



Dr. Naveen Kumar Singh

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Department of Environmental Science
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Specialization : Ecotoxicology, Environmental Monitoring , Wastewater treatment and Phytoremediation

Educational Qualification

Ph.D. (Environmental Science)-2009	CSIR-NBRI, Lucknow & University of Lucknow
M. Sc. (Environmental Science)-2003	Dr. Ram Manohar Lohia Avadh University, Faizabad, U.P. (First divi.)
B.Sc. (Bot., Chem., Microbiol.)-2001	Dr. Ram Manohar Lohia Avadh University, Faizabad, U.P. (First divi.)
NET (Environmental Science)-2014	ICAR (ASRB), New Delhi

Experience: Research -20 Years; Teaching-10 Years)

Post Held	University/ Institute	Duration
Associate Professor	Indira Gandhi National Tribal University, Amarkantak, Madhya Pradesh	October 2024-till date
Associate Professor	Manipal University Jaipur, Rajasthan	April 2022-Sept.2024
Assistant Professor	Manipal University Jaipur, Rajasthan	Jan 2016-March 2022
Young Scientist (PDF)	I.E.S.D., B.H.U. Varanasi, U.P.	July 2013-Dec 2015
CSIR-RA (PDF)	CSIR-NBRI, Lucknow, U.P.	April 2010-March 2013

Research Publications & Recognition

- Total Publications: **60**; Research papers published in SCI Journals: **33**; Conference Proceedings: **03**; Chapters in Book: **19**; Articles: **05**
- Total impact factor= **120** (ISI), Total Citations: **1855**; H-Index-**21**, i10 Index: **26**
- Paper presented in International/ National Seminar/conferences/workshop attended: **38**
- Fellowship & Awards: **07**; Research project completed: **01**; Ph. D Guided: **03**,

Member of the academic and scientific society

- Fellow of International Society of Environmental Botanists (**FISEB**), Lucknow, since 2022.
- Life Member of the Society for Science of Climate Change and Sustainable Environment (**SSCE**), New Delhi, since 2023.
- Life Member of National Environmental Science Academy (**NESA**), New Delhi (L/M-2645), since 2023.
- Life Member of Indian Society of Chemists and Biologists (**ISCB**), CSIR-CDRI, Lucknow, India (Fellow No. LF-787/2017), since 2017.
- Life member of International Society of Environmental Botanists (**ISEB**), CSIR-NBRI, Lucknow, India, since 2017.
- Life Member of Lucknow University Botany Department Association (**LUBDA**), Lucknow, India, since, 2011.

Awards & Honors

- Awarded **Eminent Scientist of the Year Award-2024** by National Environmental Science Academy (NESA), New Delhi, India.
- Awarded **Fellow of International Society of Environmental Botanists (FISEB-2022)**, Lucknow, India.
- Awarded **Certificate of Appreciation** by Manipal University Jaipur for **Top Researcher** of the month in the School of Basic Sciences, 2023.
- Awarded **Best Paper Award** on the topic “Sewage treatment by Constructed Wetland : A Green technology for prevention of river water pollution” in the 5th International conference on (4Gs) Green, Growth, Globalization and Governance: Challenges & Opportunities organized by J K Lakshmi Pat University, Jaipur & St. Cloud State University, USA at Jaipur during February, 3-5, 2017.
- Awarded the **Certificate of Outstanding Contribution in Reviewing** for recognition of the contributions made to the quality of the journal, *Ecotoxicology and Environmental Safety*, Elsevier, Amsterdam, Netherland, November, 2016.
- Awarded the **Certificate of Reviewing Award** for recognition of the review made for the journal, *Ecotoxicology and Environmental Safety*, Elsevier, Amsterdam, Netherland, September, 2016.
- Awarded **Best Research Paper Award** for securing highest impact factor in the area of Plant Ecology & Environment Science by CSIR-NBRI, Lucknow, in the year 2014.
- **Young Scientist Award** by Department of Science and Technology, New Delhi, India, 2013.
- Awarded **Research Associateship Award** by Council of Scientific and Industrial Research (CSIR), New Delhi, India in the year 2010.
- Awarded **Senior Research Fellowship Award** by Council of Scientific and Industrial Research (CSIR), New Delhi, India, in the year 2008.

Editors and Reviewers of the Journals

- Review Editor of the journal **Frontiers in Environmental Science** in specialization of Environmental Toxicology, Switzerland since 3th November, 2016 to 3th November 2019.
- Reviewers of the journals as International Journal of Phytoremediation, Frontiers in Environmental Science, Applied Water Science, *Ecotoxicology and Environmental Safety*, Environmental Research, Environmental Technology, Ecological Indicator, Environmental Technology & Innovation etc.

Research Project Completed

- Title of the Project “Arsenic Mobility and Transformation in Rhizosphere: Intervention of Microbes for enhancing Phytoremediation potential and Safe Cropping” completed as Principal Investigator (PI) sponsored by Science & Engineering Research Board (SERB) New Delhi (SB/FT/LS-103/2012) during 2013 to 2016 (INR 27.14 Lacs)

Additional Role and Responsibility

- Departmental NAAC & IQAC coordinator, Dept. of Environmental Science, Indira Gandhi National Tribal University, Amarkantak, M.P. (2024 onward)
- Coordinator, Environmental Science, PG & UG programs, Manipal University Jaipur (2016-2024)
- Member, Departmental Research Committee (DRC), Dept. of Chemistry, Manipal University Jaipur (2020-2024).
- Ph. D Coordinator, Dept. of Chemistry, Manipal University Jaipur (2020-2024)
- Member, Board of Studies (BoS), Dept. of Chemistry, Manipal University Jaipur (2023-2024)

Ph. D Guided

1. Govind Gupta, thesis entitled “Assessment of water quality with reference to inorganic contaminants and their biological treatment in Jaipur region, Rajasthan” awarded, July 2024 **(Guide)**
2. Jabbar Khan, thesis entitled “Perspective on groundwater quality with focus on metal contamination and its bioremediation” awarded, September 2024 **(Guide)**
3. Riddhi Shrivastava, thesis entitled “Studies on Ecotoxicological effects of textile effluent and their mitigation measures” awarded, April 2025 **(Guide)**

Research Publication

1. Gupta, G., Khan, J., **Singh, N. K.**, Bhave, V. N., Bhardwaj, V., Singh, R. P. (2024). Evaluation of wastewater quality using multivariate analysis and water quality index for its sustainable management in urban area. *Pollution*, (ISSN: 2383-451X) 10 (3): 973-984 (Impact Factor =**1.1**, Times Cited: 0).
2. Shrivastava, R., **Singh, N.K.** (2023). Nanotechnological Approaches for Treating Textile Effluent: Environmental Aspects and Opportunities - A Review. *NanoWorld Journal*, United Scientific Group (ISSN: 2379-1101) 9 (S5): 537-547. (Impact Factor =**0.1**, Times Cited: 0).
3. Gupta, G., Khan, J., **Singh, N.K.** (2023). Plants Based Nanomaterials for Water Treatment- A Review on Sustainable Approach for Water Conservation. *NanoWorld Journal*, United Scientific Group (ISSN: 2379-1101) 9 (S5): 388-395. (Impact Factor =**0.1**, Times Cited: 0).
4. Gupta, G., Khan, J., **Singh, N. K.** (2023). Assessment of pollution load in sewage water and treatability potential of aquatic plants. *European Chemical Bulletin*, Deuton- X (ISSN: 2063-5346) 12 (12): 1227-1236 (Impact Factor =**0.1**, Times Cited: 0).
5. Shrivastava, R., **Singh, N.K.** (2023). Assessment of phytoremediation efficiency of selected aquatic plants for treating textile effluent. *European Chemical Bulletin*, Deuton-X (ISSN: 2063-5346) 12 (10): 6701-6711 (Impact Factor =**0.1**, Times Cited: 0).
6. Tiwari, K. K., Gupta, G., Khan, J., Shrivastava, R., **Singh, N.K.** (2023). Chromium (VI) induced physiological and metabolic responses and metal accumulation in *Vigna mungo* L cv. BVN-3. *Research Journal of Chemistry & Environment*, ICCE (ISSN: 0972-0626) 27 (8): 96-102 (Impact Factor =**0.21**, Times Cited: 0).
7. Tiwari, K. K., Bidhar, M. K., **Singh, N.K.** (2023). Induced Toxicity and Bioaccumulation of Chromium (VI) in Cluster Bean: Oxidative Stress, Antioxidative Protection Strategy,

Accumulation and Translocation of Certain Nutrient. *Jordan Journal of Biological Sciences*, Hashemite University (ISSN: 2307-7166) 16 (2): 249-259 (Impact Factor =**0.80**, Times Cited: 2).

8. Khan, J., Gupta, G., **Singh, N. K.**, Bhawe, V. N., Bhardwaj, V., Upreti, P., Singh, R., Sinha, A. K. (2023). Geophysical and geostatistical assessment of groundwater and soil quality using GIS, VES and PCA techniques in the Jaipur region of Western India. *Environmental Science and Pollution Research*, Springer (ISSN: 0944-1344) 30 (31): 77713–77728 (Impact Factor =**5.19**, Times Cited: 7).
9. Singh, A., Mahajan, M., Kothari, R., **Singh, N.K.**, Singh, R.P. (2023). Mechanistic action of Pesticides on pests and their consequent effect on Fishes and Human Health: Potential Risk and Remediation techniques. *AQUA - Water Infrastructure, Ecosystems and Society*, IWA Publishing (ISSN: 2709-8028) 72 (3): 363-380. (Impact Factor =**2.3**, Times Cited: 8).
10. Gupta, G., Khan, J., **Singh, N.K.** (2022). Advances and Opportunities of Nano materials in Wastewater Treatment. *NanoWorld Journal*, United Scientific Group (ISSN: 2379-1101) 8: 97-103. (Impact Factor =**0.10**, Times Cited: 1).
11. Tiwari, K. K., Bidhar, M. K., Gupta, G., Khan, J., Upadhyay, A.K., **Singh, N.K.** (2021). Metal accumulation potential and tolerance responses in *Alternanthera dentata* grown under multi metal treatment. *Environmental Technology & Innovation*, Elsevier (ISSN: 2352-1864) 24: 101991(Impact Factor =**7.1**, Times Cited: 0).
12. **Singh, N.K.**, Verma, D.K., Upadhyay, A.K., Rai, U.N. (2019). Isolation and Characterization of Arsenic Tolerant Bacteria from Contaminated Site of West Bengal, India. *International Journal of Plant and Environment* (ISSN: 2454-1117) 5:57-62. (Impact Factor =0.05, Times Cited: 2).
13. Upadhyay, A.K., **Singh, N.K.**, Bankoti, N.S., Rai, U.N. (2017). Designing and construction of simulated constructed wetland for treatment of sewage containing metals. *Environmental Technology*, Taylor & Francis (ISSN: 0959-3330) 21: 2691-2699 (Impact Factor =**2.0**, Times Cited: 32).
14. Upadhyay, A.K., Mandotra, S. K., Kumar, N., **Singh N. K.**, Singh, L, Rai, U.N. (2016). Augmentation of arsenic enhances lipid yield and defense responses in alga *Nannochloropsis* sp. *Bioresource Technology*, Elsevier (ISSN: 0960-8524) 221: 430-437 (Impact Factor=**9.0**, Times Cited: 80).
15. **Singh, N. K.**, Raghubanshi, A. S., Upadhyay, A.K., Rai, U. N. (2016). Arsenic and other heavy metal accumulation in plants and algae growing naturally in contaminated area of West Bengal, India. *Ecotoxicology and Environmental Safety*, Elsevier (ISSN: 0147-6513) 130: 224-232 (Impact Factor=**6.1**, Times Cited: 111).
16. Upadhyay, A. K., **Singh, N. K.**, Singh, R., Rai, U. N. (2016). Amelioration of Arsenic toxicity in Rice: Comparative effect of inoculation of *Chlorella vulgaris* and *Nannochloropsis* sp. on growth, biochemical changes and Arsenic uptake. *Ecotoxicology and Environmental Safety*, Elsevier (ISSN: 0147-6513) 124: 68-73 (Impact Factor=**6.1**, Times Cited: 105).
17. Rai, U. N., Upadhyay, A. K., **Singh, N. K.**, Dwivedi, S., Tripathi, R. D. (2015). Seasonal applicability of horizontal sub-surface flow constructed wetland for trace elements and nutrient removal from urban wastes to conserve Ganga River water quality at Haridwar, India. *Ecological Engineering*, Elsevier (ISSN: 0925-8574) 81: 115-122 (Impact factor=**4.1** Times Cited: 113).
18. Upadhyay, A. K., **Singh, N. K.**, Rai, U. N. (2014). Comparative Metal Accumulation Potential of *Potamogeton pectinatus* and *Potamogeton crispus*: Role of Enzymatic and Non-enzymatic Antioxidants in Tolerance and Detoxification of Metals. *Aquatic Botany*, Elsevier (ISSN: 0304-3770) 117: 27–32. (Impact factor=**2.6**, Times Cited: 49).

19. **Singh, N. K.**, Rai, U. N., Verma, D.K., Rathore, G. (2014). *Kocuria flava* Induced Growth and Chromium Accumulation in *Cicer arietinum* L. *International Journal of Phytoremediation*, Taylor & Francis (ISSN: 1522-6514)16: 14-28. (Impact factor = **3.1**, Times Cited: 12).
20. Rai, U. N., Tripathi, R.D., **Singh, N. K.**, Upadhyay, A. K., Dwivedi, S., Shukla, M.K., Mallick, S., Singh, S.N., Nautiyal, C.S. (2013). Constructed Wetland as an Ecotechnological Tool for Pollution Treatment for Conservation of Ganga River. *Bioresource Technology*. Elsevier (ISSN: 0960-8524) 148:535-541(Impact Factor=**9.0**, Times Cited: 159).
21. Tiwari, K. K., **Singh, N. K.**, Rai, U. N. (2013). Chromium phytotoxicity in radish (*Raphanus sativus*): Effects on metabolism and nutrients uptake. *Bulletin of Environmental Contamination & Toxicology*, Springer (ISSN 1432-0800) 91:339-344 (Impact factor=**2.20**, Times Cited: 65).
22. Rai, U. N., **Singh, N. K.**, Upadhyay, A. K., Verma, S. (2013). Chromate tolerance and accumulation in *Chlorella vulgaris* L.: Role of antioxidant enzymes and biochemical changes in detoxification of metals. *Bioresource Technology*, Elsevier (ISSN: 0960-8524) 136: 604-609. (Impact Factor= **9.0**, Times Cited: 123).
23. Rai, U. N., Prasad, D., Verma, S., Upadhyay, A. K., **Singh, N. K.** (2012). Bio Monitoring of Metals in Ganga Water at Different Ghats of Haridwar: Implications of Constructed Wetland for Sewage Detoxification. *Bulletin of Environmental Contamination & Toxicology*, Springer (ISSN 1432-0800) 89:805–810 (Impact factor=**2.20**, Times Cited: 45).
24. Tiwari, K. K., **Singh, N. K.**, Patel, M. P., Tiwari, M. R., Rai, U. N. (2011). Metal contamination of soil and translocation in vegetables growing under industrial wastewater irrigated agricultural field of Vadodara, Gujarat, India. *Ecotoxicology and Environmental Safety*, Elsevier (ISSN: 0147-6513) 74: 1670–1677 (Impact Factor=**6.1**, Times Cited: 229).
25. **Singh, N. K.**, Rai, U. N., Tewari, A., Singh, M. (2010). Metal Accumulation and Growth Response in *Vigna radiata* L. Inoculated with Chromate Tolerant Rhizobacteria and Grown on Tannery Sludge Amended Soil. *Bulletin of Environmental Contamination & Toxicology*, Springer (ISSN 1432-0800) 84:118–124 (Impact factor ISI=**2.20**,Times Cited: 39).
26. **Singh, N. K.**, Rai, U. N., Singh, M., Tripathi, R. D. (2010). Impact of Rhizobacteria on growth and chromium accumulation in *Scirpus lacustris* L. grown under chromium supplementation. *Journal of Environmental Biology*, Triveni Enterprises (ISSN: 0254-8704) 31: 709-714 (Impact Factor= **0.70**, Times Cited: 7).
27. Tiwari, K. K. Dwivedi, S., **Singh, N.K.** Rai U.N. and Tripathi R.D. (2009). Chromium (VI) Induced Phytotoxicity in Pea (*Pisum sativum* L. cv. Azad): Biochemical Changes and Translocation of Essential Nutrients, *Journal of Environmental Biology*, Triveni Enterprises (ISSN: 0254-8704) 30: 389-394 (Impact Factor= **0.70**, Times Cited: 120).
28. Tiwari, A., Singh, R., **Singh, N.K.**, and Rai U. N. (2008). Amelioration of municipal sludge by *Pistia stratiotes* L.: Role of antioxidant enzymes in detoxification of metals. *Bioresource Technology*, Elsevier (ISSN: 0960-8524) 99: 8715-8721. (Impact Factor= **9.1**, Times Cited: 93).
29. Tiwari, K.K., Dwivedi, S., Mishra, S., Srivastva, S., Tripathi R.D., **Singh, N.K.**, Chakravorty, S. (2008). Phytoremediation Efficiency of *Portulaca tuberosa* rox and *Portulaca oleracia* L. naturally growing in an industrial effluent irrigated area in Vadodara, Gujarat, India. *Environmental Monitoring & Assessment*, Springer (ISSN: 0167-6369) 147: 15-22 (Impact factor = **3.0**, Times Cited: 117).
30. Shukla, O. P., Rai, U. N., **Singh, N. K.**, Dubey, S., Baghel, V. S. (2007). Isolation and characterization of chromate resistant bacteria isolated from Tannery effluent. *Journal of Environmental Biology*, Triveni Enterprises (ISSN: 0254-8704) 28: 399-403. (Impact Factor=**0.70**, Times Cited: 39).

31. Tiwari, K. K., Dwivedi, S., Rai, U. N., Panday, A. K., Chatterjee, C., **Singh, N. K.** and Tripathi, R. D. (2006). Phytotoxic effect of Coal Mine Effluent on growth Behavior, Metabolic changes and metal Accumulation in Rice plants (*Oryza sativa* L.) c.v. IR-36.. *Bulletin of Environmental Contamination & Toxicology*, Springer (ISSN 1432-0800) 77:194-202. (Impact factor =**2.20**, Times Cited: 2).
32. Rai, U. N., Dwivedi, S., Tripathi, R. D., Shukla, O. P., **Singh, N. K.** (2005) Algal Biomass: an Economical Method for Removal of Chromium from Tannery Effluent. *Bulletin of Environmental Contamination & Toxicology*, Springer (ISSN 1432-0800) 75: 297-303. (Impact factor=**2.20**, Times Cited: 47).
33. **Singh, N. K.**, Pandey, G. C., Rai, U. N., Tripathi, R. D., Singh, H. B., Gupta, D. K. (2005). Metal Accumulation and Ecophysiological Effects of Distillery Effluent on *Potamogeton pectinatus* L. *Bulletin of Environmental Contamination & Toxicology*, Springer (ISSN 1432-0800) 74: 857-863. (Impact factor ISI=**2.20**, Times Cited: 47).

Chapter in books-19

1. Gupta, G., Shrivastava, R., **Singh, N.K.** (2024). Plant–Microbe Interaction for Heavy Metal Tolerance and Detoxification. In: Singh Chauhan, P., Tewari, S.K., Misra, S. (eds) Plant-Microbe Interaction and Stress Management. Rhizosphere Biology. Springer, Singapore. (ISBN 978-981-97-4239-4). 87-107 https://doi.org/10.1007/978-981-97-4239-4_6
2. Khan, J., Shrivastava, R., Gupta, G., **Singh, N.K.** (2023). Heavy Metal Contamination in Groundwater: Environmental Concerns and Mitigation Measures. In: Singh, R.P., Singh, P., Srivastava, A. (eds) Heavy Metal Toxicity: Environmental Concerns, Remediation and Opportunities. Springer, Singapore (ISBN 9789819903962). 139–165 https://doi.org/10.1007/978-981-99-0397-9_7
3. Gupta, G., Shrivastava, R., Khan, J., **Singh, N.K.** (2023). Emerging approaches for sustainable urban metabolism. In: Bhadouria, Rahul R., Tripathi, S.N., Singh, P., Joshi, P.K., Singh, R. (Eds) Urban Metabolism and Climate Change - Perspective for Sustainable Cities, Springer Nature Switzerland (ISBN 9783031294211). 247-273 DOI: 10.1007/978-3-031-29422-8_13
4. Khan J., Gupta G., Shrivastava R., **Singh N. K.** (2022). An introduction to arsenic: Sources, occurrence and speciation. In: Srivastava, P.K., Singh R., Parihar P., Prasad M. (Eds) Arsenic in Plants Uptake, Consequences and Remediation Techniques, John Wiley & Sons, United Kingdom (ISBN 9781119791423).1-24 [DOI: 10.1002/9781119791461.ch1](https://doi.org/10.1002/9781119791461.ch1)
5. Shrivastava R., Khan J., Gupta G., **Singh N. K.** (2022). Emerging Techniques for Urban Resource Restoration of Various Ecosystem: Bioremediation, Phytoremediation, Habitat Enhancement. In: Bhadouria R., Singh P., Upadhyay S., Tripathi S. (Eds) Urban Ecology and Global Climate Change, John Wiley & Sons, USA. (ISBN 9781119807186) 121-139 [DOI: 10.1002/9781119807216.ch7](https://doi.org/10.1002/9781119807216.ch7)
6. Gupta G., Khan J., **Singh N.K.** (2020). Phytoremediation of metal contaminated sites. In: Hasanuzzaman M. (Ed) Plant Ecophysiology and Adaptation under Climate Change: Mechanisms and Perspectives II, Springer, Singapore (ISBN 978-981-15-2172-0) 725-745 [DOI:10.1007/978-981-15-2172-0_27](https://doi.org/10.1007/978-981-15-2172-0_27)
7. Gupta G., Khan J., Upadhyay A.K., **Singh N.K.** (2019). Wetland as a Sustainable Reservoir of Ecosystem Services: Prospects of Threat and Conservation. In: Upadhyay A., Singh R., Singh D. P. (Eds) Restoration of Wetland Ecosystem: A Trajectory Towards a Sustainable Environment. Springer, Singapore (ISBN 978-981-13-7664-1) 31-43 [DOI:10.1007/978-981-13-7665-8_3](https://doi.org/10.1007/978-981-13-7665-8_3)

8. Upadhyay A.K, Singh, D.P., **Singh N.K.**, Pandey, V.C., Rai U.N. (2019). Sustainable Phytoremediation Strategies for River water Rejuvenation. In: Pandey V.C., Bauddh K. (Eds) Phytomanagement of Polluted sites. Elsevier (ISBN 9780128139127) 301-311 DOI:[10.1016/B978-0-12-813912-7.00011-9](https://doi.org/10.1016/B978-0-12-813912-7.00011-9)
9. **Singh N.K.**, Gupta G., Upadhyay A.K., Rai U.N. (2019). Biological Wastewater Treatment for Prevention of River Water Pollution and Reuse: Perspectives and Challenges. In: Singh R.P, Kolok A.S., Bartelt-Hunt S. (Eds) Water Conservation, Recycling and Reuse: Issues and Challenges. Springer, Singapore (ISBN978-981-13-3178-7) 81-93 DOI: [10.1007/978-981-13-3179-4_4](https://doi.org/10.1007/978-981-13-3179-4_4)
10. **Singh N.K.**, Gupta G., Upadhyay A.K., Rai U.N. (2018). Potentials of Aquatic Plants and Algae for Arsenic Accumulation. In: Hasanuzzaman M., Nahar K., Fujita M. (Eds) Mechanisms of Arsenic Toxicity and Tolerance in Plants. Springer, Singapore (ISBN 978-981-13-1291-5) 257-268 DOI:[10.1007/978-981-13-1292-2_11](https://doi.org/10.1007/978-981-13-1292-2_11)
11. **Singh, N.K.**, Upadhyay, A.K., Rai, U. N. (2017). Algal technologies for wastewater treatment and biofuels production: An integrated approach for environmental management. In: Sanjay Kumar Gupta, Anushree Malik, Faizal Bux (Eds), Algal Biofuels: Recent Advances and Future Prospects, Springer, Switzerland (ISBN 978-3-319-51009-5) 97-107 DOI:[10.1007/978-3-319-51010-1_5](https://doi.org/10.1007/978-3-319-51010-1_5)
12. **Singh, N.K.**, Singh, R.P. (2016). Potential of Plants and Microbes for the removal of Metals: Eco-friendly Approach for remediation of soil and water. In Parvaiz Ahmad (Ed.), Plant Metal Interaction: Emerging Remediation Techniques. Elsevier. Waltham, MA, USA (ISBN 9780128031582)1: 467-482.DOI: [10.1016/B978-0-12-803158-2.00019-9](https://doi.org/10.1016/B978-0-12-803158-2.00019-9)
13. **Singh, N.K.**, Rai, U.N. (2015). Sewage treatment through Constructed Wetland: A phytotechnique for conservation of river water quality. In Surendra Singh (Ed.), Sustainable Water Resources Management, Challenges and Opportunities, Global Journal of Multidisciplinary Studies, India (ISBN 978-93-05384-11-8).
14. Rai, U. N., Upadhyay, A. K., **Singh, N. K.** (2015). Constructed Wetland: an ecotechnology for wastewater treatment and conservation of Ganga water quality. In P. Thangavel & G. Sridevi (Eds), Environmental Sustainability-Role of Green Technology, Springer USA (ISBN 978-81-322-2055-8) 151-163. DOI: [10.1007/978-81-322-2056-5_15](https://doi.org/10.1007/978-81-322-2056-5_15)
15. Rai, U. N. and **Singh N. K.** (2012). Microbe Assisted Phytoremediation of Chromium: A Green Technology for Combating Chromium Pollution. In S. P. Tiwari, R. Sharma and R. K. Singh (Eds), Recent Advances in Microbiology. Nova Publication inc. Hauppauge, New York (ISBN: 978-1-61470-632-8) Vol. I 357-372.
16. Rai, U. N., **Singh, N. K.**, Verma. S., Prasad, D., Upadhyay A. K. (2011). Perspectives in Plant Based Management of Ganga Water Pollution: A Negative Carbon Technique to Rehabilitate River Ecosystem. Applied Botany Abstracts. CSIR-NBRI Lucknow, India (ISSN 0972-2377) 31(1): 64-81.
17. Rai, U.N. and **Singh N. K.** (2010). Intellectual Property Rights in Biodiversity Conservation, Biotechnology Transfer and Environmental sustainability. In Arvind Kumar& Govind Das (Eds), Understanding Intellectual Property Rights: Issues facing Biodiversity, Biotechnology, Traditional Knowledge and Knowledge Economy” (ISBN 9768164870978), Narosa Publishing House, New Delhi, India 59-65.
18. Rai, U. N., **Singh N. K.**, Shukla, M. K., Verma, S., Prasad, D. and Khan, S. R. (2010). Plant based management of Ganga water pollution: Constructed wetland for waste treatment and river front plantation In D. D. Pandey (Eds), Environmental Pollution: A threat of Living World. Jaspal Prakashan, Khazanchi Road, Patna, India-1-9.
19. Rai, U. N. and **Singh N. K.** (2009). Role of Intellectual Property Rights in Biodiversity Conservation and Biotechnology Transfer In Arvind Kumar& Govind Das (Eds), Biodiversity to Biotechnology Intellectual Property Rights. (ISBN 9788184870770) Narosa Publishing House, New Delhi. 1-9.

Conference Proceedings

1. Shrivastava, R., **Singh, N.K.** (2022). Agro-wastes sustainable materials for wastewater treatment: Review of current scenario and approaches for India. *Materials Today: Proceedings*, Elsevier (ISSN: 2214-7853) 60:552-558. (Impact Factor =**1.93**, Times Cited: 15).
2. Gupta, G., Khan, J., **Singh, N.K.** (2021). Application and efficacy of low-cost adsorbents for metal removal from contaminated water: A review. *Materials Today: Proceedings*, Elsevier (ISSN: 2214-7853) 43: 2958–2964 (Impact Factor =**1.93**, Times Cited: 30).
3. Shrivastava, R., **Singh, N.K.** (2021). Assessment of water quality of textile effluent and its treatment by using coagulants and plant material. *Materials Today: Proceedings*, Elsevier (ISSN: 2214-7853) 43: 3318–3321 (Impact Factor =**1.93**, Times Cited: 12).

Member of organizing committee of conference/ training/ workshop

1. Member of organizing committee of the international conference on Recent Advances in Material Science and Computational Techniques (RAMSACT 2.0) organized by School of Basic Science during 30-31, May 2022 at the Manipal University Jaipur.
2. Member of organizing committee of the international conference on Recent Advances in Material Science and Computational Techniques (RAMSACT-2021) organized by School of Basic Science during 24-26, November 2021 at the Manipal University Jaipur.
3. Member of organizing committee of the international conference on Cutting-edge Research in Material Science and Chemistry (CRMSC-2021) organized by Department of Chemistry during 11-12, January 2021 at the Manipal University Jaipur.
4. Member of organizing committee of the National workshop on Materials Chemistry (NWMC-2019) organized by School of Basic Sciences and Society for Materials Chemistry, BARC, Mumbai during November 8-9, 2019 at the Manipal University Jaipur.
5. Member of organizing committee of 4th ISPIRE Camp organized by school of basic sciences, Manipal University Jaipur and Sponsored by DST, New Delhi, India during January 2-6, 2018 at Manipal University Jaipur.
6. Member and Co-Convener of International Conference on “Frontier Research in Chemistry and Biology organized by ISCB and Manipal University Jaipur at Jaipur during January 11-13, 2018.
7. Coordinated a summer internship project on “Physico-Chemical & Microbial Analysis of Water” for interinstitutional students of Manipal during 1st to 30th June, 2017 organized jointly by the department of chemistry and the department of Bioscience, Manipal University Jaipur.
8. Member of organizing committee of the workshop on “RSC-FDP Training workshop” during 13-14th October, 2016 organized by the department of chemistry, Manipal University Jaipur.
9. Member and coordinated in the organizing national workshop on “Plant based management of Ganga water Pollution” on 26th November, 2009 at Dev Sanskriti Vishwavidyalay, Shantikunj, Hardwar organized jointly by National Botanical Research Institute, Lucknow and Save Ganga Movement, Pune.

Resource Person/Speaker in the Orientation/ Refresher/ FDP/Chair/Co-chair/Coordinator of session

1. Coordinated the technical session in the International Conference on Environment and Sustainable Development (ICESD-2025) organized by Institute of Environment and Sustainable Development, Banaras Hindu University, during 3-6 February 2025 at Varanasi, India.
2. Delivered an invited talk on 6th December 2024 on “Human and Environment” as a resource person in “Orientation programme ” held from 04.12.2024 to 26.12.2024 through online mode organized by Malviya Mission Teacher Training Centre, Indira Gandhi National Tribal University, Amarkantak (MP), India
3. Delivered an invited talk on 21st October 2024 on “Human and Environment in the 21st Century” as a resource person in “Refresher Course in Climate Change and Disaster Management (Interdisciplinary)” held from 14.10.2024 to 26.10.2024 through online mode organized by Malviya Mission Teacher Training Centre, Indira Gandhi National Tribal University, Amarkantak (MP), India

FDP/Orientation/Refresher/ Training & Workshop Attended

1. Participated in **one-week FDP** on “**Nanomaterials, Characterizations, and Applications**” during 29th July 2024 -2nd August 2024 organized by Applied Science Department, NITTTR, Chandigarh & MUJ-TEC, Manipal University Jaipur.
2. Participated in **one-week FDP** on “**NEP 2020 Implications: Issues and Challenges**” during 9-13 October 2023 organized by MUJ-TEC, Dept. of Information Technology & Dept. of Psychology, Manipal University Jaipur.
3. Participated in **one-week FDP** on the theme “**Implications of Outcome Based Learning Pedagogy in Higher Education**” during 12-16 December 2022 organized by MUJ-TEC, Manipal University Jaipur.
4. Participated in one-week online FDP on the theme “**Inculcating Universal Human Values in Technical Education**” during 26th July to 31st July, 2021 organized by All India Council for Technical Education (AICTE).
5. Participated in “**One week Faculty Development Program on Microsoft Teams Tools Training**” during 27th July to 31st July 2020 organized by Manipal University Jaipur and Microsoft.
6. Participated in “**One Weeks National Online Faculty Development Program on Assessment and Evaluation in Higher Education**” during 27th July to 31st July 2020 organized by CREATES, IISER, Bhopal under the scheme of Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNMTT), MHRD.
7. Participated in the National workshop on Materials Chemistry (NWMC-2019) organized by School of Basic Sciences, Manipal University Jaipur and Society for Materials Chemistry, BARC, Mumbai during November 8-9, 2019.
8. Participated in “**Four Weeks Induction Training Program for Faculty Members of Higher Education Institutions**” during 27th May-22nd June 2019 organized by Teaching Learning Centre, Central University of Rajasthan at Bandersindri, Kishangarh, India under the scheme of Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNMTT), MHRD.
9. Participated in the hands-on workshop on “**Nanostructured Materials and Coatings (WNMC-2018)**” during 24-25 April, 2018 organized by Department of Chemistry and Department of Mechanical Engineering, Manipal University Jaipur, Rajasthan, India.

10. Participated in the workshop on “**Assurance of Learning**” during 30-31 May, 2016 organized by TAPMI School of Management, Manipal University Jaipur, Rajasthan, India.
11. Participated in the workshop on “**Pedagogic and Personal Effectiveness**” during 21-23 April, 2016 organized by Manipal Centre for Professional and Personal Development (MCPD) at Manipal University Jaipur, Rajasthan, India.
12. Participated in national workshop on “**IPR and Related Issues: Present & Future Needs**” during March 27-28, 2015 at Uttar Pradesh Council of Agriculture Research, Lucknow, UP, India.
13. Participated in National Two-Week Training on “**Computational Tools for Microbial Research**” during 19-30 November, 2013 at National Bureau of Agriculturally Important Microorganisms, Kusmaur, Maunath Bhanjan., UP, India.
14. Participated three days training workshop on “**Water Treatment by Adsorption**” during 27-29 July, 2013 organized by department of environmental Sciences, Faizabad at Dr. R. M. L. Avadh University, Faizabad, UP, India.

Paper Presented in the Conferences & Symposium

1. **Singh, N.K.** (2025). “Water quality assessment for sustainable water management” in the International Conference on Environment and Sustainable Development ICESD-2025) organized by Institute of Environment and Sustainable Development, Banaras Hindu University, during 3-6 February 2025 at Varanasi, India.
2. **Singh, N.K.** (2024). “Elemental and water quality analysis of sewage and assessment of wastewater treatability potential of selected aquatic plants” in IV International conference on Recent Advance in Material Science and Computational Techniques (RAMSACT-4) organized by Faculty of Science, Department of Biotechnology and Chemical Engineering, Manipal University Jaipur, India during 4-6 April 2024 at Manipal University Jaipur.
3. **Singh, N.K.** (2023). “Plants based nanomaterials for water treatment - A review on sustainable approach for water conservation” in 3rd International conference on Recent Advance in Material Science and Computational Techniques (RAMSACT-3) organized by Faculty of Science, Manipal University Jaipur, India during 20-21 September 2023 at Manipal University Jaipur.
4. **Singh, N.K.** (2022). “Emerging Technologies to remove metals from contaminated water” in the International Symposium on Sustainable Urban Environment (ISSUE-2022) organized by Sustainability Cluster, UPES at Dehradun, India during 11-14 October 2022.
5. **Singh, N.K.** (2022). “Advances and Opportunities of Nano materials in wastewater treatment” in the international conference on Recent Advance in Material Science and Computational Techniques (RAMSACT 2.0) organized by School of Basic Sciences, Faculty of Science, Manipal University Jaipur, India during 30-31 May 2022 at Manipal University Jaipur.
6. **Singh, N.K.** (2021). “Application and efficacy of low-cost adsorbents for metal removal from contaminated water” in the international conference on Cutting-edge Research in Material Science and Chemistry (CRMSC-2021) organized jointly by Department of Chemistry at the Manipal University Jaipur during 11-12, January 2021.
7. **Singh, N.K.** (2018). “Metal removal potential of plants from contaminated water and soil” in the International conference on Frontiers at the Chemistry-Allied Sciences Interface (FCASI 2018) organized jointly by Department of Chemistry, Rajasthan University, Jaipur and Indian Society for Chemists & Biologists-Rajasthan chapter and Chemical Research Society of India- Rajasthan chapter at the Rajasthan University during 21-22, December 2018.
8. **Singh, N.K.** (2018). “Arsenic accumulation potential of aquatic plants and algae collected from contaminated sites of West Bengal, India in the National conference on Current Issues of Environmental Health, Climate change and its Management (NCECM-2018) organized by department of Environmental Sciences, Dr. R.M.L. Avadh University and Academy of Environmental Biology at Faizabad, U.P. (India) during October, 3-4, 2018.

9. **Singh, N.K.** (2018). "Plant based technology for Environmental Management" in the 6th International conference on Green, Growth, Globalization, Governance and GST(5Gs): Challenges & Opportunities organized by J K Lakshmipat University, Jaipur & St. Cloud State University, USA at Jaipur during February, 2-4, 2018.
10. **Singh, N.K.**, G. Gupta, A.K. Upadhyay (2018). "Plant-Metal Interactions for Soil and Wastewater Treatment" in the International Conference on "Frontier Research in Chemistry and Biology organized by ISCB and Manipal University Jaipur at Jaipur during January 11-13, 2018.
11. **Singh, N.K.** (2017). "Sewage treatment by Constructed Wetland : A Green technology for prevention of river water pollution" in the 5th International conference on Green, Growth, Globalization and Governance (4Gs): Challenges & Opportunities organized by J K Lakshmipat University, Jaipur & St. Cloud State University, USA at Jaipur during February, 3-5, 2017.
12. **Singh, N.K.,** Rai, U.N. (2015). "Applicability and Potential of Aquatic plants for Sewage treatment to Control Ganga water Pollution" in the Lucknow Science Congress (LUSCON-2015) and national Seminar on "Science for Society: An Interdisciplinary Approach" during 31st October-2nd November, 2015 at Babasaheb Bhimrao Ambedkar University, Lucknow, UP.
13. **Singh, N.K.,** Upadhyay, A.K., Rai, U.N., Raghubanshi, A.S. (2015). Bioaccumulation of toxic metals in native plants from arsenic affected area of West Bengal, India during 24-27 February, 2015 in the Fifth International Conference on Plants and Environmental Pollution (ICPEP-5)" at CSIR-National Botanical Research Institute, Lucknow, UP.
14. **Singh, N.K.** (2015). Waste water treatment technologies in changing climate. In the national Seminar on "Sustainable Development: Environmental Awareness for a Secure Future" during 6-7 February, 2015 at S.S.S.V.S. Government P.G. College, Chunar, Mirzapur, UP.
15. **Singh, N.K.,** Rai, U.N. (2015). Sewage treatment through Constructed Wetland: A phytotechnique for conservation of river water quality. In the national Seminar on "Sustainable Water Resources Management: Challenges & Opportunities" during 20-21 January, 2015 at Rani Durgavati University, Jabalpur.
16. **Singh, N.K.,** Upadhyay, A.K., Rai, U.N. (2015). Ganga Pollution and Remediation: Needs and Implementation of Green Technology for Waste water Treatment. In the International Workshop on "Bridging Development Divide for Inclusive Growth through Science, Technology and Innovation" during 16-17 January, 2015 at Centre for Policy Research, Babasaheb Bhimrao Ambedkar University, Lucknow.
17. **Singh, N.K.,** Rai, U.N., Raghubanshi, A.S. (2014). Constructed Wetland; An Emerging Tool for sewage treatment. In a national Seminar on "Sustainable Water Resource Management in Era of Changing Climate" during 10-11 January, 2014 at organized by Institute of Environment and Sustainable Development, Banaras Hindu University, Varanasi.
18. **Singh, N.K.,** Rai, U.N. (2012). Isolation and Characterization of Rhizobacterial Strains from Arsenic contaminated area of Purbosthali, West Bengal for implication in Phytoremediation. In National Seminar on "Environmental Concerns and Sustainable Development: Issues and challenges for India" organized by Institute of Environment & Sustainable Development, during 2-4 March, 2012 at BHU, Varanasi.
19. **Singh, N.K.,** Rai, U.N. (2011). Characterization of arsenate tolerant rhizobacteria isolated from arsenic contaminated site. In National Seminar on "Climate change and its impact on biological communities" (CCIBC-11) held during 12-13 Feb. 2011 at Department of Environmental Sciences, Dr. R.M.L. Avadh University, Faizabad.
20. **Singh, N.K.,** Rai, U.N. (2010). Screening and characterization of arsenate tolerant rhizobacteria with reference to mobilization and immobilization of arsenic in rhizosphere" in 4th International conference on Plants & Environmental Pollution (ICPEP-4) held during 8-11, December, 2010 at National Botanical Research Institute Lucknow.
21. **Singh, N.K.,** Rai, U.N. (2006). Studies on influence of rhizobacterial inoculation on tolerance and chromium accumulation in *Scirpus lacustris* growing under chromium stress. In National Symposium on "Issues and Challenges for Environmental Management: Vision 2025" held during

17-19, February, 2006 at Department of Environmental Science, Babasaheb Bhimrao Ambedkar (Central) University, Lucknow.

22. **Singh, N.K.**, Rai, U.N. (2005). Growth and metal accumulation in *Potamogeton pectinatus* L. treated with distillery effluent. In 3th International conference on Plants & Environmental Pollution (ICPEP-3) held during 28, November to 2 December 2005 at National Botanical Research Institute Lucknow.
23. **Singh, N.K.**, Rai, U.N. (2005). Microbial assisted phytoremediation of tannery effluent. In National conference on "Management of Land Resources & Land-use towards sustainable Development" held during 18-19, October, 2005 at department of Environmental Sciences & department of Natural Resource Management, Institute of Environment & Development studies Bundelkhand University, Jhansi, (U.P.).
24. Rai U.N., Tiwari, A., Shukla, O. P., **Singh, N.K.**, Dubey, S. (2006). Intellectual Property Management: Some Legal Aspects of Biodiversity and Genome Conservation. Proceedings of National seminar on Intellectual Property Rights: Biodiversity and Genome Conservation" editors Aravind Kumar & Govind Das, Shyama Prasad Mukherji Government Degree College, University of Allahabad, Allahabad, pp.29-44.
