

Research Projects (Completed/Ongoing):

- Measurement of dry deposition of S and N compounds on natural surfaces”. CSIR SRF Project, Department of Chemistry, Faculty of Science, Dayalbagh Educational Institute, Dayalbagh, Agra (2002-2004).
- ISRO-GBP SAC II Project: Member, ISRO-GBP (Geosphere Biosphere Programme) Land Campaign –II programme involving 28 Institutions at 8 places on Indo-Gangetic plane starting from Hisar to Kolkata.
- DST project: “Measurements and estimations of atmospheric dry deposition at two representative forest sites of India” DST Major Project (No. SR/FTP/ES-57/2003). P.I.: Dr. Ranjit Kumar, Department of Chemistry, Faculty of Science, Dayalbagh Educational Institute, Dayalbagh, Rs. 10.53 Lakhs, (2004–06).
- ISRO-GBP Environmental Observatory Project: Ozone precursors (VOC, NO_x and CO) relationships in ambient atmosphere at a semi-arid site. Co- PI: Dr. Ranjit Kumar and Dr. Anita Lakhani and PI: Dr. K. Maharaj Kumari, Dayalbagh Educational Institute, Dayalbagh, Rs. 23.84 Lakhs (approved), (2007-09)
- UGC Major Project: Economic analysis of effects of air pollutants on human health in India. PI: Dr. Pravin Saxena and Co-PI: Dr. Ranjit Kumar, Dayalbagh Educational Institute, Dayalbagh, Rs. 5.76 Lakhs (2009-2011).
- MHRD Project: Remote Environmental Applications Laboratory (REAL). Co-PI: Dr. Ranjit Kumar, Dayalbagh Educational Institute, Dayalbagh, 2011-2014, Rs. 47 Lakhs (1st installment of Rs. 14.2 Lakhs), (2011-2012).
- DST Project: A study on bioaerosols in TSPM, PM₁₀ and PM_{2.5} at a suburban site. P.I. Dr. Ranjit Kumar, Dayalbagh Educational Institute, Dayalbagh, Agra, Rs. 20.5 Lakhs, (2012-2015).
- UGC Major Project: A study on biochemical characteristics of aerosols at an urban site of Indo-Gangetic plain. P.I. Dr. Ranjit Kumar, Dayalbagh Educational Institute, Dayalbagh, Agra, Rs. 11.45 Lakhs, (2012-2015).
- ISRO-GBP Project: Characterization of physical and optical properties of aerosol at Agra in Indo-Gangetic plain. PI: Dr. Ranjit Kumar and Dr. Ashok Jangid, Dayalbagh Educational Institute, Dayalbagh, Rs. 74.0 Lakhs, (2013-2020).
- IMPRINT IIC.1 Project: Development of low cost sensors for monitoring of odours in ambient air. Co-PI: Dr. Ranjit Kumar, and Dr. Ashok Jangid from Dayalbagh Educational Institute, Dayalbagh, Agra and Dr. Mahesh Kumar, PI and Dr. Satyajit Sahoo, Co-PI from Indian Institute of Technology, Jodhpur. Rs. 126 Lakhs (2019-22). Industrial partner: M/s. Envirotech India, Pvt. Ltd., New Delhi. Funded by SERB, DST, New Delhi.
- TEQIP III Twinning Project: Bioaerosol and health. Co-PI: Dr. Ranjit Kumar and PI: Dr. Ashok Yadav from DEI, Dayalbagh, Agra and PI: Dr. Sasikala, JNTU, Hyderabad. Rs. 4.00 Lakhs (Rs. 2.00 Lakhs from each partnering Institute) (2020-2021).
- ISRO-GBP Project: Regional Characterization of atmospheric aerosol at Agra region. PI: Dr. Ranjit Kumar and Co-PI: Dr. Ashok Jangid, Dayalbagh Educational Institute, Dayalbagh, Rs. 50.0 Lakhs (2021-2024).
- IUAC BTR-2 Project: Black carbon dynamics: concentration, source, deposition and modeling for prediction and policy implications. Ph.D. student: Mr. Vaishnav Bartaria, and Mentor: Dr.

Ranjit Kumar, Dayalbagh Educational Institute, Dayalbagh, Agra (2024-2027) by IUAC New Delhi, (2024-2026).

- ISRO-GBP Project: Regional Characterization of atmospheric aerosol at Agra region. PI: Dr. Ranjit Kumar and Co-PI: Dr. Ashok Jangid, Dayalbagh Educational Institute, Dayalbagh, Rs. 20.0 Lakhs (2024-2026).

Books/Book Chapters/Newsletters

- Ranjit Kumar and Pratima Gupta. A chapter on “Air Pollution control policies and regulations” in a book entitled “Air Pollution and Plant Health: Climate Change Perspectives” (Editors: Prof. UC Kulshrestha and Dr. Pallavi Saxena), Chapter 12, Springer, page no. 133-149, 2016.
- Pankaj Kumar, V. Ramnathan and Ranjit Kumar (Guest Editors). Special Issues of Journal “Proceedings of the Indian National Science Academy (Pinsa)” on Science and Technology of Young Scientists of India, published by Indian National Science Academy, New Delhi, 2018 (Now published by Springer).
- Rajnish Kumar Chaturvedi, Ranjit Kumar and Wahazuddin (Editors). 1st issue of Newsletter of Indian National Young Academy of Sciences, INSA, New Delhi, page 1-20, 2019.
- Ranjit Kumar et al. (Edited), INYAS Newsletter (Hindi Version), page 1-41, 2021.
- Satya Prakash, K. Maharaj Kumari, Anita Lakhani and Ranjit Kumar (Eds.). Paritantra a Publication of Systems Society of India Journal of Systems Science and Engineering, Vol 25(1), page 1-80, 2021.
- Ranjit Kumar and Rohini Singh. A chapter on “Influence of Air Pollution on Phytochemicals” in a book entitled “*Advances in Atmospheric Research*” (Editor: Dr. Pargin Bangotra and Dr. Manish Sharma), 2022.
- Ranjit Kumar et al. (Editors). 3rd issue (July – December 2021) of Newsletter of South Asian Meteorological Association, page 1-24, 2022.
- Ranjit Kumar et al. (Editors). 4th issue (Jan – June 2022) of Newsletter of South Asian Meteorological Association, page 1-43, 2022.
- Ranjit Kumar et al. (Editors). 5th issue (July – Dec 2022) of Newsletter of South Asian Meteorological Association, page 1-30, 2023.
- Ranjit Kumar et al. (Editors). 6th issue (Jan – June 2023) of Newsletter of South Asian Meteorological Association, page 1-46, 2023.
- Ranjit Kumar, Arti Bhatnagar and Jamson Masih. A chapter entitled, “Biosensor: application in environmental management” for a book entitled “Harnessing Microbial Potential for Multifarious Applications” (Eds. Kiran Bala, Vivek Kumar, Pritam Sangwan, & Tonmoy Ghosh), Springer publication, 2023.
- Ashok Jangid, Vaishnav Bartaria and Ranjit Kumar (2024). A chapter entitled, “Rain and Shine: The Hidden Link between Aerosols Optical Depth, Climate Change and Precipitation. Climate Change and Environmental Sustainability. HSRA Publications, 143 (1-35); 978-93-5506-629-9.
- Mamta, P. Gupta, G.P. Satsangi and Ranjit Kumar. A relationship study on air pollution and hospital admission in the city of Taj over Indo- Gangetic basin. Proceedings of Indian International Conference on Air Quality Management (IICAQM), 2024 (to be submitted).
- A text book on “Applied Chemistry (Aam Bolchal ki Bhasha Mein), CBS Publishers, New Delhi 2024. (Under preparation for publication).

- A Text Book on Environmental Sciences based on UGC pattern for all students of Undergraduate and for M.Sc. in Environmental Science, 2024 (Under preparation for publication).

Research Publications:

- G.S. Satsangi, A. Rani, R. Kumar, S.P. Singh, A. Lakhani, K. Maharaj Kumari and S.S. Srivastava. Status of Acid Rain in India and Study on Rainwater Composition at Gopalpura (Agra). *Bhartiya Vaigyanik aivam Audhyogic Anusandhan Patrika* (in Hindi), Vol. 1, June, 2000, 15-22.
- S.P. Singh, Abha Rani, R. Kumar, K.M. Kumari and S.S. Srivastava. Dry deposition of ammonium at a suburban site of Agra. *Journal of Environmental Studies and Policy* 3 (1), 33-38, 2000.
- Ranjit Kumar, Abha Rani, S.P. Singh, G.S. Satsangi, K. Maharaj Kumari and S.S. Srivastava. Dry deposition of major ions on natural surfaces, *Proceedings of the Pollution in Urban Environment, Ninth National Symposium on Environment*, 261-264, 2000.
- Ranjit Kumar, Abha Rani, S.P. Singh, G.S. Satsangi, K. Maharaj Kumari and S.S. Srivastava. Measurements of dry deposition of gaseous and particulate N to Vegetation, *Proceedings of the Pollution in Urban Environment, 10th National Symposium on Environment*, 257-260, 2001.
- S. P. Singh, Abha Rani, R. Kumar, G.S. Satsangi, P. Khare, K.M. Kumari and S.S. Srivastava. Dry deposition of coarse particle at a semi-arid rural site of India. *Journal of Environmental Study and Policy* 4 (1), 1-10, 2001.
- Ranjit Kumar, Abha Rani, S.P. Singh, K. Maharaj Kumari and S.S. Srivastava. Measurements of dry deposition of gaseous and particulate nitrate to marble at sub urban site. *Journal of Environmental Studies and Policy* 4 (1), 45-51, 2001.
- Rani, S.P. Singh, K. Maharaj Kumari and S.S. Srivastava. A long-term study on chemical composition of rainwater at Dayalbagh, a suburban site of semiarid region. *Journal of Atmospheric Chemistry* 41 (3), 265-279, 2002.
- Ranjit Kumar, Abha Rani, S.P. Singh, G.S. Satsangi, K. Maharaj Kumari and S.S. Srivastava. Measurement of dry deposition of gaseous and particulate S to marble at a semiarid region of India. *Indian Journal of Radio and Space Physics* 31, 88-92, 2002.
- Ranjit Kumar, Abha Rani, K. Maharaj Kumari and S.S. Srivastava. Direct measurement of atmospheric dry deposition to natural surfaces in a semiarid region of north central India. *Journal of Geophysical Research*, 105, D (20), Ac1-12, 2003.
- Abha Rani, Ranjit Kumar, K. Maharaj Kumari and S.S. Srivastava. Measurement of NO₂, HNO₃, NH₃ and SO₂ and related particulate matter at a rural site in Rampur, India. *Atmospheric Environment*, 37 (34), 4837-4846, 2003.
- Ranjit Kumar, Abha Rani, K. Maharaj Kumari and S.S. Srivastava. Measurements of atmospheric levels of acidifying compounds and their dry deposition to natural surface. *DEI Journal of Science and Engineering Research* 12(1&2), 40-45, 2003.
- Ranjit Kumar, Abha Rani, K. Maharaj Kumari and S.S. Srivastava. Computing dry deposition velocities of acidifying compounds over vegetation for a rural site in India. *Proceedings of National Symposium on Biochemical Sciences: Health and Environment Aspects (BSHEA-2003)* (Published by Allied Publishers, New Delhi), 2003.
- Abha Gupta, Ranjit Kumar, Abha Rani, K. Maharaj Kumari and S.S. Srivastava. Measurement of ambient concentration of SO₂, NO₂, HNO₃ and NH₃ at urban, suburban and rural sites of

- India. Proceedings of National Symposium on Biochemical Sciences: Health and Environment Aspects (BSHEA-2003) (Published by Allied Publishers, New Delhi), 2003.
- Abha Rani, Ranjit Kumar, K. Maharaj Kumari and S.S. Srivastava. Atmospheric dry deposition to leaf surfaces at a rural site of India. *Chemosphere*, 55(8), 1097-1107, 2004.
 - Ranjit Kumar, Abha Rani, K. Maharaj Kumari and S.S. Srivastava. Simultaneous measurements of SO₂, NO₂, HNO₃ and NH₃: seasonal and spatial variations. *Current Science* 87 (8), 1108-1115, 2004.
 - Ranjit Kumar, Abha Rani, K. Maharaj Kumari and S.S. Srivastava. Atmospheric dry deposition to marble and red stone. *Journal of Atmospheric Chemistry*, 50, 243-261, 2005.
 - Ranjit Kumar, K. MaharajKumari and S.S. Srivastava. Field measurements of aerosol particle dry deposition on tropical foliage at an urban site. *Environmental Science and Technology*, 40(1), 135-141, 2006.
 - Ranjit Kumar, S.S. Srivastava, K. Maharaj Kumari. Characterization of size segregated aerosols at a suburban and urban site of semiarid region in India. *Aerosol and Air Quality Research*, 7 (4), 531-549, 2007.
 - Ranjit Kumar, S.S. Srivastava and K. Maharaj Kumari. Stratospheric ozone: An assessment. *DEI Journal of Science and Engineering Research*, Vol. 14 (1&2), 2007.
 - Ranjit Kumar, S.S. Srivastava K. MaharajKumari. Modeling dry deposition of S and N compounds to vegetation. *Indian Journal of Radio and Space Physics*, 37 (4), 272-278, 2008.
 - Ranjit Kumar, K. Maharaj Kumari and S.S. Srivastava. A regression model for prediction of acid rain over a semiarid region. *National Academy Science Letters*, 33(1&2), 27-31, 2010.
 - Ranjit Kumar, Vineeta Deewakar, J.N. Srivastava and K. Maharaj Kumari. Biochemical characteristics of aerosol at a sub urban site. In the e-book, “Chemistry of Phytopotentials: Health Energy and Environmental Perspectives” (editors- M.M. Srivastava, L.D. Khemani and S. Srivastava). DOI: 10.1007/978-3-642-23394-4_79, Springer-Verlag Berlin Heidelberg, page 373-375, 2011.
 - Ranjit Kumar and K. Maharaj Kumari. Measurement of near ultrafine S aerosol at a semiarid region in India. *National Academy Science Letter* 35(3), 177–180, 2012.
 - Ranjit Kumar, S.S. Srivastava and K. Maharaj Kumari. Experimental and parameterization method for evaluation of dry deposition of acidifying S compounds to natural surfaces (*Cassia siamea*). *Atmospheric and Climate Sciences* 2 (4), 492-500, 2012.
 - Mamta, J.N. Srivastava, G.P. Satsangi and Ranjit Kumar. Assessment of bioaerosol pollution over Indo-Gangetic plain. *Environmental Science and Pollution Research* 22 (8), 6004-6009, 2015.
 - Ranjit Kumar and K. Maharaj Kumari. Aerosols and trace gases characterization over Indo-Gangetic plain in semiarid region *Urban Climate* 12, 11-20, 2015.
 - Nupur Raghav, J.N. Srivastava, G.P. Satsangi and Ranjit Kumar. Investigation on abundance of microbial communities in ambient air over urban site in semi-arid region. *Journal of Energy Research and Environmental Technology* 2 (5), 375-378, 2015.
 - Ranjit Kumar, Sudhir Kumar Verma and K. Maharaj Kumari. Chemical characterization of depositing materials onto building surfaces. *Proceedings of National Conference on Recent Advances in Chemical and Materials Sciences*, 124-128, 2015.
 - Ranjit Kumar and K. Maharaj Kumari. Evaluation of dry deposition of acidifying N compounds to vegetation. *Environmental Science and Pollution Research* 22(23), 18437-18445, 2015.

- Mamta, J.N. Srivastava, G.P. Satsangi and Ranjit Kumar. Biogenic constituents of respirable aerosol over semi-arid region. *Journal of Chemical Biological and Physical Sciences* 6 (4), 123-132, 2016.
- P. Gupta, S. P., Singh, A. Jangid and Ranjit Kumar. Estimation of physical and optical properties over Indo-Gangetic basin in India. *Session. Proceeding of IASTA Bulletin* 22(1 & 2), 495-497, 2016, ISSN 09714510.
- Mamta, P. Gupta, G.P. Satsangi and Ranjit Kumar. Atmospheric bioaerosols: characterization and deposition. *Proceeding of IASTA Bulletin* 22(1 & 2), 288-290, 2016, ISSN 09714510.
- Pratima Gupta, Ashok Jangid and Ranjit Kumar. A study on monitoring of air quality and modeling of pollution control. *IEEE Region 10 Humanitarian Technology Conference (R10-HTC)* DOI: 10.1109/R10-HTC.2016.7906800 2016.
- Pratima Gupta, Shalendra Pratap Singh, Ashok Jangid and Ranjit Kumar. Characterization of black carbon in the ambient air of Agra, India: Seasonal variation and meteorological influence. *Advances in Atmospheric Sciences* 34, 1082-1094, 2017.
- G.P. Satsangi, Mamta and K. Maharaj Kumari. Bioaerosol: A new research perspective in Climate change. *Earth Science India* (Accepted), 2019.
- Rohini Singh, Pratima Gupta, Anshu Mala, Ashok Jangid and Ranjit Kumar. Assessment of Fractionated Aerosols at a Semi-arid Region over the Indo-Gangetic Basin. *CLEAN - Soil, Air, Water*, 47, 1800040, 2019.
- Pratima Gupta, Ashok Jangid and Ranjit Kumar. Health effects of PM₁₀, PM_{2.5} and Black carbon in Agra over Indo-Gangetic plain. *Proceedings of the Indian National Science Academy* 85 (3), 1-13, 2019.
- Pratima Gupta, Mamta Satsangi, Guru Prasad Satsangi, Ashok Jangid, Yang Liu, Shantanu Kumar Pani and Ranjit Kumar. Exposure to respirable and fine dust particle over north-central India: Chemical characterization, source interpretation and health risk analysis. *Environmental Geochemistry and Health*. doi: 10.1007/s10653-019-00461-w., 42, 2081-2099, 2019.
- Nupur Raghav, J.N. Srivastava, G.P. Satsangi and Ranjit Kumar. Enumeration and characterization of airborne microbial communities in an outdoor environment of city of Taj. *Urban Climate* 32, 100596, 2020.
- Ranjit Kumar, Pratima Gupta and Ashok Jangid. An empirical study towards air pollution control in Agra, India: a case study *SN Applied Science* 2, 1-11, 2020. Doi.org/10.1007/s42452-020-03826-4
- A.S. Gautam, S. Kumar, S. Gautam, A. Anand, Ranjit Kumar, Abhishek Joshi, K. Baudh and K. Singh. Pandemic induced lockdown as boon to the environment: trends in air pollution concentration across India. *Asia-Pacific Journal of Atmospheric Sciences* 57, 1-16 2021. Doi.org/10.1007/s13143-021-00232-7.
- M.M. Gogoi, S. Suresh Babu, ----, Ranjit Kumar et al. Response of ambient BC concentration across the Indian region to the nation-wide lockdown: results from the ARFINET measurements of ISRO-GBP. *Current Science* 120(2), 1-11, 2021.
- Mamta, Rohini Singh, G.P. Satsangi and Ranjit Kumar. Seasonal Variation of Microbial Constituents of Aerosols at Suburban Site of Agra, India. *PARITANTRA Journal of Systems Science and Engineering* 25(1), 43-50, 2021.
- Rohini Singh, Shalendra Pratap Singh, Pratima Gupta, Narayan Prasad, Ashok Jangid, Kamal Kumar and Ranjit Kumar. Clean air India: blessings in disguise amid corona pandemic. *Journal of Science and Technological Researches* 3(4), 41-45, 2021.

- Pratima Gupta, Kamal Kumar, Ashok Jangid, and Ranjit Kumar. Indirect impact of 2020 lockdown due to COVID-19 pandemic on health risk due to black carbon at a semi-arid region over the Indo-Gangetic basin. *Environmental Geochemistry and Health* 2022, <https://doi.org/10.1007/s10653-022-01430-6>.
- Anshumala Sharma, Puja Khare, Nahar Singh, D.M. Chate and Ranjit Kumar. Anthropogenic aerosols in precipitation over the Indo-Gangetic basin. *Environmental Geochemistry and Health*, 45(3), 961-980, 2023. <https://doi.org/10.1007/s10653-022-01236-6>.
- Pratima Gupta, Ashok Jangid, and Ranjit Kumar. Assessment of aerosol optical and physical properties and implications for radiative effects over the semiarid region of Indo-Gangetic basin. *Geological Journals*, 1-14, 2023. DOI: 10.1002/gj.4857.
- Rajni Kant Verma, Ashok Jangid, and Ranjit Kumar. Synthesis and Fabrication Techniques of ZnO Thin Films for Gas Sensing: An Overview. *Nanotechnology Perceptions* 20(6), 2308–2339, 2024.

Awards/Achievements/Recognitions:

- ISCA Young Scientist Award – 2002.
- Travel Award to attend the Spring Meeting of American Geophysical Union, Washington, USA, 2002.
- CSIR Senior Research Fellowship Award, 2002.
- Junior Scientists of the Year, 2003, National Environmental Science Academy (NESA), New Delhi.
- START Young Scientist Award, 2004, AGU, USA.
- DST Award for participation in 55th Meeting of Nobel Laureates at Lindau, Germany, 2005.
- INSA Young Scientist Medal – 2006.
- Nominated as Joint Secretary, Agra Chapter - Bharat Vijanana Parishad, 2008.
- Berkner Fellowship 2008 to attend AGU Joint Assembly, Florida, USA.
- Member National Academy of Sciences in India, 2008.
- Member, Editorial Board, *Journal of Environmental Chemistry and Ecotoxicology*.
- Affiliate Member, International Union of Pure and Applied Chemistry (IUPAC) in the field of Atmospheric Chemistry, 2011.
- Associate, Committee on Space Research (COSPAR), USA, 2012.
- Academy's Summer Research Fellowship 2013, IASc-INSa-NASl.
- Raman Post-Doctoral Fellowship for research work in USA, UGC, Govt. of India, 2013.
- Visiting Faculty, Department of Energy Environmental and Chemical Engineering, Washington University in St. Louis, USA, July-December, 2014.
- Member, Executive committee of Indian Council of Chemists, Agra, 2016.
- Member, INYAS, Indian National Science Academy, New Delhi, 2017.
- Member, Editorial Board, INYAS Newsletter, 2018.
- Member Expert Group 'Satellite based Air Quality Monitoring System' CPCB, Ministry of Environment Forest and Climate Change, Govt. of India, 2019.
- Best Electoral Practices Award – 2020, from Chief Election Officer of Uttar Pradesh.
- Member Editorial board, *Journal of Science and Technological Researches*, 2020.
- Associate Guest Editor *Partitantra Journal of Systems Science and Engineering* Special issue on Air quality and its impact on health, 2021.
- Editor, Newsletter of South Asian Meteorological Association (SAMA), 2022.