

## Dr. MANOJ KUMAR



### *Mailing Address*

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Department of Environmental Science  
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### **Educational History:**

August 2016 onward **Teacher -In-Charge & Assistant Professor @ Central University of Haryana, Mahendergarh, India**

### **Teaching experience 5 Years**

2012-2017 **Ph. D** (Environmental Sciences), School of Environmental Sciences, Jawaharlal Nehru University, New Delhi.

2010 – 2012 **M.Phil.** (Environmental sciences), **First Class (8.21/9.00, CGPA) ~ 87.1%**, School of Environmental Sciences, Jawaharlal Nehru University, New Delhi, India.

2008 – 2010 **M.Sc.** (Environmental Sciences), **First Class (7.18/9.00, CGPA) ~ 76.8%**, School of Environmental Sciences, Jawaharlal Nehru University.

2005 – 2008 **B. Sc.** (Chemistry, Zoology and Botany), **First Class (67 %)**, CCS, University Meerut, Meerut, India.

2001 – 2003 **Class XII**, with **First Class (66%)**, U. P. Board, Uttar Pradesh.

2000 – 2001 **Class X** with **First Class (61%)**, U.P. Board, Uttar Pradesh.

### **Awards and Achievements:**

- Honored by India International Friendship Society with their most coveted institutional and globally reputed presentation of “**Rashtriya Gaurav Award**” along with Certificate of Excellence at a benefitting function taking place on 26th March 2018 in New Delhi.
- Recipient Senior Research Fellowship (**SRF**) (July 2012 to July 2015) a National level Research fellowship from **CSIR-UGC**.
- Visiting Research Student at Environmental Risk Assessment & Remediation (**CERAR**) at the University of South Australia (**UniSA**), **Australia**, for four months from 10<sup>th</sup> July 2013 to 10<sup>th</sup> November, 2013 supported by **Crawford Fund** (A prestigious award, Australian Government).
- A member of **consortia of the scientist working on Arsenic problem in Groundwater** for preparing detail science plan for deploying a specialized drilling rig in developing countries,

ICDP workshop held at Hanoi, Vietnam (24 April-28 April 2011). Travelling and lodging supported by US National Science Foundation.

- Secured **094/0264** ranks in Council of Scientific & Industrial Research (CSIR), for Junior Research Fellowship a National level Research fellowship exam conducted by CSIR-UGC in Earth, Atmospheric, Ocean & Planetary Sciences held on December, 2009.
- Qualified University Grants Commission (UGC), in Environmental Sciences for Junior Research Fellowship (**JRF**), a national level Research fellowship exam conducted by UGC held on December 2011. Electronic Certificate No.: 112003159.
- Won best poster presentation in national seminar on Past and Present Geochemical Processes- Impacts on Climate Change by Indian Society of Applied Geochemists, Hyderabad, 22<sup>nd</sup>–23<sup>rd</sup> December, 2015 organized by SES, JNU, New Delhi.

#### **Other responsibilities:**

- Editorial Board Member in Journal of Waste Management and Environmental Issues Publisher PACSRAM.
- Member of the School Board of School of Earth, Environment and Space Studies, Central University of Haryana and member of the Board of Studies of the Department of Environmental Studies, Central University of Haryana.
- Other responsibilities of exam invigilator in CUCET and End Term exams. Paper setter and evaluator for more than 2 years.

#### **Consultancy/ Project Work**

Third party consultant as Independent Assessment Agency (IAA) to assist authority in supervising the O and M of the processing facility at village Thaska, Haryana to provide support to the authority to monitor compliance with the KPIs as per SWM rules 2016. No. MCG/1401 Dated 28/04/2021.

#### **Book Published**

Hydrogeochemistry of Aquatic Ecosystems. Eds. Sughosh Madhav, Virendra Bahadur Singh, [Manoj Kumar](#) and Sandeep Singh. Wiley, United Kingdom 2021 (Under Process).

#### **Supervision**

Supervised and co-supervised 35 M.Sc. dissertations till July 2021.

**(I) Paper in peer review Journals (16) (total Impact Factor 52.823)** (Citations 617, h-index 12, i10-index 12)

2020 (1)

- Shailesh Kumar Yadav, AL. Ramanathan, [Manoj Kumar](#), S. Chidambaram, Y. P. Gautam & C. Tiwari. 2020. Assessment of arsenic and uranium co-occurrences in groundwater of central Gangetic Plain, Uttar Pradesh, India. *Environmental Earth Sciences* 79, 154. doi.org/10.1007/s12665-020-8892-x [*Springer*] (IF 2.784)

2019(2)

- **\*\*Manoj Kumar**, AL. Ramanathan, Abhijit Mukherjee, Ravi Sawlani, Shyam Ranjan. **2019**. Delineating sources of groundwater recharge and carbon in Holocene aquifers of central Gangetic basin using stable isotopic signatures. *Isotopes in Environmental & Health Studies*. 55 (3) 254-271. DOI: 10.1080/10256016.2019.1600515 ISSN 10256016 [Taylor & Francis]. (IF 1.652)

- **Manoj Kumar**, Ritu Nagdev, Ritu Tripathi, Virendra Singh, Prabhat Ranjan, Mohd Soheb, Ramanathan Alagappan. **2019**. Geospatial and multivariate analysis of trace metals in tubewell water using for drinking purpose in the upper Gangetic basin, India: Heavy metal pollution index. *Groundwater for Sustainable Development*. 8, 122-133. DOI: doi.org/10.1016/j.gsd.2018.10.001 ISSN: 2352-801X [Elsevier].

2018(4)

- **\*\*Manoj Kumar**, AL. Ramanathan, Abhijit Mukherjee, Swati Verma, M.M. Rahman, Ravi Naidu. **2018**. Hydrogeo-morphological influences for arsenic release and fate in the central Gangetic Basin, India. *Environmental Technology & Innovation*. 12, 243-260. DOI: https://doi.org/10.1016/j.eti.2018.09.004. ISSN: 2352-1864 [Elsevier]. (IF 5.263)
- **Manoj Kumar**, AL. Ramanathan, Shyam Ranjan, V. B. Singh, Naveen Kumar, S.K. Yadav, M.S. Rao, Susie Ritch, Prosun Bhattacharya. **2018**. Groundwater evolution and its utility in upper Ganges-Yamuna Alluvial plain of Northern India, India: Evidence from solute chemistry and stable isotopes. *Groundwater for Sustainable Development*. 7, 400-409. (DOI: https://doi.org/10.1016/j.gsd.2018.07.001) ISSN: 2352-801X [Elsevier]
- **Manoj Kumar**, AL. Ramanathan. **2018**. Vertical Geochemical Variations and Speciation Studies of As, Fe, Mn, Zn, and Cu in the Sediments of the Central Gangetic Basin: Sequential Extraction and Statistical Approach. *Int. J. Environ. Res. Public Health*. 15(2), 183. (DOI: 10.3390/ijerph15020183). ISSN 1660-4601 [MDPI]. (IF 3.390)
- Virendra Bahadur Singh, Pritam Chand, Milap Chand Sharma, Ujjal Deka Baruah, **Manoj Kumar**, Naveen Kumar, AL. Ramanathan. **2020**. Evaluation of Meltwater Quality Using Dissolved Ions Chemistry and Multivariate Statistical Methods: A Case Study of the Manimahesh Glacier, Ravi Basin, Himachal Pradesh, India. *Proc. Natl. Acad. Sci., India, Sect. A Phys. Sci.* DOI: doi.org/10.1007/s40010-018-0560-0. 90, 57–66, ISSN 2250-1746 [IF 1.544].

2017(3)

- **\*\*Manoj Kumar**, AL. Ramanathan, Ritu Tripathi, Sandhya Farswan, Devendra Kumar, Prosun Bhattacharya. **2017**. A study of trace element contamination using multivariate statistical techniques and health risk assessment in groundwater of Chhaprola Industrial Area, Gautama Buddha Nagar, Uttar Pradesh, India. *Chemosphere*. 166; 135–145. DOI http://dx.doi.org/10.1016/j.chemosphere.2016.09.086. ISSN: 0045-6535 [Elsevier](IF 7.086)
- Dipankar Chakraborti, Mohammad Mahmudur Rahman, Bhaskar Das, Amit Chatterjee, Dipankar Das, Biswajit Nayak, Arup Pal, Uttam Kumar Chowdhury, Sad Ahmed, Bhajan Kumar Biswas, Mrinal Kumar Sengupta, Md. Amir Hossain, Gautam Samanta, M.M. Roy, Rathindra Nath Dutta, Khitish Chandra Saha, Subhas Chandra Mukherjee, Shyamapada Pati, Probir Bijoy Kar, Adreesh Mukherjee, **Manoj Kumar**. **2017**. Groundwater arsenic contamination and its health effects in India, *Hydrogeology Journal*. 25 (4); 1165–1181 (DOI: 10.1007/s10040-017-1556-6). ISSN:1435-0157 [Springer] (IF 3.178)
- Dash, Rajesh Kumar, A. L. Ramanathan, Shailesh Kumar Yadav, **Manoj Kumar**, T. Kuriakose, and Y. P. Gautam. **2017**. Uranium in groundwater in India: A review. *Journal of Applied Geochemistry, Hyderabad*. 19 (2); 138–144 [Indian Society Of Applied Geochemists (ISAG)] (IF awaited)

2016(3)

- **\*\*Manoj Kumar**, AL. Ramanathan, Mohammad Mahmudur Rahman, Ravi Naidu. **2016**. Concentrations of inorganic arsenic in groundwater, agricultural soils and subsurface sediments from the middle Gangetic plain of Bihar, India. *Science of the Total Environment*. 573; 1103–1114. DOI http://dx.doi.org/10.1016/j.scitotenv.2016.08.109. ISSN: 0048-9697 [Elsevier] (IF 7.963)

- **\*\*Manoj Kumar**, M.M. Rahman, AL. Ramanathan, Ravi Naidu. **2016**. Arsenic and other elements in drinking water and dietary components from the middle Gangetic plain of Bihar, India: Health risk index. *Science of the Total Environment*. 539; 125–134. DOI <http://dx.doi.org/10.1016/j.scitotenv.2015.08.039>, ISSN: 0048-9697 [Elsevier] (IF 7.963)
- Alok Kumar, AL. Ramanathan, M. B. K. Prasad, Dilip Datta, **Manoj Kumar**, Swati Mohan Sappal. **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. DOI 10.1007/s11356-016-6086-6. ISSN: 1614-7499 [Springer] (IF 4.223)

2015(2)

- Goutam Kumar, **Manoj Kumar**, AL. Ramanathan. **2015**. Assessment of heavy metal contamination in the surface sediments in the mangrove ecosystem of Gulf of Kachchh, West Coast of India. *Environmental Earth Sciences*, 74(1): 545-556. Online ISSN 1866-6299, DOI 10.1007/s12665-015-4062-y [Springer] (IF 2.784)
- Virendra Bahadur Singh, AL. Ramanathan, Jose George Pottakkal, **Manoj Kumar**. **2015**. Hydrogeochemistry of meltwater of the Chaturangi glacier, Garhwal Himalaya, India. *Springer, India, Proceedings of the National Academy of Sciences, India Section A: Physical Sciences*. 85(1): 187–195. Online ISSN 2250-1762 [Springer] (IF 1.544)

2014(1)

- Virendra Bahadur Singh, AL. Ramanathan, Jose George Pottakkal, **Manoj Kumar**. **2014**. Seasonal variation of the solute and suspended sediment load in Gangotri glacier meltwater, central Himalaya, India. *Journal of Asian Earth Sciences*. 79, 224–234. ISSN: 1367-9120. <http://dx.doi.org/10.1016/j.jseaes.2013.09.010> [Springer] (IF 3.449)

## (II) Book chapters (4)

- **Manoj Kumar**, Anoop Yadav, AL. Ramanathan **2020**. Arsenic Contamination in Environment, Ecotoxicological and Health Effects, and Bioremediation Strategies for Its Detoxification In Bioremediation of Industrial Waste for Environmental Safety Volume I: Industrial waste and its management (Eds.) Gaurav Saxena, Ram Naresh Bharagava (Eds.) Springer Singapore Springer Nature Singapore Pte Ltd. eBook ISBN 978-981-13-1891-7, pp. 245-264.
- **Manoj Kumar**, AL. Ramanathan, Alok Kumar, Shailesh Kumar Yadav. **2016**. Evolution of Arsenic Contamination Process and Mobilization in Central Gangetic Plain Aquifer System and Its Remedial Measures. In Groundwater, Assessment, Modeling And Management (eds.) M.Thangarajan Vijay. P. Singh. CRC Press (A unit of Taylor & Francis Group, UK), ISBN 978-1-4020-5729-8, pp. 329-338.
- **Manoj Kumar**, Mukesh Kumar, Alok Kumar, VB Singh, Senthil Kumar, AL. Ramanathan, and Prosun Bhattacharya. **2015**. Arsenic distribution and mobilization: A case study of three districts of Uttar Pradesh and Bihar (India). In: AL. Ramanathan, Scott Johnston, Abhijit Mukherjee & Bibhash Nath (eds.) “*Safe and Sustainable Use of Arsenic-Contaminated Aquifers in the Gangetic Plain: A Multidisciplinary Approach*” Co-published by Springer, International Publishing, Cham, Switzerland with Capital Publishing Company, New Delhi, India. ISBN , pp. 121-135.
- Virendra Bahadur Singh, AL. Ramanathan, P.G.Jose, **Manoj Kumar**, Parmanand Sharma Anurag Linda .**2011**. Hydro-Geochemical characteristics of Gangotri glacier In: *Climate change in the Himalayas*, Editors- Vir Singh et al. pp. 125-141. Indus Publishing Company, New Delhi, ISBN 978-81-7387-228-0.

### (III) Conference Proceedings with full paper (4)

- [Manoj Kumar](#), AL. Ramanathan, M.M. Rahman, Ravi Naidu, Prosun Bhattacharya. **2016**, June. Arsenic and trace elements in groundwater, vegetables and selected food grains from middle Gangetic plain—human health perspective. In *Arsenic Research and Global Sustainability: Proceedings of the Sixth International Congress on Arsenic in the Environment (As2016), June 19-23, 2016, Stockholm, Sweden* (p. 320). CRC Press/Taylor and Francis Group, London, UK. ISBN: 978-1-315-62943-8. pp. 320–321.
- [Manoj Kumar](#), AL. Ramanathan Prosun Bhattacharya. **2014**. Evaluation of arsenic and its controlling factors in aquifer sands of district Samastipur, Bihar, India. In: M.I. Litter, H.B. Nicolli, M. Meichtry, N. Quici, J. Bundschuh, P. Bhattacharya and R. Naidu (eds.) “*One Century of the Discovery of Arsenicosis in Latin America (1914–2014) As 2014*”. Interdisciplinary Book Series: “*Arsenic in the Environment—Proceedings*”. Proceedings of the 5th International Congress on Arsenic in the Environment, May 11-16, 2014, Buenos Aires, Argentina Series Editors: J. Bundschuh and P. Bhattacharya, CRC Press/Taylor and Francis Group, London, UK (ISBN 978-1-138-00141-1), pp. 108-109.
- AL. Ramanathan, Parijat Tripathi, [Manoj Kumar](#), Alok Kumar, Pankaj Kumar, Manish Kumar, Prosun Bhattacharya. **2012**. Arsenic in groundwaters of the central Gangetic plain regions of India. In *Understanding the Geological and Medical Interface of Arsenic*, Proceedings of the 4th International Congress on Arsenic in the Environment, 22-27 July 2012, Cairns, Australia, Editors Jack C. Ng et al., CRC Press/Taylor and Francis Group, London, UK, ISBN 978-0-415-63763-3, pp. 63-64.
- [Manoj Kumar](#), Mukesh Kumar, Alok Kumar, Ramanathan AL. **2012**. Arsenic Distribution and Mobilization in Three Districts of Central Gangetic Plain. Indo-Australian workshops on Arsenic 3<sup>rd</sup>-4<sup>th</sup> October, 2012, Organized by School of Environmental Sciences, Jawaharlal Nehru University, New Delhi. pp. 5-9.

### Policy Document (Submitted to an International Body/ Organization like UNO/ UNESCO/ World Bank/ International Monetary Fund etc., or Central Government or State Government)

Sreenita Mondal, Manoj Kumar, Suchita Jain. (June 2020). Situation Paper on Arsenic Contamination in Water in Bihar. SaciWATERS, EU and Co-funded UNICEF, Bihar, UNDP.

### Teaching Experience:

- Valued trainer cum volunteer in the **INSPIRE** (Innovation in Science Pursuit for Inspired Research) internship programme sponsored by the Department of Science and Technology, Government of India, conducted by School of Environmental Sciences, JNU, New Delhi, from 17<sup>th</sup> -21<sup>st</sup> February, 2014.

### Seminar attended/ organized and Paper Presentations:

- I was Organizing Secretary during an event Earth Week (22-25<sup>th</sup> April 2019) organized by the Department. The event included activities such as poster making, awareness campaign, quiz competition followed by an invited lecture by Prof. S. C. Garkoti from Jawaharlal Nehru University.
- [Manoj Kumar](#), AL. Ramanathan, Naveen Kumar, poster presented entitled “Arsenic mobilization and enrichment in the subsurface waters, Ballia, Central Gangetic Plain, India” in International Association for Mathematics Geosciences (IAMG), 16<sup>th</sup> conference, October, 2014, JNU, New Delhi.

- [Manoj Kumar](#), Mukesh Kumar, Alok Kumar, AL. Ramanathan, paper presented entitled “Arsenic distribution and mobilization in three districts of Central Gangetic Plain” in the Indo-Australian workshop on arsenic, October 3<sup>rd</sup> – 4<sup>th</sup>, 2012, JNU, New Delhi, India.
- [Manoj Kumar](#), AL. Ramanathan, Naveen Kumar, paper presented entitled “Arsenic mobilization and enrichment in the subsurface waters, Ballia, Central Gangetic Plain, India in “International Conference on Interface between Chemistry and Environment (ICICE) held on 13th – 14th December, 2012, organized by Department of Chemistry, Ramjas College University of Delhi, Delhi, India.

#### **Webinars/ Seminar Organized:**

- Convener of the Webinar "World Water Day" organized by the Department of Environmental Studies & Department of Civil Engineering, Central University of Haryana on 22 March 2021.
- Convenor of the Webinar "Earth Day" held on April 22, 2021 on the Theme "Restore Our Earth" Organized by the Department of Environmental Studies in collaboration with Department of Geography.
- Organizing Team Member of National Webinar on 'Trends in Processed Food in Post-Independence India'. under Azadi Ka Amrit Mahotsav held on 24 May 2021 School of Interdisciplinary and Applied Sciences, central University of Haryana.
- Co-coordinator of the event World Environment Day organized by School of Engineering & Technology and Department of Environmental Studies in association with IWRS, NSS & YRCon the Theme of "Ecosystem Restoration" held on 5 June 2021.
- Organizing Secretary in One Day International Seminar entitled “People’s Participation in Environmental Sustainability” (A Virtual Discussion) held on 8<sup>th</sup> May 2021 Organized by the Department of Environmental Studies PGDAV College & Young Social Scientist Association of India.
- Organizing Secretary in 1st International Virtual Conference on "Living with Ecological Prosperity: Life Style, Economy, Environment and Sustainability" held on 10-11 July 2021 Organized by the Department of Environmental Studies PGDAV College, University of Delhi, India.

#### **Training Programme:**

- Completed a course on "Basics of Remote Sensing, Geographical Information System and Global Navigation Satellite System" conducted by Indian Institute of Remote Sensing from August 21, 2017 to December 04, 2017.
- Completed the course on “Hyperspectral Remote Sensing and its Applications” conducted by Indian Institute of Remote Sensing from February 19, 2018 to March 13, 2018.
- Participated in MHRD sponsored TEQIP faculty development programme on “Applied Groundwater Flow and Contaminant Transport Modelling” from June 24, 2019 to June 28, 2019 organized by Department of Hydrology, Indian Institute of Technology, Roorkee.
- Attended ICDP Training Course 2018 on Continental Scientific Drilling from November 19-23, 2018 at the KTB Geozentrum Germany.
- EAW Intensive Summer Programme, “From Synopsis to Thesis Writing” from 1<sup>st</sup> May to 10<sup>th</sup> May, Winter Semester 2013-14 Organized by Linguistic Empowerment Cell, Jawaharlal Nehru University, New Delhi.

- **Two weeks** workshop on “Hydrogeochemical modelling using PHREEQC and MODFLOW” from 21st to 31st January, 2013 at Annamalai University, Annamalai Nagar, Tamil Nadu, India.
- **One week** Summer School on “Digital Image Processing (DIP)” Organized by TERI University, New Delhi. July 20-24, 2009.
- Training Programme on “GIS Application in Hydrology and Environmental Geology” by Prof. Wolfgang Goessel, Martin Luther University, Germany Feb. 2010, at SES, Jawaharlal Nehru University, New Delhi. 16-18 February 2010.
- Training course on “Hydrological Investigations for Conservation and Management of Lakes” organized by National Institute of Hydrology, Roorkee (Uttaranchal) during March 1-3, 2011.
- **One week** “National workshop on Advance Soft computing Techniques in Hydrology and its Applications” Jointly Organized by NIH & IAH Roorkee at National Institute of Hydrology, Roorkee, Uttaranchal, India. June 20-24, 2011.
- **One week** “Training program on Hydro geochemical modeling assessment and management of urban and coastal groundwater” from 17-23 rd October 2011 at SES, JNU, New Delhi.
- **One week**, DST-SERC sponsored training workshop on "Isotope hydrology" at NIH, Roorkee during 19-24 December, 2011.

#### **Research Experience:**

- Four months training title “*Analysis of arsenic and other elements in various environmental samples using advanced analytical techniques*” at Environmental Risk Assessment & Remediation (CERAR), University of South Australia, from 10 July-10 November, 2013.
- *Ph.D. thesis (Feb 2017)* entitled “**Solute Geochemistry and Arsenic Fate in the Aquifers of Central Gangetic Basin, India**”. under the supervision of *Prof. AL Ramanathan and Dr. Abhijit Mukherjee*.
- *M.Phil.(2012)* dissertation entitled “*Geochemical assessment of the aquifer sediments of Ballia, Central Gangetic Plain with the special reference to As mobilization and enrichment in to groundwater.*” under the supervision of *Prof. AL Ramanathan*.
- *M.Sc. ( 2010)* dissertation entitled “*Preliminary studies on the Hydrogeochemical evolution of meltwaters in Gangotri glacier, Uttranchal, India*” under the supervision of *Prof. AL Ramanathan*.

#### **Techniques known and Instrumentation handling:**

- Analytical techniques like ICP-MS, HPLC-ICP-MS, TOC analyser, NH<sub>4</sub> and NO<sub>2</sub>+NO<sub>3</sub> analyser, Spectrophotometer, Atomic Absorption Spectrometer, Flame photometer, Ion Chromatography Water testing kits (including pH & conductivity meters), GPS locators etc.

#### **Computer Knowledge:**

- Basic knowledge of computer operations, Operating system: Linux and Windows, Software: MS Office, Hands on experience of GIS software ArcGIS, ERDAS and hydro-geological software’s like Surfer, SPSS, WATCLAST, AQUA.

#### **Personal Traits:**

- Good communication skills, command over English (both written & spoken)
- Strong analytical aptitude, innovative & creative by nature, like research works in a team and individual as well.

**Potential Referees:**

1. **Dr. AL. Ramanathan** (Supervisor, PhD)  
Professor, School of Environmental sciences,  
Jawaharlal Nehru University, New, Delhi-110067.  
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2. **Prof. S.C. Garkoti**  
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