

Associate Professor
Dept of Chemistry, Institute of Science
Banaras Hindu University, Varanasi- 221005
Phone No.: +91-7607700787
Email: kirpa81@gmail.com, ram.iesd@bhu.ac.in

Expertise: Atmospheric Chemistry
and Climate change, Air pollution

Education:

Ph.D., Atmospheric Chemistry and Aerosols, 2011
Physical Research Laboratory, Ahmedabad, India

M.Sc., Chemistry (Physical), 2003
University of Allahabad, Allahabad, India

B.Sc., Physics, Chemistry and Maths, 2001
University of Allahabad, Allahabad, India

Teaching/Research Experience:

1. Associate Professor, Department of Chemistry, **Institute of Science, Banaras Hindu University**, Varanasi-221005 (09.10.2024 onward)
2. Assistant Professor, **Institute of Environment and Sustainable Development (IESD), Banaras Hindu University**, Varanasi-221005 (2703.2014 to 08.10.2024)
3. Visiting scientist, **President's International Fellowship Initiative (PIFI)** award, Chinese Academy of Sciences, China 2018 (August 2018-April 2019)
4. Scientist, National Environmental Engineering Research Institute (NEERI), Nagpur (~4 months, Dec 2013-March 2014)
5. INSPIRE Faculty: **IIT Bhubaneswar** (~10 months, Feb 2013-Dec 2013)
6. Post-Doctoral Fellow: **University of Tokyo** and **National Institute of Polar Research (NIPR), Japan** (~19 months, July 2011-January 2013)
7. Post-Doctoral Fellow: **Physical Research Laboratory**, Ahmedabad (~1 year, July 2010-June 2011)

Current Areas of Research:

Aerosol Chemistry and Climate, Secondary aerosol formation and air pollution, Optical and microphysical properties of aerosols, Carbonaceous aerosols with emphasis on black carbon (BC), Geochemistry of mineral dust, Stratosphere-Troposphere exchange, Diesel exhaust emission and control for fine particles particulate matter (PM), BC, volatile organic compounds (VOCs) and Platinum group elements (PGEs), Carbon dioxide capture, Indoor air pollution & control.

Fellowship/Honors and awards:

- i. **Travel support to attend ACAM4 workshop and Training school in Malaysia**, during 26-28 June, 2019

- ii. Invited participant and Full funding support to attend **Helmholtz-Indian Platform on Science, Technology, Education and Research (HIPSTER) workshop** scheduled at IISc Bangalore during 12-15 Feb 2019
- iii. **President's International Fellowship Initiative (PIFI)** award for visiting scientists, Chinese Academy of Sciences, China 2018 (August 2018-April 2019)
- iv. **Full financial support** to attend Workshop and Science-Policy Dialogue on Air Pollution, Climate, and Health in South Asia and the Hindu Kush Himalaya during 27-30 November 2017 at ICIMOD, Kathmandu, Nepal
- v. **Travel support to attend ACAM3 workshop and Training school in Gunagzhou, China** during 5-9 June, 2017
- vi. **Travel Grant to attend the CATCH Workshop** 19-20 April 2017 in Guyancourt, France.
- vii. **Early Career Research Award (ECRA)-2016**, Science and Engineering Research Board (SERB), Govt. of India
- viii. **Summer Internship Programme (SIP)** award for Teachers – 2016, Physical Research Laboratory (PRL), Ahmedabad
- ix. **Travel support** from ICIMOD, Nepal to attend EGU-General Assembly meeting-2016 conference at Vienna, Austria
- x. **Travel support** from IGBP to attend IGBP/Future Earth workshop and AGU-2015 conference at San Francisco, California, USA
- xi. **CONNECT Fellowship award-2015** of Alexander van-Humboldt Foundation, Germany to visit KIT, Karlsruhe
- xii. **Full travel funding support** (from DST, India and Alexander van-Humboldt Foundation, Germany) to attend the **Sixth-Indo-German Frontiers of Engineering Symposia (INDOGFOE-2014)** at Potsdam, Germany
- xiii. Invited participants in **Sixth-Indo-German Frontiers of Engineering Symposia (INDOGFOE-2014)**, 22 - 25 May 2014, Potsdam, Germany.
- xiv. **INSPIRE faculty award-2012** (from **DST, India**) in Earth and Atmospheric Sciences
- xv. Travel funding support to attend 39th **COSPAR Scientific Assembly 2012**, Mysore, India
- xvi. **July 2011-January 2013: Post-Doctoral Fellow** award from the University of Tokyo and National Institute of Polar Research (NIPR), Japan
- xvii. **July 2010-June 2011: Post-Doctoral Fellow** award from **Physical Research Laboratory, Ahmedabad**
- xviii. **Full travel funding support** to attend international **IGAC/CACGP- 2010 conference** from IGAC-NOAA-MEL office
- xix. Partial financial Assistance from **DS&T, India** to attend International **European Aerosol Conference-2009 in Karlsruhe, Germany**
- xx. Partial financial Assistance from **CCSTDS- Chennai, India** to attend International **European Aerosol Conference-2009 in Karlsruhe, Germany**
- xxi. **Oct 2007-June 2010: Senior Research Fellowship** award from **Physical Research Laboratory, Ahmedabad**
- xxii. **July 2005-Sept 2007: Junior Research Fellowship** award from **Physical Research Laboratory, Ahmedabad**
- xxiii. **2004: National Eligibility Test Lectureship (NET-LS)** award from the **Joint CSIR-UGC, New Delhi**

LIST OF PUBLICATIONS:**(i) Papers published in peer reviewed International/National Journals:**

1. K. Ram, M. M. Sarin and P. Hegde (2008), Atmospheric abundances of primary and secondary carbonaceous species at two high-altitude sites in India: Sources and temporal variability, *Atmospheric Environment*, 42, 6785-6795, doi: 10.1016/j.atmosenv.2008.01.031 (Number of Citations=330; IF=5.0).
2. K. Ram and M. M. Sarin (2009), Absorption coefficient and site-specific mass absorption efficiency of elemental carbon in atmospheric aerosols from urban, rural and high-altitude sites in India, *Environmental Science & Technology* 43, 8233-8239; doi:10.1021/es9011542 (Number of citations=154; IF=11.4).
3. K. Ram and M. M. Sarin (2010), Spatio-temporal variability in atmospheric abundances of EC, OC and WSOC over northern India, *Journal of Aerosol Science* 41, 88-98; doi: 10.1016/j.jaerosci.2009.11.004 (Number of Citation=316; IF=4.5)
4. K. Ram, M. M. Sarin, S. N. Tripathi (2010), Atmospheric black carbon and attenuation coefficient from an urban location in northern India: Inter-comparison of thermal and optical methods, *Atmospheric Research*, 97, 335-342, doi: 10.1016/j.atmosres.2010.04.06 (Number of Citation=71; IF=5.5).
5. K. Ram, M. M. Sarin and P. Hegde (2010), Long-term record of aerosol optical properties and chemical composition from a high-altitude site (Manora Peak) in Central Himalaya, *Atmospheric Chemistry and Physics*, 10, 11791-11803; doi:10.5194/acp-10-11791-2010 (Number of citations=206; IF=6.3).
6. K. Ram, M.M. Sarin and S. N. Tripathi (2010), A 1-year record of carbonaceous aerosols from an urban location (Kanpur) in the Indo-Gangetic Plain: Characterization, sources and temporal variability, *Journal of Geophysical Research-Atmospheres*, 115, D24313 doi:10.1029/2010JD014188 (Number of Citation=230; IF=4.4).
7. K. Ram and M. M. Sarin (2011), Day-night variability of EC, OC, WSOC and inorganic ions in urban environment of Indo-Gangetic Plain: Implications to secondary aerosol formation, *Atmospheric Environment*, 45, 460-468; doi: 10.1016/j.atmosenv.2010.09.055 (Number of Citation=270; IF=5.0)
8. Srivastava, A. K., K. Ram, P. Pant, P. Hegde, and H. Joshi (2012), Black carbon aerosols over Manora Peak in the Indian Himalayan foothills: implications for climate forcing, *Environmental Research Letters*, 7, 014002, doi:10.1088/1748-9326/7/1/014002. (Number of Citation=92; IF=6.7)
9. K. Ram, M.M. Sarin and S. N. Tripathi (2012), Temporal trends in atmospheric PM_{2.5}, PM₁₀, EC, OC, WSOC and optical properties of aerosols from Indo-Gangetic Plain: Impact of biomass burning emissions, *Environmental Science & Technology* 46 (2), 686–695, doi:10.1021/es02857w (Number of Citation=207; IF=11.4).

10. Kondo Y., K. Ram, N. Takegawa, L. Sahu, Y. Morino, X. Liu and T. Ohara (2012), Reduction of Black Carbon Aerosols in Tokyo: Comparison of real-time observations with emission estimates, *Atmospheric Environment*, 54, 242–249, doi: 10.1016/j.atmosenv.2012.02.003 (Number of Citation=35; IF=5.0).
11. K. Ram and M. M. Sarin (2012), Atmospheric ²¹⁰Po, ²¹⁰Pb and ²¹⁰Po/²¹⁰Pb activity ratios in urban aerosols: Temporal variability and impact of boundary layer dynamics, *Tellus-B*, 64, 17513, DOI: 10.3402/tellusb.v64i0.17513 (Number of Citation=33; IF=2.3).
12. K. Ram, M. M. Sarin., R. Rengarajan and A.K. Sudheer (2012), Secondary inorganic aerosols and oxidation ratios during wintertime fog and haze events at urban sites in the Indo-Gangetic Plain, *Aerosol Air Quality Research*, 12(3)359-370, doi: 10.4209/aaqr.2011.07.0105 (Number of Citation=44; IF=4.0)
13. P. M. Shamjad, S.N. Tripathi, S. G. Aggarwal, S.K. Mishra, Manish Joshi, Arshad Khan, B.K. Sapra, K. Ram (2012), Comparison of experimental and modeled absorption enhancement by Black Carbon (BC) cored polydisperse aerosols under hygroscopic conditions, *Environmental Science & Technology* 46 (15), 8082–8089, doi:10.1021/es300295v (Number of Citation=39; IF=11.4)
14. K. Ram and M. M. Sarin (2012), Carbonaceous Aerosols over Northern India: Sources and Spatio-temporal variability, *Proceedings of the Indian National Science Academy*, 78 (3), 523-533 (Number of Citation=31; IF=NA).
15. X. Liu, Y. Kondo, K. Ram, H. Matsui, K. Nakagomi, T. Ikeda, N. Oshima, R.L. Verma, N. Takegawa and M. Koike (2013), Seasonal variation of black carbon observed at a remote mountain site Happo in Japan, *Journal of Geophysical Research-Atmospheres*, 118, 1-14, DOI: 10.1002/jgrd.50317 (Number of Citation=19; IF=4.4).
16. K. Ram, M. M. Sarin, D. Bhattu and S. N. Tripathi (2014), Primary and secondary aerosols from an urban site (Kanpur) in the Indo-Gangetic Plain: Influence on CCN, CN concentration and optical properties, *Atmospheric Environment*, 89, 655-663, DOI: 10.1016/j.atmosenv.2014.02.009 (Number of Citation=39; IF=5.0).
17. Srivastava, A. K., D. S. Bisht, K. Ram, S. Tiwari, and M. K. Srivastava (2014), Characterization of carbonaceous aerosols over Delhi in Ganga basin: Seasonal variability and possible sources *Environmental Science and Pollution Research*, 21 (14), 8610-8619, DOI: 10.1007/s11356-014-2660-y. (Number of Citation=61; IF=5.8).
18. C. He, Q. B. Li, K. N. Liou, J. Zhang, L. Qi, Y. Mao, M. Gao, Z. Lu, D. G. Streets, Q. Zhang, M. M. Sarin, and K. Ram (2014) A global 3-D CTM evaluation of black carbon in the Tibetan Plateau, *Atmospheric Chemistry and Physics* 14 (13), 7091-7112, doi:10.5194/acp-14-7091-2014. (Number of Citation=46; IF=6.3).
19. Srivastava, A. K., K. Ram, S. Tiwari and S. Singh (2015), Aerosol optical properties and radiative effects over Manora Peak in the Himalayan foothills: seasonal variability and role of transported aerosols, *Science of the Total Environment*; 502, 287–295, doi/10.1016/j.scitotenv.2014.09.015. (Number of Citation=44, IF=9.8).

20. K. Ram and M. M. Sarin (2015), Atmospheric carbonaceous aerosols from Indo-Gangetic Plain and Central Himalaya: Impact of anthropogenic sources, *Journal of Environmental Management*; 148, 153-163, doi: 10.1016/j.jenvman.2014.08.015 (Number of Citation=63, IF=8.7).
21. Kumar, K. Ram, N. Ojha (2016), Variations in carbonaceous species at a high-altitude site in western India: Role of synoptic scale transport, *Atmospheric Environment*, 125, 437–449, doi: 10.1016/j.atmosenv.2015.07.039 (Number of Citation=25, IF=5.0)
22. S. Tiwari, U. C. Dumka, D. G. Kaskaoutis, K. Ram, A. S. Panicker, M. K. Srivastava, Shani Tiwari, S. D. Attri, V. K. Soni, and A. K. Pandey (2016) Aerosol chemical characterization and role of carbonaceous aerosol on radiative effect over Varanasi in central Indo-Gangetic Plain, *Atmospheric Environment*, 125, 371–382 doi: 10.1016/j.atmosenv.2015.07.031 (Number of Citation=80, IF=5.0)
23. Ram, K., S. Singh, M. M. Sarin, A. K. Srivastava, and S. N. Tripathi (2016), Variability in aerosol optical properties over an urban site, Kanpur, in the Indo-Gangetic Plain: A case study of dust and haze events, *Atmospheric Research*, 174–175, 52–61, doi: 10.1016/j.atmosres.2016.01.014 (Number of Citation=69, IF=5.5).
24. S. Bikkina, A. Andersson, M.M. Sarin, R.J. Sheesley, E. Kirillova, R. Rengarajan, A.K. Sudheer, Ram, K. and Ö. Gustafsson (2016), Dual-carbon-isotope characterization of total organic carbon in wintertime carbonaceous aerosols from northern India, *Journal of Geophysical Research-Atmospheres*, 121 (9), 4797-4809, DOI: 10.1002/2016JD024880 (Number of Citation=34, IF=4.4).
25. D. S. Bisht, A.K. Srivastava, H. Joshi, K. Ram, Narendra Singh, M. Naja, M.K. Srivastava, S. Tiwari (2017), Chemical characterization of rainwater at a high-altitude site "Nainital" in the Central Himalayas, India, *Environmental Science and Pollution Research*, 24(4), 3959–3969, DOI: 10.1007/s11356-016-8093-z (Number of Citation=62, IF=5.8).
26. S. Bikkina, A. Andersson, Ram, K., M.M. Sarin, Rengarajan, A.K. Sudheer, R.J. Sheesley, E. Kirillova, and Ö. Gustafsson (2017), Carbon-isotope constrained seasonality of carbonaceous aerosol sources from an urban location (Kanpur) in the Indo-Gangetic Plain, *Journal of Geophysical Research-Atmospheres*, 122, doi:10.1002/2016JD025634. (Number of Citation=62, IF=4.4).
27. Sharma D, Atul Srivastava, K. Ram, Atinderpal Singh, D Singh (2017), Temporal variability in aerosol characteristics and its radiative properties over Patiala, northwestern part of India: Impact of agricultural biomass burning emissions, *Environmental Pollution* 231, 1030-1041, doi: 10.1016/j.envpol.2017.08.05 (Number of Citation=54, IF=8.9).
28. Jordan L. Schnell, Vaishali Naik, Larry W. Horowitz, Fabien Paulot, Jingqiu Mao, Paul Ginoux, Ming Zhao and Kirpa Ram (2018), Exploring the relationship between surface PM_{2.5} and meteorology in Northern India. *Atmos. Chem. Phys.* 10157-10175, doi:10.5194/acp-18-10157-2018 (Number of Citation =70, IF=6.3).

29. Guangming Wu, Xin Wan, Shaopeng Gao, Pingqing Fu, Yongguang Yin, Gang Li, Guoshuai Zhang, Shichang Kang, Kirpa Ram, and Zhiyuan Cong (2018). Humic-like substances (HULIS) in aerosols of central Tibetan Plateau (Nam Co, 4730 m asl): Abundance, light absorption properties and sources. *Environmental Science & Technology*, 52, 7203-7211, DOI: 10.1021/acs.est.8b01251 (Number of Citation =114,IF=11.4).
30. Santosh Kumar, Rajesh K. Yadav, António Aguiar, Kirpa Ram, Joonseok Koh, Abilio Sobral (2018), Graphene oxide modified cobalt metallated porphyrin photocatalyst for conversion of formic acid from carbon dioxide, *Journal of CO2 Utilization*, 27, 107-114, DOI: 10.1016/j.jcou.2018.07.008 (Number of Citation =55,IF=7.7).
31. Chunguang Liu, Jiancheng Shi, Tianxing Wang, Kirpa Ram and Tianjie Zhao (2019), Mathematical assessment of the effects of substituting the band radiative transfer equation (RTE) for the spectral RTE in the applications of Earth's surface temperature retrievals, *Remote Sensing* (Number of Citation =6,IF=3.408)
32. Xin Wan, Kimitaka Kawamura, Shichang Kang, Kirpa Ram, Shaopeng Gao, Guangming Wu, Hemraj Bhattarai, Pingqing Fu, Zhiyuan Cong, Aromatic acids as biomass-burning tracers in atmospheric aerosols and ice cores: a review (2019), *Environmental Pollution*, DOI: 10.1016/j.envpol.2019.01.028 (IF=8.9)
33. Hemraj Bhattarai, Eri Saikawa, Xin Wan, Hongxia Zhu, Kirpa Ram, Shaopeng Gao, Shichang Kang, Qianggong Zhang, Yulan ZHANG, guangming wu, Xiaoping Wang, Kimitaka Kawamura, Pingqing Fu, Zhiyuan Cong (2019), Levoglucosan as a tracer of biomass burning: Recent progress and perspectives, *Atmospheric Research*, 10.1016/j.atmosres.2019.01.004 (Number of Citation =289,IF=5.5).
34. Ravi Sawlani, Rajesh Agnihotri, Chhemendra Sharma, Prabir Patra, A P Dimri, Kirpa Ram, Ram Lal Verma (2019): The severe Delhi SMOG of 2016: a case of delayed crop residue burning, coincident firecracker emissions, and atypical meteorology, doi: 10.1016/j.apr.2018.12.015, *Atmospheric Pollution Research*, 10(3), 868-879 (Number of Citation =122,IF=4. 5)
35. Farooq SH, Chandrasekharam D, Dhanachandra W and Kirpa Ram (2019): Relationship of Arsenic Accumulation with Irrigation Practices and Crop Type in Agriculture Soils of Bengal Delta, India, *Applied Water Science*, 9(5), 119, doi:10.1007/s13201-019-0904-1 (Number of Citation =29,IF=5.5)
36. Gyana R Tripathy, Smruti Mishra; Mohd Danish; Kirpa Ram (2019), Elevated Ba concentrations in precipitation from east-coast of India: Role of regional lithology and transport, *Journal of Atmospheric Chemistry*, 6(1), 59-72, doi:10.1007/s10874-019-9387-6 (Number of Citation =8,IF=2.0)
37. Guangming Wu, Kirpa Ram, Pingqing Fu, Wan Wang, Yanlin Zhang, Xiaoyan Liu, Elizabeth A. Stone, Bidya Banmali Pradhan, Pradeep Man Dangol, Arnico K. Panday, Xin Wan, Zhipeng Bai, Shichang Kang, Qianggong Zhang, Zhiyuan Cong (2019), Water-

soluble Brown Carbon in Atmospheric Aerosols from Godavari (Nepal), A Regional Representative of South Asia, *Environmental Science and Technology*, 53 (7), 3471-3479, doi: 10.1021/acs.est.9b00596 (Number of Citation =150,IF=11.4)

38. Neupane Bigyan, Kang Shichang, Chen Pengfei, Zhang Yulan, Ram Kirpa, Rupakheti Dipesh, Tripathee Lekhendra, Sharma Chhatra Mani, Cong Zhiyuan, Li Chaoliu, Hou Juzhi, Xu Min, Thapa Poonam (2019). Historical Black Carbon Reconstruction from the Lake Sediments of the Himalayan - Tibetan Plateau. *Environmental Science & Technology*, doi: 10.1021/acs.est.8b07025 (Number of Citation =51,IF=11.4)
39. Huang Jie, Kang Shichang, Ma Ming, Guo Junming, Cong Zhiyuan, Dong Zhiwen, Yin Runsheng, Xu, Jianzhong, Tripathee Lekhendra, Ram Kirpa, Wang, Feiyue, (2019). Accumulation of Atmospheric Mercury in Glacier Cryoconite over Western China. *Environmental Science & Technology*, 10.1021/acs.est.8b06575 (Number of Citation =36,IF=11.4).
40. Mehra, M., A. K. Panday, S. P. Puppala, V. Sapkota, B. Adhikary, C. P. Pokheral, and K. Ram (2019), Impact of local and regional emission sources on air quality in foothills of the Himalaya during spring 2016: An observation, satellite and modeling perspective, *Atmospheric Environment*, 216, 116897, <https://doi.org/10.1016/j.atmosenv.2019.116897> (Number of Citation =24,IF=5.0)
41. Sharma Ghimire, P., L. Tripathee, Q. Zhang, J. Guo, K. Ram, J. Huang, C. M. Sharma, and S. Kang (2019), Microbial mercury methylation in the cryosphere: Progress and prospects, *Science of The Total Environment*, 697, 134150, <https://doi.org/10.1016/j.scitotenv.2019.134150> (Number of Citation =21,IF=9.8).
42. Bhattarai, H., Y.-L. Zhang, C. M. Pavuluri, X. Wan, G. Wu, P. Li, F. Cao, W. Zhang, Y. Wang, S. Kang, K. Ram, K. Kawamura, Z. Ji, D. Widory and Z. Cong (2019). Nitrogen Speciation and Isotopic Composition of Aerosols Collected at Himalayan Forest (3326 m a.s.l.): Seasonality, Sources, and Implications. *Environmental Science & Technology*, doi:10.1021/acs.est.9b03999 (Number of Citation =37IF=11.4).
43. Mehra, M., F. Zirzow, K. Ram, and S. Norra (2020), Geochemistry of PM_{2.5} aerosols at an urban site, varanasi, in the Eastern Indo-Gangetic Plain during pre-monsoon season, *Atmospheric Research*, 104734, <https://doi.org/10.1016/j.atmosres.2019.104734> (Number of Citation =16IF=5.5).
44. Kanawade, V. P., A. K. Srivastava, K. Ram, E. Asmi, V. Vakkari, V. K. Soni, V. Varaprasad, and C. Sarangi (2020), What caused severe air pollution episode of November 2016 in New Delhi?, *Atmospheric Environment*, 222, 117125, <https://doi.org/10.1016/j.atmosenv.2019.117125> (Number of Citation =117IF=5.0).
45. Guo, J.; Ram, K.; Tripathee, L.; Kang, S.; Huang, J.; Chen, P.; Ghimire, P. S. (2020), Study on Mercury in PM₁₀ at an Urban Site in the Central Indo-Gangetic Plain: Seasonal Variability and Influencing Factors. *Aerosol and Air Quality Research*, 20 (12), 2729-2740, doi: 10.4209/aaqr.2019.12.0630 (Number of Citation =14,IF: 4.0)

46. Manisha Pokharel, Jie Guang, Bin Liu, Shichang Kang, Yaoming Ma, Brent N. Holben, Xiang'ao Xia, Jinyuan Xin, Kirpa Ram, Dipesh Rupakheti, Xin Wan, Guangming Wu, Hemraj Bhattarai, Chuanfeng Zhao, Zhiyuan Cong, (2020): Aerosol Properties Over Tibetan Plateau From a Decade of AERONET Measurements: Baseline, Types, and Influencing Factors, *Journal of Geophysical Research-Atmospheres*, 124(2), 13357-13374, doi:10.1029/2019JD031293 (Number of Citation =65,IF=4.4)
47. Chen, P. S. Kang, L. Tripathee, K. Ram, M. Rupakheti, A. K. Panday, Q. Zhang, J. Guo, X. Wang, T. Pu and C. Li (2020). Light absorption properties of elemental carbon (EC) and water-soluble brown carbon (WS-BrC) in the Kathmandu Valley, Nepal: A 5-year study, *Environmental Pollution*, 114239, doi:10.1016/j.envpol.2020.114239, <https://doi.org/10.1016/j.envpol.2020.114239> (Number of Citation =56,IF=4.358).
48. Wu, G., et al. (2021), Fluorescence characteristics of water-soluble organic carbon in atmospheric aerosol, *Environmental Pollution*, 268, 115906, doi:<https://doi.org/10.1016/j.envpol.2020.115906> (Number of Citation =76,IF=8.9).
49. Huang, J., S. Kang, R. Yin, K. Ram, X. Liu, H. Lu, J. Guo, S. Chen, and L. Tripathee (2020), Desert dust as a significant carrier of atmospheric mercury, *Environmental Pollution*, 267, 115442, doi:<https://doi.org/10.1016/j.envpol.2020.115442> (Number of Citation =20,IF=8.9).
50. Inamdar, S., et al. (2020), Estimation of reactive inorganic iodine fluxes in the Indian and Southern Ocean marine boundary layer, *Atmos. Chem. Phys.*, 20(20), 12093-12114, doi:10.5194/acp-20-12093-2020 (Number of Citation =31,IF=6.3).
51. Saikawa, E., Q. Wu, M. Zhong, A. Avramov, K. Ram, E. A. Stone, C. Stockwell, T. Jayarathne, A. Panday, and R. Yokelson (2020), Garbage Burning in South Asia - How important is it to regional air quality?, *Environmental Science & Technology*, doi:10.1021/acs.est.0c02830 (Number of Citation =51,IF=11.4).
52. Huang, J., et al. (2020), Decoupling Natural and Anthropogenic Mercury and Lead Transport from South Asia to the Himalayas, *Environmental Science & Technology*, 54(9), 5429-5436, doi:10.1021/acs.est.0c00429 (Number of Citation =31,IF=11.4).
53. Adhikari, S., Zhang, F., Adhikari, N.P., Zeng, C., Pant, R.R., Ram, K., Liu, Y., Ahmed, N., Xu, J., Tripathee, L., Zhang, Q., Bhuiyan, M.A.Q. and Ahsan, M.A., 2020. Atmospheric wet deposition of major ionic constituents and inorganic nitrogen in Bangladesh: Implications for spatiotemporal variation and source apportionment. *Atmospheric Research*: 105414. <https://doi.org/10.1016/j.atmosres.2020.105414> (Number of Citation =24,IF=5.5)
54. Mahajan, A. S., Q. Li, S. Inamdar, K. Ram, A. Badia, and A. Saiz-Lopez (2020), Modelling the Impacts of Iodine Chemistry on the Northern Indian Ocean Marine Boundary Layer, *Atmos. Chem. Phys.*, 21(11), 8437-8454, doi:10.5194/ -21-8437-2021. (Number of Citation =0,IF=6.3)
55. Kirpa Ram, Roseline C Thakur, Dharmendra Kumar Singh, Kimitaka Kawamura, Akito Shimouchi, Yoshika Sekine, Hidekazu Nishimura, Sunit K Singh, Chandra Mouli

- Pavuluri, RS Singh, SN Tripathi (2021), Why airborne transmission hasn't been conclusive in case of COVID-19? An atmospheric science perspective, *Science of The Total Environment*, 773, 145525, doi:<https://doi.org/10.1016/j.scitotenv.2021.145525> (Number of Citation =79,IF=9.8).
56. Ravi, N. K.; Srivastava, A.; Ram, K.; Jha, P. K. (2021), Nutrient chemistry and eutrophication risk assessment of the Ghaghara River, India. *Water Supply* 2021.(Number of Citation=15)
57. Xu, L.; Peng, Y.; Ram, K.; Zhang, Y.; Bao, M.; Wei, J. (2021), Investigation of the Uncertainties of Simulated Optical Properties of Brown Carbon at Two Asian Sites Using a Modified Bulk Aerosol Optical Scheme of the Community Atmospheric Model Version 5.3. *Journal of Geophysical Research: Atmospheres* 2021, 126, (15), e2020JD033942, doi:2020JD033942 (Number of Citation =10,IF: 4.4).
58. Sheoran, R.; Dumka, U. C.; Kaskaoutis, D. G.; Grivas, G.; Ram, K.; Prakash, J.; Hooda, R. K.; Tiwari, R. K.; Mihalopoulos, N. (2021), Chemical Composition and Source Apportionment of Total Suspended Particulate in the Central Himalayan Region. *Atmosphere*, 12, (9), 1228 (Number of Citation =26,IF: 2.9).
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2. Mayank Gupta, Payal Tripathi; Abhishek Pathak; K. Ram, Synthetic Pigments and Microplastics in Human Cerebrospinal Fluid: First Clinical Evidence of Plastic-Associated Neuro-Particulate Exposure, Neurotoxicology (under review)

(iii) Book Chapters:

1. Katina Chachei, Sonali Ranjan, Kirpa Ram, RS Singh (2025), Effect of Nanocomposites on Sustainable Growth of Crop Plants and Productivity in Biological and Hybrid Wastewater Treatment Technology, (eds P. Singh, A.K. Singh, V.K. Singh and V. Kumar), Wiley-VCH GmbH, <https://doi.org/10.1002/9783527849949.ch02>
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(National: 12, International: 35)

1. Ravi Sawlani, Rajesh Agnihotri, C. Sharma, **Kirpa Ram**, Ramlal Verma, Prabir K. Patra and A.P. Dimri, Delhi Smog of 2016: Role of Local Emissions, Crop Residue Burning and Monsoon Circulation, **15th Annual meeting Asia Oceania Geosciences Society during 03-08 June 2018 at the Hawaii Convention Centre (HCC) in Honolulu, Hawaii, USA (BG03-IG-A005)**
2. Lulu Xu, Yiran Peng and **Kirpa Ram**, Yanlin Zhang, Mengying Bao, Simulation of Optical Property and Radiative Forcing of Brown Carbon in Radiative Model and Validation with In-situ Measurements, **15th Annual meeting Asia Oceania Geosciences Society during 03-08 June 2018 at the Hawaii Convention Centre (HCC) in Honolulu, Hawaii, USA (AS54-A032)**
3. **Kirpa Ram** (2017), Surface measurements of aerosol chemical composition and optical properties in the Indo-Gangetic Plain, Workshop and Science-Policy Dialogue on Air Pollution, Climate, and Health in South Asia and the Hindu Kush Himalaya during 27-30 November 2017 at ICIMOD, Kathmandu, Nepal
4. Lulu Xu, Yiran Peng and **Kirpa Ram**, Calculation of Brown Carbon Optical Properties in the Fifth Version Community Atmospheric Model (CAM5) and Validation with a Case

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5. Manisha Mehra, Arnico K Panday, Puppala S Praveen, Amit Bhujel, Suresh Pokhrel and **Kirpa Ram**, Effect of the Agricultural Biomass Burning on the Ambient Air Quality of Lumbini, **AGU Fall meeting**, New Orleans, 11-15 December, 2017 (Abstract ID: 237280, Paper Number: A41B-0058).
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 11. **Kirpa Ram** (2017), Secondary organic aerosols formation and its impact of micro-physical and optical properties of aerosols at Kanpur, 5th Workshop - Microphysics of Ice Clouds during 22-23 April 2017 at Technische Universitaet Wien, Vienna, Austria
 12. **Kirpa Ram** (2017), Black Carbon and Aerosol Chemistry at high-altitude site in the Central Himalayas, CATCH Workshop on atmospheric chemistry in the cold regions during 19-20 April 2017 in Guyancourt, France
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44. **K. Ram**, R. Rengarajan, M. M. Sarin and A. K. Sudheer (2008), Relevance of soot particles in the present-day context of atmospheric carbon cycle and climate change, **International Conference on Terrestrial Planets: Evolution through time**: 22-25 January, 2008, Ahmedabad, India.
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Title: Carbonaceous aerosols over northern India: Chemical characterization and absorption properties, **Kirpa Ram** and M.M. Sarin, 2012, LAP LAMBERT Academic Publishing, Germany.

ISBN-13: 978-3-8473-0767-9

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Citation analysis of published papers (as of November 28, 2025): The citation databases:

Web of Science (Scopus for a few that were not in Web of Science)

- i. Total number of papers published: 70
- ii. Cumulative IF of journal papers= ~391
- iii. 30 papers with IF >5.0 and 34 papers with $2.0 < \text{IF} < 5.0$
- iv. Total citation (including self-citation) = ~4650
- v. h-index: 33; i-index=52
- vi. Abstracts in Conferences: 47 (35 International + 12 National)

Research Grant:

1. Field measurements of GHS, water and soil organic carbon under rice-based systems in different rice growing agro-ecologies of India.

Role: Principal Investigator

Sanctioned Amount: 30,46,276

Time Period: 2025-26

Sanctioning Agency: International Rice Research Institute, South Asia Regional Centre (IRRI-SARC) Varanasi.

2. Emission Inventory, Sources Apportionment and Carrying Capacity Studies Extended Patna Urban Area

Role: Principal Investigator

Sanctioned amount: Rs. 151.80 lakhs

Time period: 2023-2024

Sanctioning Agency: Bihar State Pollution Control Board, Govt of Bihar, Bihar

3. Trace gas monitoring in the eastern Gangetic Plain: Implication for air quality and secondary aerosol formation

Role: Principal Investigator

Sanctioned amount: Rs. 54.00 lakhs

Time period: 2023-2026

Sanctioning Agency: Indian Space Research Organization (ISRO), Dept of Space, Govt. of India under ISRO Geosphere Biosphere Programme: Atmospheric Trace Gases-Chemistry, Transport and Modelling ((ISRO-GBP: AT-CTM)

4. Monitoring and characterization for sources of air pollutants for implementation and air quality improvement of Prayagraj City

Role: Principal Investigator

Sanctioned amount: Rs. 43.40 lakhs

Time period: 2022-2024

Sanctioning Agency: State Pollution Control Board and Prayag Nagar Nigam, Govt. of Uttar Pradesh

5. Ambient Air Quality Monitoring of PM₁₀, SO₂ and NO₂ at five locations in Varanasi in the Indo-Gangetic Plain

Role: Principal Investigator

Sanctioned amount: Rs. 19.52 lakhs

Time period: 2022-2023

Sanctioning Agency: State Pollution Control Board, Govt. of Uttar Pradesh

6. Understanding secondary organic aerosol formation, source apportionment and modelling in the Indo-Gangetic Plain

Role: Principal Investigator

Sanctioned amount: Rs. 69.0 lakhs

Time period: 2018-2021

Sanctioning Agency: Department of Science and Technology, Govt. of India (Under National Network Programme on Climate Change & Aerosols)

7. Influence of anthropogenic and natural emissions on chemical composition of ambient aerosols and rain-water chemistry over Varanasi

Role: Principal Investigator (Early Career Research Award)

Sanctioned amount: Rs. 53.3 lakhs

Time period: 2016-2019

Sanctioning Agency: Science and Engineering Research Board (SERB), Govt. of India

8. Study of aerosol chemistry over an urban site, Varanasi, in the eastern India

Role: Principal Investigator

Sanctioned amount: Rs. 6 lakhs

Time period: 2015-2017

Sanctioning Agency: Banaras Hindu University, University Grant Commission (UGC), Govt. of India

9. Participatory Community Based Risk Disaster Reduction Approaches in Varanasi

Role: Co-Principal Investigator

Sanctioned amount: Rs. 36 lakhs (for first year only)

Time period: 2015-2018

Sanctioning Agency: Ministry of Foreign Affairs (MOFA), Govt. of Japan, Japan

10. Atmospheric chemistry and evaluation of organic/inorganic aerosols: Implications to radiative forcing

Role: Principal Investigator

Sanctioned amount: Rs. 35 lakhs

Time period: 2013-2018

Sanctioning Agency: Department of Science and Technology (DST), Govt. of India

Consultancy work:

Emission Inventory study in non-attainment cities of India,

Role: Consultant

Sanctioning Agency: Center for Study of Science, Technology and Policy, Karnataka, India

Sanctioned amount: Rs. 25.4 lakhs

Time period: 2021-2022

Conducting Audit for Implementation of Lucknow City

Role: Consultant

Sanctioning Agency: Lucknow Nagar Nigam

Sanctioned amount: Rs. 4.5 lakhs

Conducting Audit for Implementation of Kanpur City

Role: Consultant

Sanctioning Agency: Kanpur Nagar Nigam

Sanctioned amount: Rs. 4.5 lakhs

Conducting Audit for Implementation of Bareilly City

Role: Consultant

Sanctioning Agency: Bareilly Nagar Nigam

Sanctioned amount: Rs. 3.0 lakhs

Professional activities:

Member Indian Aerosol Science and Technology Association (IASTA)

Member of American Geophysical Union (AGU)

Member of European Geophysical Union (EGU)

Served as reviewers for various International journals including:

Atmospheric Environment, Atmospheric Chemistry and Physics, Journal of Geophysical Research, Journal of Earth System Science, Atmospheric Research, Aerosol Air Quality and Research, Aerosol Measurement and Techniques, Aerosol Pollution Research, Journal of Geochemical Exploration, International Journal of Atmospheric Sciences, Current Science, International Journal of Environmental Analytical Chemistry, RSC Advances, Indoor and Built Environment

Organizing Conference/Workshop:

I was a member 16th Catalysis Workshop (4-5 Feb 2014) held at NEERI.

Session Chair:

16th Catalysis Workshop (4-5 Feb 2014) held at NEERI, Nagpur.

IASTA conference (11-13 Nov 2014) held at BHU, Varanasi.

Highlights of the Research work in media:

- i. The work, carried out at PRL, was also highlighted in the Indian print media news:
<http://www.pib.nic.in/newsite/efeatures.aspx?relid=71305>
<http://indiacurrentaffairs.org/impact-of-black-carbon-on-climate-kalpana-palkhiwala>
<http://www.dailyexcelsior.com/web1/11mar30/edit.htm>
- ii. Our research paper entitled: “*Black carbon aerosols over Manora Peak in the Indian Himalayan foothills: implications for climate forcing*” by Srivastava, et al., published in Environmental Research Letters, Vol 7, pp014002 (2012), is highlighted as one of the **most downloaded** articles across all the IOP Journals.
- iii. An Insight News Article on “*Insight: Black carbon aerosols in the Himalayas*” is published on **environmentalresearchweb** based on the research paper entitled: “*Black carbon aerosols*

over Manora Peak in the Indian Himalayan foothills: implications for climate forcing" by Srivastava, et al., published in Environmental Research Letters, Vol 7, pp014002 (2012) [<http://environmentalresearchweb.org/cws/article/news/49090>].

- iv. The work, carried out at PRL, was also highlighted in the Indian print media news (The Times of India): Smoke from field fires can travel up to 1,000km: Study (http://articles.timesofindia.indiatimes.com/2012-11-12/pollution/35068301_1_black-carbon-greenhouse-gases-biomass)

I hereby declare that all the information given above is correct to the best of my knowledge.



(Dr. Kirpa Ram)

Date: November 28, 2025