur, February 23–25, 2016.
4. Indo–US Workshop: *"Sources of Environmental Pollution in India: Municipal Solid Waste and Biomass Burning Impacts"*, IIT Kanpur, October 25–26, 2015.
3. IITK–ASI Joint Workshop: *"Impacts of Atmospheric Haze on Taj Mahal Monument"*, under Indo–US Science and Technology Forum, IIT Kanpur, February 17, 2012.

2. Tiger-Z (Indo–NASA Joint Field Experiment) Workshop: IIT Delhi, January 7–8, 2009 (Co-Convenor).
1. Biennial Conference of IASTA: *"Aerosol, Clouds and Indian Monsoon"*, IIT Kanpur, November 15–17, 2004 (Co-Convenor).

Plenary/Invited Speaker

169. Delivered talk *"From Wisdom to Algorithms: The Future of Indian Cities"*, C.N.R. Rao Lecture Series, Indian Institute of Technology Kanpur, March 27, 2026.
168. Invited talk *"Building Resilience to Heat and Pollution"*, Mitigating Heat Risks: Challenges & Opportunities for India, India International Centre, New Delhi, May 28, 2025.
167. Invited talk *"Empowering Data-Driven Air Quality Management: Insights from the ATMAN"*, Alexander von Humboldt Medal Lecture – EGU25, Vienna, May 2, 2025.
166. Invited talk *"Sustainability – An All-Pervasive and Timeless Idea"*, Watershed Development Component under PMKSY, IIT Kanpur, April 4, 2025.
165. Invited talk *"Sustainability – An All-Pervasive and Timeless Idea"*, REACH 2025, Agra, March 9, 2025.
164. Invited talk *"Climate Change and Sustainable Strategies"*, ICONSDG, PSIT College of Higher Education, Kanpur, February 28, 2025.
163. Invited talk *"Climate Change, AI and Its Use in City Planning and Sustainability"*, Phase IV Mid-Career Training Program, LBSNAA Mussoorie, January 24, 2025.
162. Invited talk *"AI-Assisted, Data-Driven Sustainable Urban Spaces"*, Office of Registrar General and Census Commissioner of India, January 17, 2025.
161. Invited talk *"Realizing Sustainability through PhD Research"*, Navigating PhD and Beyond, IIT Kanpur, December 31, 2024.
160. Invited talk *"AI Driven Sustainable and Livable Urban Spaces"*, Think India National Convention, IIT Roorkee, December 23, 2024.
159. Invited talk *"Data Driven, AI Powered Digital Goods for Sustainable Cities"*, National Academy of Sciences, IIT BHU Varanasi, November 14, 2024.
158. Invited talk at Infosys Lecture Series, *"Clean Air for All: Scalable Air Quality Monitoring Technologies for Securing Clean Air, Better Health, and Sustainable Cities"*, Indian Institute of Technology Gandhinagar, July 3, 2024.
157. Invited talk at *"Air Quality Challenges in Indian Cities"*, Rajasthan Technical University, Kota — *"Clean Air for Breathable and Livable Cities"*, March 27, 2024.
156. Invited talk at INAE Workshop on *"Sustainability in Water and Environment"*, *"AI and Data Driven Approaches to Secure Clean Air for Sustainable Cities"*, Indian Institute of Technology BHU, February 26–27, 2024.
155. Keynote address at National Environmental Conference, *"AI and Data Driven Approaches to Secure Clean Air for Sustainable Cities"*, Indian Institute of Technology Bombay, February 15–17, 2024.
154. Keynote Speaker at International Conference on Climate Change and Agroecosystem (INAGMET-2024), *"Clean Air for Sustainable Agriculture: Air Pollution as a Major Threat to Food Security"*, Indian Institute of Technology BHU, February 8–10, 2024.
153. Invited speaker at INFOSYS PRIZE 2023 – Winners' Symposium Edition III, *"Clean Air Technologies for Sustainable Policies & Improved Public Health"*, Taj West End Hotel, Bangalore, January 12, 2024.
152. Invited speaker at *Airshed Modelling for Air Quality Management*, Delhi, December 4, 2023.
151. Invited talk *"Opportunities for Researchers to Support Air Quality Action"*, National Consultation on Air Pollution and Health in India, AIIMS New Delhi, November 17, 2023.

150. Talk *"Sustainable and Scalable Technologies for Air Quality Monitoring"*, Sustainable and Emerging Technologies for Food Safety and Environmental Toxicology (SET-FEST), Lucknow, October 12–13, 2023.
149. Invited talk *"Scientific & Technological Contributions and Capacity Building Under NCAP"*, Golden Jubilee Celebration of West Bengal Pollution Control Board, September 22, 2023.
148. Invited talk *"Clean Air and Water for Sustainable Future"*, World Environment Day, IISER Kolkata, June 5, 2023.
147. Invited talk *"Clean Air and Water for Sustainable Future"*, Research Scholars' Day 2023, Department of Sustainable Energy Engineering, IIT Kanpur, June 1, 2023.
146. Talk *"Nationwide Air Quality Monitoring Combining Sensors Plus Satellite Images with AI & ML"*, Aakash Project 2023 Workshop, India Habitat Centre, New Delhi, March 28–29, 2023.
145. Invited speaker at Regional (East) Meet of Institutes of Repute Associated with NCAP, *"Nationwide Air Quality Monitoring Combining Sensors Plus Satellite Images with AI & ML"*, Hotel Chanakya, Patna, March 24–25, 2023.
144. Talk *"Scalable and Affordable Solutions for Hyperlocal Monitoring, Source Attribution and Source Control"*, Maharashtra Prathamik Shikshan Parishad (MPSP), March 18, 2023.
143. Invited talk, Indian Physics Association (IPA), Prof. P. A. Pandya Endowment Lecture, *"Nationwide Air Quality Monitoring Combining Sensors Plus Satellite Images with AI & ML"*, IIT Kanpur, March 14, 2023.
142. Keynote talk *"Nano Particles Night Time Growth: Implications to Haze and Climate"*, International Symposium Nano-2023, Hyderabad, March 13–14, 2023.
141. Talk *"Combining Sensors Plus Satellite Images with AI & ML for Nationwide Air Quality Monitoring"*, Symposium on UNFCCC CoP vs Local Climate Action, IIT Kanpur, March 2, 2023.
140. Lecture *"Real-time Source Apportionment Using Advanced Instruments"*, Winter School on Instrumentation and Analytical Techniques, Central University of Jammu, February 20–25, 2023.
139. Invited talk *"Hybrid Technologies for Monitoring Particulate Matter, Source Attribution and Health Impacts at Scale"*, Air Quality in Mumbai – Stakeholder Workshop, January 12, 2023.
138. Invited speaker, Institute Research Symposium (IRS'23), *"Hybrid Technologies for Monitoring Particulate Matter, Source Attribution and Health Impacts at Scale"*, IIT Kanpur, January 7–8, 2023.
137. Invited talk *"Nation Wide Sensor Based Monitoring and Source Attribution"*, UKRI India/NERC LEMS Workshop, December 14–15, 2022.
136. Invited talk *"Changes in Atmospheric Composition: Implication to Global and Regional Climate and Atmospheric Chemistry"*, SUMANGALAM PANCHAMAHABHOOT, SoA University, Bhubaneswar, December 3–4, 2022.
135. Invited talk *"Hybrid Technologies for Monitoring Particulate Matter, Source Attribution and Health Impacts at Scale"*, Environment and Sustainability Event, Indian National Science Academy, New Delhi, November 6–8, 2022.
134. Invited talk *"Scientific and Technological Solutions for Clean Air"*, Symposium on India's Sustainable Future, IIT Kanpur, October 12, 2022.
133. Invited talk *"Nationwide Sensor-Based Air Quality Monitoring: From Laboratory to Field Deployments"*, RSC-IITM Desktop Seminar, IIT Madras, October 11–12, 2022.
132. Invited talk *"Clean Air for the Sustainable Future"*, Recent Advances in Environmental Engineering towards Sustainability, NIT Patna, October 10–14, 2022.
131. Keynote talk *"Capacity Building and Technology Development by Universities in India's Clean Air Program"*, Friday Colloquium Series, CSIR-NPL, New Delhi, October 7, 2022.
130. Invited talk, *Tech for Impact-Bharat*, Bengaluru, September 12, 2022.

129. Invited talk *"Journey of Sensor Based Air Quality Monitoring in India"*, Air Sensors International Conference (ASIC), Bangalore, August 26, 2022.
128. Invited talk *"Journey of Sensor Based Air Quality Monitoring in India"*, Air Sensors International Conference (ASIC), Bangalore, August 26, 2022.
127. Invited talk *"Role of NCAP in Tackling Air Pollution"*, Storytelling for Environmental Change, Jamia Millia Islamia, New Delhi, August 22–23, 2022.
126. Invited talk *"Capacity Building and Technology Development by Universities and Research Laboratories in India's Clean Air Program"*, Capacity Building Workshop on Air Action Plan, August 22, 2022.
125. Invited talk *"Advancing Environmental Innovations in India: Insights from Experimental Research"*, Online Conference, Energy Policy Institute at University of Chicago, July 22, 2022.
124. Invited talk *"Capacity Building and Technology Development by Universities in India's Clean Air Program"*, Max Planck Institute for Chemistry, Mainz, July 14, 2022.
123. Invited talk *"Capacity Building and Technology Development by Technical Institutions in NCAP"*, Azadi ka Amrit Mahotsav Lecture Series, ICAR, July 13, 2022.
122. Invited talk *"Hybrid Air Quality Monitoring Network"*, National Air Quality Resource Framework (NARFI), IIC New Delhi, June 22, 2022.
121. Invited talk *"Hyper Local Air Quality Monitoring and Source Attribution in Cities of Lucknow and Kanpur"*, Advisors and Influencers Round Table, IIT Kanpur, June 6, 2022.
120. Invited talk *"Achieving Clean Air Goal in Sustainable Indian Cities"*, Webinar on Air Quality Management and Sustainability, Dayal Bagh Educational Institute, Agra, June 3, 2022.
119. Invited talk *"Capacity Building and Technology Development by Universities in India's Clean Air Program"*, National Workshop on Air Pollution and Health Impacts, Central University of Jammu, June 1, 2022.
118. Invited talk *"Implementing ICCC as a Service Model in Cities"*, Consultation Workshop, India Habitat Centre, New Delhi, December 15, 2021.
117. Keynote talk *"Precipitation in Himalayas: Role of Aerosols and Orography"*, Workshop on Himalayan Biosphere-Atmosphere-Hydrosphere Interactions, GBPNIHE, Almora, December 14, 2021.
116. Invited talk *"Sensor Based AQ Network in India"*, US Environment Protection Agency, October 26, 2021.
115. Invited talk *"New Technologies to Measure Air Pollution and its Sources"*, Air Pollution: Facts to Act, Lucknow, September 29, 2021.
114. Plenary talk *"Sources, Processing and Impacts of Atmospheric Haze over Indo-Gangetic Plains"*, Frontiers in Geoscience Research Conference, PRL, September 28, 2021.
113. Invited talk *"Assessment of Low-Cost Sensor Based $PM_{2.5}$ and PM_{10} Monitoring Network in Maharashtra"*, Third India Air Quality Convening, September 27, 2021.
112. Invited talk *"Formation, Composition and Evolution of Secondary Organic Aerosols (SOA) during Winter in Indo-Gangetic Plain"*, Joint Research Centre, European Commission, September 24, 2021.
111. Invited talk *"Low-Cost Sensor-Based Air Quality Monitoring Networks"*, Capacity Development Programme, RRC.AP, Asian Institute of Technology, Bangkok, September 13, 2021.
110. Invited talk *"Advanced Monitoring Technologies and Capacity Building to Support India's Clean Air Program"*, Institute of Advanced Sustainability Studies, Potsdam, September 7, 2021.
109. Invited talk *"Advanced Technologies to Help Clean Air Program"*, Tata Steel, September 7, 2021.
108. Invited talk "Capacity Building for Air Pollution Control in India", National Knowledge

Network under NCAP, Air Pollution Webinar, January 20, 2021.

107. Invited talk *"Air Pollution Monitoring and Analysis in India"*, Symposium on Air Pollution Measurement and Analysis Systems (APMAS), IIT Delhi & World Bank, January 15–20, 2021.
106. Invited talk *"Capacity Building for Air Pollution Control in India"*, Symposium on Air Pollution Measurement and Analysis Systems (APMAS), IIT Delhi & World Bank, January 15–20, 2021.
105. Invited talk *"Particulate Matter and Gas Sensors Calibrations"*, Technical Exchange on Mainstreaming of New Air Quality Sensor Technologies, Department of Environmental Health, December 16, 2020.
104. Plenary talk *"Scaling of Sensor-Based Monitoring, Real-Time Source Apportionment and Capacity Building under the National Clean Air Mission"*, Fifth Indian International Conference on Air Quality Management (IICAQM 2020), IIT Madras, December 11, 2020.
103. Panelist and speaker, *"Source Apportionment and Emission Inventories Studies in Nonattainment Cities in India"*, IIT Delhi, November 26, 2020.
102. Invited talk *"Nationwide Sensor-Based Monitoring, Real-Time Source Apportionment and Capacity Building under the National Clean Air Mission"*, Shakti Sustainable Energy Foundation Webinar, November 17, 2020.
101. Invited talk *"Aerosols and Their Impacts on Climate and Crop Yield"*, Agriculture and Food Technologies Webinar, CSIR-NBRI Lucknow, November 11, 2020.
100. Invited talk *"Air Pollution–Land Use–Cloud Interactions: Impact on Climate Change, Agriculture, Hydrological Cycle, Human Health and Monumental Heritages"*, Online Sustainability Seminar Series, IIT Gandhinagar, November 9, 2020.
99. Invited talk *"Sensor-Based Streaming Analytics and Near-Real Time Source Apportionment of Air Pollution"*, International Conference on Aerosol Air Quality, ARIES Nainital, September 14, 2020.
98. Panel discussion *"Air Pollution Data and Science"*, CII 15th Sustainability Summit, September 10, 2020.
97. Invited talk *"Tracking Sources of Air Pollution in Real-Time"*, CERCA Webinar, International Day of Clean Air for Blue Skies, September 7, 2020.
96. Invited talk *"Unraveling Tiny Monstrous Organic Aerosols: Key to Achieve Blue Skies and Improved Human Health"*, ACS Science Talks Virtual Lecture Series, August 28, 2020.
95. Invited talk *"Importance and Need for Reliable and Robust Data for Improving Air Quality"*, India Clean Air Summit, hosted by Center for Study of Science, Technology and Policy (CSTEP), August 25, 2020.
94. Invited talk *"Importance and Need for Reliable and Robust Data for Improving Air Quality"*, India Clean Air Summit, CSTEP, August 25, 2020.
93. Invited talk *"Air Quality in New Delhi during the COVID-19 Induced Lockdown"*, World Bank & NCAP Knowledge Network Webinar, July 28, 2020.
92. Invited talk *"Published Results of Air Quality Experiment in Delhi"*, Global Strategic Communications Council Meeting, July 23, 2020.
91. Invited lecture *"Implementation of National Clean Air Programme"*, Princeton University Global India Conference, USA, March 27, 2020.
90. Invited talk *"Combination of Dynamic Real-Time Source Apportionment and Low-Cost Sensors for Air Pollution Reduction"*, Earth Science Lecture Series, IIT Gandhinagar, January 6, 2020.
89. Invited talk *"Air Quality Improvement through Dynamic Source Apportionment"*, 4th Indian International Conference on Air Quality Management, IIT Bombay, December 19, 2019.
88. Invited talk *"Dynamic Source Apportionment for Air Quality Improvement"*, India CEO Forum for Clean Air, India Habitat Centre, New Delhi, December 17, 2019.

87. Panelist *"Alignment of CSR with SDGs – Air Pollution Focus"*, CII National CSR Summit, Hyatt Regency, New Delhi, December 12, 2019.
86. Invited talk *"Role of Sensor Technology in Policymaking"*, Stakeholder Consultation Workshop, Shakti Sustainable Energy Foundation, India Habitat Centre, New Delhi, August 7, 2019.
85. Keynote talk *"New Initiatives to Measure and Understand Air Pollution in Northern India: Hybrid Approach Based on High-End Mass Spectrometer and Low-Cost Sensors"*, 6th SEE Event on Air Pollution, IIT Kanpur, January 10, 2019.
84. Keynote talk *"New Initiatives to Measure and Understand Air Pollution in Northern India: Hybrid Approach Based on High-End Mass Spectrometer and Low-Cost Sensors"*, ATIPC-2018 Conference, IIEST Shibpur, Kolkata, December 18, 2018.
83. Invited talk *"Streaming Analytics over Temporal Variables from Air Quality Monitoring (SATVAM)"*, Evening Networking Reception, Le Meridien, New Delhi, December 13, 2018.
82. Invited talk *"Aerosol-Cloud-Rainfall Interactions over India"*, IASTA Conference, IIT Delhi, November 26, 2018.
81. Invited talk *"Urban and Aerosol-Induced Short to Long-Term Changes in Rainfall in Indian Summer Monsoon Region"*, 63rd Seward Memorial Lecture, BSIP Lucknow, November 14, 2018.
80. Invited talk *"Current State of Play of Air Pollution – Challenges and Gaps for Lucknow and Kanpur"*, National Workshop, Hotel Claridges, New Delhi, June 15, 2018.
79. Invited talk *"Delhi Air Quality Experiment"*, NCAP Stakeholder Consultation Workshop, MoEFCC, CPCB, World Bank & TERI, New Delhi, April 18, 2018.
78. Invited talk *"Aerosol-Surface Forcing–Rainfall Associations over Gangetic Plains"*, NCRAES-2018, JNU New Delhi, March 22, 2018.
77. Invited talk *"Problem, Measurement and Sources – The Air Quality Conundrum"*, Dainik Jagran Clean Air Conclave, Lucknow, February 17, 2018.
76. Invited talk *"Sensor-Based Technologies for Air Pollution Monitoring"*, MoEFCC Workshop, New Delhi, February 13, 2018.
75. Popular lecture *"The State of Air Pollution in Indo-Gangetic Plains and Possible Solutions"*, Dayalbagh Educational Institute, Agra, December 22, 2017.
74. Invited talk *"Cities Infrastructure & Sustainability"*, SRU-ICMR Training Program, Chennai, December 19–20, 2017.
73. Panelist, Washington University St. Louis Forum on Energy, Environment & Agriculture, Leela Palace Hotel, New Delhi, December 15–16, 2017.
72. Invited talk *"Aerosol-Cloud-Surface-Radiation-Rainfall-Climate Interactions over Indian Monsoon Region"*, 5th Rajasthan Science Congress, Amity University Jaipur, October 13, 2017.
71. Invited talk *"Aerosol-Surface Forcing–Rainfall Associations over Gangetic Plains"*, Urban Climate Workshop, IIT Bhubaneswar, September 21–22, 2017.
70. Invited talk *"Aerosol Impact on Weather to Climate Scales over IG Basin"*, UPCAR Conference, S.V. University, Tirupati, June 26–28, 2017.
69. Invited talk *"Chemical Properties of Geoengineering Aerosols"*, National Roundtable Discussion, IIT Delhi, June 23, 2017.
68. Keynote talk *"Hygroscopicity–CCN–Clouds and Rainfall Associations over Ganga Plains"*, Wadia Institute of Himalayan Geology, Dehradun, May 18, 2017.
67. Lead talk *"Direct and Indirect Effects of Aerosols on Radiative Forcing and Rainfall over Indo-Gangetic Plains"*, AC3 Conference, Bose Institute, Darjeeling, April 25, 2017.
66. Invited talk *"Scale and Adequacy of Monitoring Needed in Indian Cities"*, GSCC Air Quality Workshop, IHC New Delhi, April 12, 2017.

65. Invited talk *"Aerosol Direct and Indirect Effects in Gangetic Plains"*, Climate Change Research Brainstorming Meeting, IIT BHU Varanasi, February 23, 2017.
64. Invited talk *"Aerosol–Cloud–Surface–Radiation–Rainfall Interactions over Indo-Gangetic Plains"*, Indo-Dutch International Conference, IIT Delhi, February 21, 2017.
63. Invited talk *"Aerosol Pollution: Implications to Health, Economy and Climate"*, INSPIRE-2017 Programme, Amity University Lucknow, February 15, 2017.
62. Lead talk *"Air Pollution Sources in India: Measurement and Latest Findings"*, Workshop on Air Quality, Hotel Westinn, Varanasi, December 12, 2016.
61. Invited talk *"Coupling of Aerosol–Land–Cloud–Rainfall System over Gangetic Plains: Observations and Modeling Analysis"*, Indo-UK Water Center (IUKWC) Workshop, IITM, November 30, 2016.
60. Invited talk *"Variability in Aerosol Properties: Direct and Indirect Effects over Gangetic Plains"*, Seminar at Centre for Ecology and Hydrology, Wallingford, UK, September 17, 2016.
58. Invited talk *"Air Pollution Sources in India: Measurements and Latest Findings"*, Air Quality in Indian Cities, Taj Hotel, Lucknow, May 25–26, 2016.
57. Invited talk *"Organic Aerosols (OA) in Gangetic Basin: Composition, Chemistry, CCN, Radiative and Health Effects"*, Workshop on Biosphere–Atmosphere Interactions, IISER Mohali, March 21, 2016.
56. Invited talk *"Air Pollution Implications to Health, Climate, Agriculture and Economy"*, Surya Roundtable Meeting, India International Centre, New Delhi, March 15, 2016.
55. Invited talk *"Aerosol's Impact on Health and Climate of Gangetic Plain"*, INSPIRE Programme, Amity University, Gwalior, January 21, 2016.
54. Invited talk *"Smoke, Dust, and Haze: Implications to Health, Climate, and Economy"*, INAE Kanpur Chapter Seminar, IIT Kanpur, January 20, 2016.
53. Invited talk *"Discoloration of the Taj Mahal, Adverse Health Effects and Climate Forcing due to Municipal Solid Waste and Dung Cake Burning"*, Workshop on Smart, Healthy and Sustainable Cities, The Lalit Hotel, New Delhi, January 11, 2016.
52. Invited talk *"Hydro Climate of Gangetic System"*, India–UK Workshop on Future Ganga, Tal Mahal Hotel, New Delhi, December 3, 2015.
51. Invited talk *"The Human–Ganga Biome Interactions: Unravelling the Influences of Environmental Pollutants on Humans and a Living River"*, Workshop on Non-Putrefying Properties of Ganga Water, AIIMS New Delhi, November 16, 2015.
50. Contributed talk *"Particulate Pollution and Daily Surface Rainfall: Observational Study over Indian Summer Monsoon Region"*, AGU Chapman Conference, Chinese University of Hong Kong, June 14–18, 2015.
49. Contributed talk *"Optical Properties of Brown Carbon and Its Impact on Earth's Radiative Budget"*, IGAC-MANGO Workshop, Asian Institute of Technology, Bangkok, June 11–12, 2015.
48. Invited participant *"Science–Policy Dialogue"*, Climate and Clean Air Coalition (CCAC), World Meteorological Organization HQ, Geneva, May 20–21, 2015.
47. Contributed talk *"Size-Resolved Fog Water Chemistry and Its Atmospheric Implications"*, European Geosciences Union, Vienna, Austria, April 12–17, 2015.
46. Invited talk *"Aerosol's Impacts on Climate, Health, Agriculture and Monuments"*, Chandigarh Science Congress, Punjab University, February 25, 2015.
45. Invited talk *"Aerosol–Cloud–Rainfall Associations over India"*, International Workshop on Climate Change, Ansal University, Gurgaon, January 12, 2015.
44. Invited talk *"Atmospheric Observations and Laboratory Studies of Carbonaceous Aerosols"*, IASTA Biennial Conference, Banaras Hindu University, Varanasi, November 12, 2014.
43. Invited talk *"Brown Carbon Absorption and Its Impact on Atmospheric Radiative Forcing"*,

ABC–SLCP Symposium, Tokyo, Japan, July 21–23, 2014.

42. Theme leader and organiser, *"Clean Air"*, Indo-German Frontiers of Engineering, Potsdam, Germany, June 23–25, 2014.
41. Invited talk *"Climate Science and Policy"*, 1st Workshop, IIT Bombay, March 6–7, 2014.
40. Invited talk *"Scientific Basis for Knowledge to Action"*, Policy Conclave on Vehicular Emissions, Taj Hotel, New Delhi, February 4, 2014.
39. Invited talk *"Observations and Monitoring Needs"*, Policy Conclave on Vehicular Emissions, Taj Hotel, New Delhi, February 4, 2014.
38. Invited interdisciplinary lecture *"Atmospheric Aerosol Measurements: India Perspective"*, National Space Science Symposium, Dibrugarh University, Assam, February 1, 2014.
37. Plenary lecture *"Long-Term Field Observations and Laboratory Studies of Atmospheric Aerosols from Kanpur, Indo-Gangetic Basin"*, 8th Asian Aerosol Conference, Sydney, Australia, December 3, 2013.
36. Invited talk *"Aerosol Measurements: India Perspective"*, India–California Air Pollution Mitigation Program, Scripps Institute of Oceanography & TERI, Oakland, USA, October 22, 2013.
35. Invited talk *"Role of Chemical Composition on CCN Activity and Evaluation of Microphysics Parameterizations in WRF Against CAIPEEX Profiles"*, CAIPEEX Science Meeting, IITM Pune, October 17, 2013.
34. Invited talk *"Long-Term Field Observations and Laboratory Studies of Atmospheric Aerosols from Kanpur, Indo-Gangetic Basin"*, Center for Climate Change, IIT Bombay, October 9, 2013.
33. Invited talk *"Evaluation of WRF-Chem Simulations During an Extreme Rainfall Event over Indo-Gangetic Plain"*, Indo-French Monsoon Research Meeting, New Delhi, October 5, 2013.
32. Invited talk, *CAIPEEX-Phase III – IGP Campaign Meeting*, IITM Pune, August 30, 2013.
31. Invited talk *"Mars Orbiter Mission"*, Workshop, Physical Research Laboratory, Ahmedabad, July 26–27, 2013.
30. Invited talk *"First Annual Regional Atmospheric Science (FARAS)"*, ICIMOD Workshop, Kathmandu, June 13–14, 2013.
29. Invited lecture, Naraina Group of Institution, Kanpur, June 11, 2013.
28. Invited talk *"GCR Generated Aerosol Electrification and Effects on Cloud Microphysics"*, CNRS Orleans, France, July 4, 2012.
27. Invited talk *"Climate Impacts of Aerosol over Ganga Basin"*, Alpine Summer School on Climate, Aerosols and Cryosphere, CNRS–ISAC–NSF, Valle d'Aosta, Italy, June 27, 2012.
26. Invited talk, ICIMOD Workshop, Kathmandu, Nepal, April 2–3, 2012.
25. Invited talk *"Climate Impacts of Aerosols"*, Conference on Climate Change: Science and Society, IIT Kanpur, March 30–31, 2012.
24. Invited lecture *"Interdisciplinary Application of Weather and Climate – Computational Perspective"*, C-DAC, Pune, January 25, 2012.
23. Invited talk *"Air Quality and Climate"*, US–India Workshop, Administrative Staff College of India, Hyderabad, September 12–14, 2011.
22. Lead talk *"Indo-German Frontier of Engineering"*, Khandala, June 2011.
21. Invited talk, Bhabha Atomic Research Center, Mumbai, June 9, 2011.
20. Invited talk, QIP Course, IIT Delhi, May 2011.
19. Invited talk, Brainstorming Session on Technology Vision 2035, IIT-BHU, Varanasi, May 2011.
18. Invited lecture, Brainstorming Session on Mars, Physical Research Laboratory, Ahmedabad, March 2011.
17. Invited lecture, Colloquium, National Physical Laboratory, New Delhi, March 2011.
16. Invited talk, National Atmospheric Research Laboratory, Department of Space, Gadanki,

February 2011.

15. Invited lecture, Institution of Engineers (Local Chapter), HBTU Kanpur, 2010.
14. Invited talk, Geophysical Fluid Dynamics Laboratory, Princeton University, USA, June 2010.
13. Invited lecture *"Planetary Exploration Program of ISRO"*, Physical Research Laboratory, Ahmedabad, May 2009.
12. Invited colloquium, Physical Research Laboratory, Ahmedabad, May 2009.
11. Lead speaker *"Third Indo-US Frontier of Science"*, Agra, March 1–4, 2009.
10. Invited lecture, Aryabhatta Research Institute of Observational Sciences (ARIES), Nainital, October 2008.
9. Lecture, Air Force Administrative College, Coimbatore, December 2007.
8. Five lectures delivered *"Modeling of Planetary Atmospheres"*, Winter School, Physical Research Laboratory, Ahmedabad, January 2007.
7. Invited seminar, Center for Climate System Modeling, The University of Tokyo, Japan, July 2006.
6. Invited talk, Department of Chemical Engineering, Institute of Technology, Banaras Hindu University, Varanasi, February 2006.
5. Invited talk *"Nanoparticle Aerosol Science and Technology (NAST): Emerging Trends and Priorities"*, IIT Bombay, Mumbai, December 2005.
4. Invited lecture, Center for Atmospheric and Oceanic Sciences, IISc Bangalore, September 2005.
3. Five invited lectures *"Space and Atmospheric Science"*, CSSTEAP PG Course, Physical Research Laboratory, Ahmedabad, July 2005.
3. Invited seminar, Aeronomy Laboratory, NOAA, Boulder, USA, June 2004.
2. Invited lecture, Academic Staff College, Banaras Hindu University, Varanasi, March 2004.
1. Invited lecture, Institution of Engineers (Local Chapter), Harcourt Butler Technical University, Kanpur, January 2004.

Ongoing Projects

9. Clean Air Fund (CAF) — *Air Pollution Mitigation in Delhi NCR*, 2026–2027.
8. Ahmedabad Municipal Corporation — *SMART-VAYU: Vision-Based Ahmedabad Air Analysis for Urban Management*, 2026–2028.
7. BP India Private Limited — *CSR Project: AI Enabled Methane Emission Monitoring*, 2025–2027.
6. Mumbai Municipal Corporation — *Mumbai Air Network for Advanced Sciences (MANAS)*, 2025–2030.
5. GE India Pvt. Ltd. — *Collecting Airborne Dust Samples from Airports Across India*, 2024–2026.
4. Swati India Pvt. Ltd. — *Joint Collaboration with Swati Energy for Knowledge Sharing*, 2024–2027.
3. Klenviron Technologies Pvt. Ltd. — *Testing Efficacy of Air Purifier Modules Under Outdoor and Room Conditions*, 2024–2027.
2. Ministry of Earth Sciences (MoES) — *Ice-Crunch: Ice Nucleating Particle & Cloud Condensation Nuclei Properties in the North-Western Himalayas*, 2024–2027.
1. Open Philanthropy — *Support for Rural Air Quality Monitoring Project*, 2022–2025.

Completed Projects

59. Clean Air Fund (CAF) — *Supporting Indigenous Development of Low-Cost Sensors*, 2024–2025.
58 Rail India Technical & Economic Services Ltd. (RITES) — *DHSA at Kanpur*, 2023–2025.
57. Clean Air Fund (CAF) — *Atman-Centre of Excellence: Core Support Grant*, 2023–2025.
56. Clean Air Fund (CAF) — *Dynamic Hyper-Local Source Apportionment for Real-Time Policy Action*, 2023–2025.
55. CPMU, AI CoE — *Center of Excellence in Artificial Intelligence for Sustainable Cities*, 2024–2025.
54. Autotronics Innovations Pvt. Ltd. — *Testing the Efficacy of Air Purifier Modules Under Room Conditions*, 2024–2025.
53. BARC — *Aerosol Transport Behaviour Experiments at National Aerosol Facility in Context of Nuclear Reactor Accidents*, 2023–2025.
52. Central Pollution Control Board — *Creation of Secretarial Support at IIT Kanpur*, 2022–2025.
51. Swiss Agency for Development and Cooperation — *Contribution to Research for Clean Air Project in India*, 2020–2024.
50. Duke University — *Building Capacity to Improve Air Quality in South Asia: Reducing PM2.5 through Low-Cost Sensor Network Driven Policy Decisions*, 2020–2024.
49. Udupi Power Corporation Limited — *Study on Effect of Coal Blending on Ambient Air Quality and Management of Fly Ash*, 2022–2023.
48. Ericsson India Pvt. Ltd. — *Large-Scale Multicity Dense Urban IoT Real-Time Air Quality Monitoring Networks in India*, 2021–2023.
47. International Sustainable Energy Foundation (ISEF) — *Easiur India: Development of Air Quality Modeling Decision Support Tools for Policy-Makers*, 2023.
46. Devic Earth Pvt. Ltd. — *Testing the Efficacy of Pure Skies in Real Field Conditions at a City Deployment*, 2022–2024.
45. Clean Air Fund (CAF) — *Integrated Online Air Pollution Monitoring and Decision Support System*, 2021–2022.
44. New Venture Fund — *Development of Air Quality Modeling Decision Support Tools for Policy-Makers*, 2013–2022.
43. Maharashtra Pollution Control Board — *Ambient Air Quality and Atmospheric Haze Condition in Mahul Area*, 2021.
42. National Health Systems Resource Centre — *Evaluation of Pradhan Mantri Ujjawala Yojana (PMUY) in Six States of India*, 2020–2022.
41. Maharashtra Pollution Control Board — *Technical Assessment of Low-Cost Sensor-Based $PM_{2.5}$ and PM_{10} Monitoring Network in Maharashtra*, 2020–2022.
40. Central Pollution Control Board (CPCB) — *Delhi Air Quality Experiment: A Paradigm Shift in Source Apportionment*, 2019–2021.
39. Indo-US Science & Technology Forum (IUSSTF) — *Streaming Analytics over Temporal Variables from Air Quality Monitoring (SATVAM)*, 2017–2022.
38. Board of Research in Nuclear Sciences (BRNS), BARC — *Studies on Aerosol Behaviour Under Severe Accident Conditions in Indian Nuclear Reactors (National Aerosol Facility)*, 2015–2018 (extended to 2021).
37. Department of Biotechnology — *Delhi Air Pollution: Health and Effects (DAPHNE)*, 2017–2021.
36. Bloomberg Philanthropies — *Pilot of Low-Cost Sensor Technologies in Mumbai (with MPCB and IIT Kanpur)*, 2020–2021.
35. Devic Earth Pvt. Ltd. — *Testing and Efficacy of Pure Skies Under Different Conditions*, 2020–2021.

34. Centre for Study of Science, Technology and Policy (CSTEP) — *Source Apportionment Studies – Analysis of Samples*, 2021.
33. NASA — *TIGERZ Project*, 2008–2021.
32. Shakti Sustainable Energy Foundation — *Network of Technical Institutions as Knowledge Partner of NCAP*, 2019–2021.
31. Ericsson India Pvt. Ltd. — *Real-Time Atmos Air Quality Monitoring with NB-IoT Network*, 2019–2021.
30. Uttar Pradesh State Government — *Comprehensive Agriculture Information System*, 2019–2020.
29. Centre for Study of Science Technology and Policy CSTEP — *Source Apportionment Studies – Analysis of Samples*, 2019–2020.
28. Science and Technology Facilities Council (STFC) — *Thermal Infrared Technologies for Environmental Assessment in the Ganges Basin*, 2018–2020.
27. DST — *Indo-UK Joint Project on Climatic Stresses and Agriculture (Indo-Gangetic Plain)*, 2017–2020.
26. Respirer Living Sciences Pvt. Ltd. — *Measurement and Calibration of Air Quality Monitors in 10 Cities of India*, 2018–2020.
25. ISRO-GBP — *Environmental Observatory*, 2007–2019.
24. BP India Services Pvt. Ltd. — *India Air Pollution Study for BP*, 2018.
23. Ministry of Earth Sciences (MoES) — *INCOMPASS: South Asian Monsoon Dynamics and Thermodynamics*, 2015–2018 (extended to 2019).
22. Georgia Institute of Technology (GIT) — *Crowdsourcing Water Quality in Rural India*, 2016–2017.
21. USAID & NSF-PIRE — *Developing Low-Carbon Cities in India: Urban Infrastructure, Public Health, Climate Risks and Vulnerability*, 2013–2016.
20. Indo-UK MoES & NERC — *SAPRISE: South Asian Precipitation Assessment*, 2011–2016.
19. BARC — *Experimental Evaluation of Aerosol Behaviour Relevant to Indian Nuclear Reactors*, 2013–2016.
18. DST — *Modeling Relative Impact of Aerosol and LULC Changes on Regional Climate of Ganga Basin*, 2013–2016.
17. MHRD — *Novel System for Soot Measurement, Toxicity Assessment and Source Identification*, 2014–2015.
16. Finnish Meteorological Institute (FMI) — *Black and Brown Carbon Influence on Climate Change in India*, 2014–2015.
15. Regional Resources Center for Asia and the Pacific (UNEP Collaboration) — *Atmospheric Brown Clouds (ABC)*, 2012–2013.
14. MoES — *Cosmic Rays–Cloud–Climate Conundrum*, 2011–2014.
13. BRNS — *Measurement of Aerosol and Droplet Size Distributions and Model Validation*, 2010–2013.
12. IFCPAR — *Development of Non-Hydrostatic Finite-Volume Icosahedral Model for Regional/Global Climate Simulation*, 2009–2012.
11. Indo-US Science & Technology Forum — *Atmospheric Haze: Adverse Impacts on Glaciers and Cultural Heritage in India*, 2009–2012.
10. ISRO-GBP — *Long-Term Variation of Aerosol Black Carbon over Kanpur Region*, 2005–2008.
9. DST — *Impact of Anthropogenic Aerosols on Cloud Microphysics*, 2007–2010.
8. ISRO — *Cosmic Ray Induced Effects During Total Solar Eclipse*, 2009–2010.
7. ISRO — *Modeling Microphysical and Optical Properties of Mixed-Phase Clouds over Indian Subcontinent*, 2007–2009.

6. Indian Railways (MHRD) — *Laboratory Investigations of Fog Microphysical Properties*, 2005–2008.
5. ISRO-RESPOND Program — *Effects of Ionization Rate Variation on Aerosol and Cloud Microphysical Properties*, 2003–2006.
4. DST — *Aerosol Optical Properties over Kanpur Region*, 2003–2006.
3. ISRO-GBP — *Integrated Campaign for Aerosols, Gases and Radiation Budget (ICARB)*, 2006–2007.
2. ISRO PLANEX — *Aerosol Charging and Electrical Conductivity in the Lower Atmosphere of Mars*, 2004–2007.
1. ISRO — *Atmospheric Pollution (North India Land Campaign)*, 2004–2007.

Certified that the information given above is correct to my knowledge.

Sachchida Nand Tripathi