

CURRICULUM VITAE

DR. SUSHIL KUMAR

Designation: Assistant Professor

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Google Scholar: https://scholar.google.co.in/citations?user=Fv_CvT8AAAAAJ&hl=en

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Vidwan: <https://vidwan.inflibnet.ac.in/profile/281334>

RESEARCH AREA:

Air Pollution, Aerosol Geochemistry, Environmental Chemistry, Fog and Dew chemistry, Organic Pollutants Chemistry, Microplastic Chemistry

TEACHING AND RESEARCH:

1. Assistant Professor (5th July 2021 to till date) Department of Environmental Studies, Siksha Bhavana (Institute of Science), Visva-Bharati, Santiniketan-731235, Birbhum, West Bengal
2. CSIR-Research Associate (5th April 2019 to 30th April 2021) from School of Environmental Sciences (SES), Jawaharlal Nehru University (JNU), New Delhi.
3. Assistant Professor (Guest Faculty) August-2018 to April-2019, in Department of Environmental Studies at Delhi College of Arts and Commerce (DCAC), University of Delhi, Netaji Nagar, New Delhi.

EDUCATIONAL QUALIFICATIONS:

Ph.D (2018) from School of Environmental Sciences (SES), Jawaharlal Nehru University (JNU), New Delhi.

M.Sc (2011) in Environmental Sciences from Banaras Hindu University (BHU), Varanasi, Uttar Pradesh.

TEACHING EXPERIENCE:

Teaching at Ph.D Level paper:

Paper-I Research Methodology and Techniques

Paper-II (Recent Advances in Environmental Science) (Optional) Optional-I.

Teaching at PG Level papers:

MEC 11 Fundamentals of Environmental Science

MEC 13 Principles of Soil Science

MEC 14 Techniques in Environmental Science

MEC 15 Water Pollution

MEC 16 Practical-I

MEC 22 Air Pollution

MEC 25 Soil Pollution and Solid Waste Management

MEC 32 Ecology

MEC 43 Environmental Education, Policy and Legislation

MEO 442-Air Pollution and Health

MEO 444- Soil Pollution

Teaching at UG Level papers: Common Value Added Course (CVAC: Environment Studies).

AWARDS RECEIVED:

1. UGC-BSR Fellow.
2. UGC-NET (June, 2012, Dec, 2012, Dec, 2013) in Environmental Science.
3. CSIR-NET-(June-2013, Dec-2013) in Earth, Atmospheric, Ocean and Planetary Sciences.
4. ICAR NET-2013 in Environmental Sciences.
5. Best Poster Presentation in International conference “Challenge of Climate Change and Air Pollution- Impact on Health and Economy” held on 14-15 Dec-2018, Maulana Azad Medical College, New Delhi.
6. CSIR-Research Associate Post-doctoral research fellowship-2019.

INVITED TALK:

1. Invited talk on topic **Particulate Matter Emission over Indo-Gangetic Plain (IGP): A Challenge for Air Quality Management** in international seminar entitled “**Unified Earth now Diversified World**” on August 23- 24, 2023 at Kandra R.K.K. Mahavidyalaya, Kandra, P.S.- Ketugram, Dist.- Burdwan, West Bengal
2. Invited talk on topic “**Sustainable Development**” on February 19, 2024 at Kendriya Vidyalaya (KV), Panagarh, Burdwan, West Bengal

HAND ON INSTRUMENTATION EXPERTIES:

1. Ion Chromatography, Atomic absorption spectrometer, EC/OC analyzer, Spectrophotometer, Induced coupled Plasma- Optical emission spectrometer (ICP-OES), Triple Quadrupole Gas Chromatograph Mass Spectrometer (GCMS-TQ).
2. Field experience of collecting aerosols samples using High-volume air sampler and multi stage impactor air sampler, Aerosol mass monitor.
3. Maintenance of ultra-clean high pressure laboratory.

RESEARCH EXPERIENCES:

1. 4 week industrial training from NTPC Singrauli.
2. M.Sc. Dissertation work “Study of surface water quality of Ganga river water at Varanasi”.
3. 6 month (Sept-2011 to Feb-2012) research experience in Central Institute of Mining and Fuel Research, Dhanbad, on “Development of methodology for estimation of greenhouse Gas in mine fire area and their mitigation through terrestrial sequestration”.

PUBLICATIONS:

1. Buddhadev Ghosh, Harish Chandra Barman, Sayoni Ghosh, Md Maimun Habib, Jayashree Mahato, Lovely Dayal, Susmita Mahato, Priti Sao, Atul Chandra Murmu, Ayontika Deb Chowdhury, Sourina Pramanik, Rupsa Biswas, **Sushil Kumar** and Pratap Kumar Padhy (2024). Air pollution status and attributable health effects across the state of West Bengal, India, during 2016–2021. Environmental Monitoring and Assessment, 196(2), p.165. **IF-3.1**
2. **Sushil Kumar** (2023) Insights on air pollution during COVID-19: A review. Aerosol Science and Engineering. Accepted January 2023. **IF-1.5**
3. Sudesh Chaudhary, **Sushil Kumar**, Rimpi Antil, Sudesh Yadav(2020). Air Quality Before and After COVID-19 Lockdown Phases Around New Delhi, India. J Health Pollution 30: (210602) 2021. Accepted January 22, 2021.**IF-2.8**
4. **Kumar, S.,** Yadav, S. 2019. Chemistry of size-segregated particles: study of sources and processes in N-NW India. Atmospheric Pollution Research. **IF-3.5**

5. Jaacks, L.M., Yadav, S., Panuwet, P., **Kumar, S.**, Rajacharya, G.H., Johnson, C., Rawal, I., Mohan, D., Mohan,V.,Tandon, N., Barr, D.B., Narayan, K.M.V., Prabhakaran, D. (2019) .Metabolite of the pesticide DDT and incident type 2 diabetes in urban India. Environmental International:133:105089: **IF-7.6**
6. **Kumar, S.**, Nath, S., Bhatti, M.S., Yadav, S. 2018. Chemical Characteristics of Fine and Coarse Particles during Wintertime over Two Urban Cities in North India. Aerosol and Air Quality Research, 18:1573-1590. **IF-2.8**
7. Kumar, P., **Kumar, S.** Yadav, S. (2018) Seasonal variations in size distribution, Water soluble ions and carbon content of size segregated aerosols over New Delhi. Environmental Science and Pollution Research 25: 6061-6078 **IF-3.1**
8. Hira, M., Yadav, S., Morthekai, P., Linda, A., **Kumar, S.**, Sharma, A., (2018). Mobile Phones - an asset or a liability: a study based on characterization and assessment of metals in waste mobile phone components using leaching tests. Journal of Hazardous Materials 342: 29-40 **IF-9.04**
9. Javed, H., Islam, A., Chauhan, A., Kumar, S, **Kumar, S.**(2018) Efficacy of engineered GO Amberlite XAD-16 picolylamine sorbent for the trace determination of Pb (II) and Cu (II) in fishes by solid phase extraction column coupled with inductively coupled plasma optical emission spectrometry. Scientific Reports 8:17560.**IF- 4.1**

CONFERENCE PROCEEDINGS:

1. **Kumar, S.**, Yadav, S. (2016) Water soluble inorganic ions, OC and EC in summer time aerosols along the west east wind corridor in N-NW India” in conference proceedings of Indian Aerosol Science and Technology Association 22:171-174.
2. Sushil Kumar (2023) Particulate Matter Emission over Indo-Gangetic Plain (IGP): A Challenge for Air Quality Management in international seminar “**Unified Earth now Diversified World**” on August 23- 24, 2023 at Kandra R.K.K. Mahavidyalaya, Kandra, P.S.- Ketugram, Dist.- Burdwan, West Bengal

BOOK CHAPTERS:

1. **Kumar, S.**, (2023). Atmospheric CO₂ Consumption Associated With Chemical Weathering in the Riverine Ecosystem. Weathering and Erosion Processes in the Natural Environment, pp.331-341. Wiley.

2. **Kumar, S.**, Maharana, P., (2020.) Air quality and its impact on urban environment. In Urban Ecology: 185-200. Elsevier.
3. **Kumar, S.**, Yadav, S., (2020) Air quality Index and criteria pollutants in ambient atmosphere over selected sites: Impact and lessons to learn from COVID 19. Elsevier.
4. **Kumar, S.**, Gupta, A.K., Maurya, A., Singh, M.K. (2020) Chemical treatment for removal of waterborne pathogens. In Waterborne Pathogens: 205-218. Butterworth-Heinemann.
5. Maurya, A., Singh, M.K., **Kumar, S.** (2020) Biofiltration technique for removal of waterborne pathogens. In Waterborne Pathogens: 123-141. Butterworth-Heinemann.
6. Singh, M.K., Maurya, A., **Kumar, S.** (2020) Bioaugmentation for the treatment of waterborne pathogen contamination water. In Waterborne Pathogens: 189-203. Butterworth-Heinemann.

CONFERENCE AND WORKSHOP:

1. Oral Presentation on Atmospheric Dust over India: Source, Transport, and Nutrient Dynamics in International Conference on Air Quality and Human Health 22 - 24 September, 2022 by **Sushil Kumar**
2. 7 Days workshop on analytical chemistry at NML Jamshedpur, Jharkhand with collaboration BARC Mumbai.
3. Pre-Ad Met Workshop on "Ambient Air Quality Measurements", February 23rd 2016.
4. Poster presentation **Kumar Sushil**, Kumar Pawan, Yadav Sudesh on 'Firework induced size segregated aerosols chemistry at Delhi, India' in Recent Advances in Analytical Sciences (RAAS-2016).
5. Platform presentation by **Sushil Kumar** and Sudesh Yadav on "Water soluble inorganic ions, OC and EC in summer time aerosols along the west east wind corridor in N-NW India" in Aerosols and Climate Change: Insights and Challenges (IASTA-2016).
6. Poster presentation in National Science Day-2017 at Jawaharlal Nehru University New Delhi by **Sushil Kumar**, Supriya Nath, Pawan Kumar, Sudesh Yadav on Water Soluble Inorganic Ions, OC And EC In Winter Time Aerosols Along The North Westerly Wind Corridor In N-Nw India
7. Poster presentation in National Science Day-2017 at Jawaharlal Nehru University New Delhi by Anju, **Sushil Kumar** and Sudesh Yadav on Metal Toxicity Assessment in Surface Dust of Bhiwadi Industrial Area In Rajasthan
8. Poster presentation in 14th Annual Meeting of the Asia Oceania Geosciences Society held at the Suntec Convention and Exhibition Centre, Singapore during the period 06 Aug to 11 Aug, 2017 Pawan Kumar, **Sushil Kumar**, Sudesh Yadav, Size Segregated Aerosols Chemistry in Ambient Atmosphere of New Delhi, India
9. Platform presentation in 14th Annual Meeting of the Asia Oceania Geosciences Society held at the Suntec Convention and Exhibition Centre, Singapore during the period 06 Aug to 11 Aug, 2017 by Sudesh Yadav,

Sushil Kumar, Supriya Nath, Water Soluble Inorganic Ions, OC and EC Characteristics of Winter Time Aerosols in N-NW India

10. Poster presentation in International Society for Environmental Epidemiology (ISEE-2017) held at Sydney Australia during 24-28 Sept 2017 by Lindsay M. Jaacks, Sudesh Yadav, Parinya Panuwet, **Sushil Kumar**, Ishita Rawal, Deepa Mohan, Venkat Narayan, Viswanathan Mohan, Nikhil Tandon, Dana Boyd Barr, Dorairaj Prabhakaran, High levels of organochlorine pesticides among adults in urban India
11. Poster presentation in 17th International Conference of the Pacific Basin Consortium (PBC-2017) held at New Delhi during 14-16 Nov 2017 by **Sushil Kumar**, Lindsay M. Jaacks, Sudesh Yadav, Parinya Panuwet, Ishita Rawal, Deepa Mohan, Viswanathan Mohan, Nikhil Tandon, K.M. Venkat Narayan, Dana Boyd Barr, Dorairaj Prabhakaran. High levels of organochlorine pesticides among adults in urban India
12. Poster Presentation in International Conference on “Challenge of Climate Change and Air Pollution- Impact on Health and Economy by **Sushil Kumar** and Sudesh Yadav ”Metal Distribution in Size Segregated Aerosols in Fringe Area of Thar Desert.

DISSERTATION (M.Sc) SUPERVISED

1. Assessment of Ambient Air Quality during Short-Term Emission over Megacities in India: 2023: Pradipta Haldar
2. Role of Active Desert on Atmosphere Particulate Matter Emissions over N-NW India.2023: Projita Datta
3. Assessment of Paradoxical Tropospheric Ozone Formation during COVID-19 Lockdown Period over Indo-Gangetic Plain, India.2023: Aditi Nandi
4. Determination of Heavy Concentrations in Street Dust on Durgapur Expressway-NH 19.2023 Sangram Sarkar
5. Assessment of Urban Air Quality over Eastern Coast of India.2023: Shreya Sengupta
6. Role of Source and Planetary Boundary Layer on Air Pollutant Dispersion over North-Western India.2023: Susmita Saha

REVIEWER OF THE INTERNATIONAL JOURNALS:

Environmental Science and Pollution Research, Geological Journal, Archives of Environmental Contamination and Toxicology, Remote Sensing Applications: Society and Environment (RSASE).

MEMBERS IN SCIENTIFIC SOCIETIES:

1. Life time membership in **School of Analytical Chemistry BARC Mumbai (LM256)**.
2. Life time membership in **Indian Aerosol Science and Technology Association (IASTA-LM-630)**

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