

Dr. ALOK KUMAR
Assistant Professor, Department of Environmental Science
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Research Interest

Biogeochemistry and Hydrogeochemistry

Academic Background

PhD (Environmental Science) (2009-2014)	Jawaharlal Nehru University, Title: “ <i>Biogeochemical processes in the sedimentary environment of Sundarban Mangrove ecosystem of India and Bangladesh</i> ” awarded in 2015
M.Phil. (Environmental Science) (2007-2009)	Jawaharlal Nehru University, Title: “ <i>Heavy metals fractionation studies in the aquifer sediments of Semria Ojhapatti, Bhojpur district, Bihar</i> ” awarded in 2010
M.Sc. (Environmental Science) (2005-2007)	School of Environmental Sciences, Jawaharlal Nehru University, New Delhi
B.Sc. (General) (2002-2005)	D.A.V. College, Panjab University, Chandigarh

Professional experience

Current Assistant Professor (2015), Department of Environmental Science, Central University of Rajasthan, Bandarsindri, Ajmer, India

2014-15 Research Fellow, Biogeochemistry laboratory, School of Environmental Sciences, Jawaharlal Nehru University, New Delhi, India

Courses taught

Environmental Geosciences, Instrumentation for Environmental Monitoring and Analysis, Coastal and Marine Environment, Environmental Studies

Awards and achievements

2016 Awarded International Travel Support by Department of Science and Technology, Government of India for attending ECSA-56, Bremen, Germany

2012 Awarded NAMS&T-ZMT Bremen, Germany Fellowship

2010 Member of Vth Indian Scientific Expedition of Southern Ocean

- 2009 Awarded Senior Research Fellowship in Earth, Atmospheric, Ocean and Planetary Sciences by Council of Scientific and Industrial Research
- 2007 Awarded Junior Research Fellowship in Earth, Atmospheric, Ocean and Planetary Sciences by Council of Scientific and Industrial Research
- 2007 Qualified University Grants Commission- National Eligibility Test in Environmental Sciences

Research Projects

- 2016 Completed Project titled “**Low Carbon Urban Water Environment in India**” awarded by United Nations University- Institute for the Advanced Study of Sustainability, Japan

Selected Publications (last five years)

1. Ranjan, P., Ramanathan, A. L., **Kumar, A.**, Singhal, R. K., Datta, D., & Venkatesh, M. (2018). Trace metal distribution, assessment and enrichment in the surface sediments of Sundarban mangrove ecosystem in India and Bangladesh. **Marine Pollution Bulletin**, 127, 541-547.
2. Ghosh, S., Bakshi, M., **Kumar, A.**, Ramanathan, A. L., Biswas, J. K., Bhattacharyya, S., & Rinklebe, J. (2018). Assessing the potential ecological risk of Co, Cr, Cu, Fe and Zn in the sediments of Hooghly–Matla estuarine system, India. **Environmental Geochemistry and Health**, 1-18.
3. Singh, P. K., **Kumar, A.**, & Banerjee, K. (2018). Methane Emission and Its Variability in Different Land-uses of Semi-arid Region, Rajasthan. **Journal of Climate Change**, 4(2), 67-75.
4. Singh, C. K., Kumar, A., Shashtri, S., **Kumar, A.**, Kumar, P., & Mallick, J. (2017). Multivariate statistical analysis and geochemical modeling for geochemical assessment of groundwater of Delhi, India. **Journal of Geochemical Exploration**, 175, 59-71.
5. Dhame, S., **Kumar, A.**, Ramanathan, A. L., & Chaudhari, P. (2016). Elemental composition, distribution and control of biogenic silica in the anthropogenically disturbed and pristine zone inter-tidal sediments of Indian Sundarbans mangrove-estuarine complex. **Marine Pollution Bulletin**, 111(1), 68-85.
6. **Kumar, A.**, Ramanathan, A. L., Prasad, M. B. K., Datta, D., Kumar, M., & Sappal, S. M. (2016). Distribution, enrichment, and potential toxicity of trace metals in the surface sediments of Sundarban mangrove ecosystem, Bangladesh: a baseline study before Sundarban oil spill of December, 2014. **Environmental Science and Pollution Research**, 23(9), 8985-8999.
7. Kumar, P., **Kumar, A.**, Singh, C. K., Saraswat, C., Avtar, R., Ramanathan, A. L., & Herath, S. (2016). Hydrogeochemical Evolution and Appraisal of Groundwater Quality in Panna District, Central India. **Exposure and Health**, 8(1), 19-30.
8. **Kumar, A.**, & Ramanathan, A. L. (2015). Speciation of selected trace metals (Fe, Mn, Cu and Zn) with depth in the sediments of Sundarban mangroves: India and Bangladesh. **Journal of Soils and Sediments**, 15(12), 2476-2486.

9. Singh, C. K., Kumar, P., **Kumar, A.**, & Mukherjee, S. (2015). Depositional environment in Great Indian Desert using grain size parameters and its chemical characterization. **Journal of the Geological Society of India**, 86(4), 412-420.
10. Sappal, S. M., Ramanathan, A., Ranjan, R. K., Singh, G., & **Kumar, A.** (2014). Rare earth elements as biogeochemical indicators in mangrove ecosystems (Pichavaram, Tamilnadu, India). **Journal of Sedimentary Research**, 84(9), 781-791.
11. Prasad, M., **Kumar, A.**, Datta, D. K., & Ramanathan, L. (2014). Spectrofluorometric analysis of organic matter in the Sundarban mangrove, Bangladesh. **Indian Journal of Geo-Marine Sciences**, 43 (6), 1005-1012.
12. Prabha, S., Kumar, M., **Kumar, A.**, Das, P., & Ramanathan, A. L. (2013). Impact assessment of textile effluent on groundwater quality in the vicinity of Tirupur industrial area, southern India. **Environmental Earth Sciences**, 70(7), 3015-3022.
13. **Kumar, A.**, Ramanathan, A. L., Prabha, S., Ranjan, R. K., Ranjan, S., & Singh, G. (2012). Metal speciation studies in the aquifer sediments of Semria Ojhapatti, Bhojpur District, Bihar. **Environmental Monitoring and Assessment**, 184(5), 3027-3042.
14. Ranjan, R. K., Ramanathan, A. L., Parthasarathy, P., & **Kumar, A.** (2013). Hydrochemical characteristics of groundwater in the plains of Phalgu River in Gaya, Bihar, India. **Arabian Journal of Geosciences**, 6(9), 3257-3267.

Selected Books and book Chapters (last five years)

1. Ranjan, P., Priya, N., **Kumar, A.**, & Ramanathan, A. L. (2017). Distribution of Trace Metals in the Sediments of Estuarine-Mangrove Complex across the Indian Coast. In *Wetland Science* (pp. 163-186). **Springer** India.
2. Kumar, M., Kumar, M., **Kumar, A.**, Singh, V. B., Kumar, S., Ramanathan, A. L., & Bhattacharya, P. (2015). Arsenic distribution and mobilization: A case study of three districts of Uttar Pradesh and Bihar (India). In *Safe and Sustainable Use of Arsenic-Contaminated Aquifers in the Gangetic Plain* (pp. 111-123). **Springer** International Publishing.
3. Kumar, P., Avtar, R., **Kumar, A.**, Singh, C. K., & Ramanathan, A. L. (2015). Assessment of Subsurface Lithology by Resistivity Survey Coupled with Hydrochemical Study to Identify Arsenic Distribution Pattern in Central Gangetic Plain: A Case Study of Bhagalpur District, Bihar, India. In *Safe and Sustainable Use of Arsenic-Contaminated Aquifers in the Gangetic Plain* (pp. 17-31). **Springer** International Publishing.
4. Kumar, H., Ranjan, R. K., Yadav, S., **Kumar, A.**, & Ramanathan, A. L. (2015). Hydrogeochemistry and Arsenic Distribution in the Gorakhpur District in the Middle Gangetic Plain, India. In *Safe and Sustainable Use of Arsenic-Contaminated Aquifers in the Gangetic Plain* (pp. 97-107). **Springer** International Publishing.
5. Ramanathan, A. L., Tripathi, P., Kumar, M., **Kumar, A.**, Kumar, P., Kumar, M., & Bhattacharya, P. (2012, July). Arsenic in groundwaters of the central Gangetic plain regions of India. In *Understanding the Geological and Medical Interface of Arsenic-As 2012: Proceedings of the 4th International Congress on Arsenic in the Environment*, 22-27 July 2012, Cairns, Australia (p. 63). **CRC** Press.