

Name of Faculty: Sunil Kumar
 Designation: Professor
 Department: Environmental Sciences
 Institute/University: M.D.U Rohtak
 Date of Birth: 09/01/1977
 Gender: Male
 Mobile Number: 9466256869



Educational Qualifications

Degree	Year of Passing	University/Institute	Field of Study
Ph.D	2012	M.D.U Rohtak	Study on Environmental Status of Bhindawas Wetland
PG	2001	G.J.U.S&T Hisar	Spectral analysis of Noise Pollution in Hisar city
UG	1998	M.D.U Rohtak	
M.Tech	2003	G.J.U.S&T Hisar	Defluoridation by Low cost Adsorbents

Career Profile

Designation	Institution Served	Duration	
		From	To
Professor	Deptt. of Environmental Sciences, MDU Rohtak	15/01/2024	Till date
Associate Professor	Deptt. of Environmental Sciences, MDU Rohtak	15/01/2021	14/01/2024
Assistant Professor	Deptt. of Environmental Sciences, MDU Rohtak	15-01-2009	14/01/2021
Scientific Assistant	Central Pollution Control Board (CPCB)	10-07-2008	14-01-2009

Analyst A	Shri Ram Institute for Industrial Research	20-10-2005	09-07-2008
Guest faculty	Janta Vidya Mandir Ganpat Rai Rasiwasia College, Charkhi Dadri	01-07-2004	19-10-2005

Training

Session	Title of Programm	Duration	
		From	to
2015-16	National Level Winter School Training Programme in Geospatial Technologies organized by Deptt. of Geography, M.D.U Rohtak	08/12/2015	28/12/2015

ProjectsUndertaken

Title of theProject	Duration	FundingAgency	Status	
			Completed	Progress
Assessment of Environmental status of Bhindawas Wetland, Haryana	2years	UGC	Completed Date: 01/02/2010 to 01/02/2012	
Assessment of Heavy Metals Contamination in Ground Water and Soil at Gurgoan Urban Area	1 year	RK Fund, MDU Rohtak	Completed Date: March,2020to March 2021	

List of total research publications

Papers published in Web of Science/Scopus index Journals (40)

1. Panghal, V., Singh, A., Hooda, V. Arora A, Bhateria R, **Kumar S.** (2025) Recent progress, challenges, and future prospects in constructed wetlands employing biochar as a substrate: a comprehensive review. *Environ Sci Pollut Res* **32**, 1139–1166. <https://doi.org/10.1007/s11356-024-35846-7>
2. Arora, D., **Kumar, S.**, Arora, A., & Panghal, V. (2024). Synergistic impacts of synthesized zero-valent iron nanoparticles (nZVI) on phytoremediation of lead (Pb) contaminated soil using *Tagetes erecta* L. *Journal of Applied & Natural Science*, 16(4). 1618-1626. <https://doi.org/10.31018/jans.v16i4.6050>
3. Panghal, V., Singh, A., Arora, D., Ahlawat, N., Arya, S. S., & Kumar, S. (2024). Horizontal flow biochar amended constructed wetlands as a sustainable approach for rural wastewater treatment. *The Scientific Temper*, 15(03), 2954-2960.
4. Yadav N, Kumar A, Sawariya M, Kumar N, Mehta H, Kaur V, **Kumar S**, Arya SS (2024) Effect of GA₃ and calcium on growth, biochemical and fatty acid composition of linseed under chloride-dominated salinity. *Environmental Science and Pollution Research*. Doi.org/10.1007/s 11356-024-32325-x (**Impact factor – 5.8**)
5. Kumar A, Yadav N, Sawariya M, Kumar N, Mehta H, **Kumar S**, , Arya SS (2024) Assessing the role of EDTA and SA in mustard under Cd and Pb stress. *The Scientific Temper*.15(1) 1949-1956
6. Dhaka R, Kataria N, Kee PE, Ayyamperumal R, Ethiraj B, Khoo KS, Kumar S, Bhateria R. (2024) Biosorption of lead (II) ions by lead-tolerant fungal biomass isolated from electroplating industry effluent. *International Journal of Environmental Science and Technology*. doi.org/10.1007/s13762-024-05796-1 (**Impact factor – 3.0**)
7. Kumar A, Yadav, Sarariya M, Kumar N, Mehra H, **Kumar S**, Arya SS (2024) Unveiling the effect of EDTA and SA in Mustard under Cd and Pb stress. *Ecology, Environment & Conservation*. 30, S324-S333.
8. Panghal V, Singh A, Arora D, **Kumar S.** (2024) Biochar-modified constructed wetlands using *Eclipta alba* as a plant for sustainable rural wastewater treatment. *Environmental Science and Pollution Research*. Doi.org/10.1007/s11356-024-32144-0 (**Impact factor – 5.8**)
9. Monika, Dimple, **Kumar S** Giri A. (2024) Watering Sunderban's fields: a systematic review of groundwater and surface water suitability for irrigation. *Applied Water Science*. Doi.org/10.1007/s13201-024-02122-5 (**Impact factor – 5.7**)
10. Arora D, Arora A, Panghal V, Singh A, Bala R, Kumari S, **Kumar S.** (2024)Unleashing the Feasibility of Nanotechnology in Phytoremediation of Heavy metals Contaminated Soil: A Critical Review toward Sustainable Approach. *Water Air Soil Pollution*, 235:57 doi.org/10-1007/s11270-023-06874-9 (**Impact factor – 2.9**)
11. Singh, A, Arora D, Bala R, IKhokhar A, **Kumar S.** (2023) Lanthanum nanoparticle (La₂ O₃)-loaded adsorbents for removal of hexavalent chromium: a kinetics, isotherm, and thermodynamic study. *Environmental Science and Pollution Research*. Doi.org/10.1007/s11356-023-29834-6 (**Impact factor – 5.8**)
12. Arora D, Arora A, Bala R, Panghal V, **Kumar S.** (2023) Enhancement in Phytoremediation Efficiency of *Tagetes erecta* with the Application of Nano-scale Zero Valent Iron (NZVI) for the Restoration of Lead Contaminated Soil: an Approach Toward Sustainability. *Water Air Soil Pollution*, 234:535 (**Impact factor2.9**)
13. Arora D, Arora A, Singh A, Agarwal R, Bala R, **Kumar S** (2023) Evaluating the applicability of *Brachiaria mutica* (Forssk.) (Paragrass) and *Cyperus rotundus* L (Nutgrass) as bioadsorbents to remove Cr (VI): isotherms, kinetics, and thermodynamic studies. *Sustainable Water Resource Management*, 9: 168 (**Impact factor2.1**)

14. Pangal V, Bhateria R, Kumar R, Arya SS, **Kumar S. (2023)** Assessment of Ground and Surface Soil using Multivariate Statistical Techniques and Contamination Indices: A study of Gurugram Millennium City, Haryana, India. *Journal of Geological Society of India*, 99, 430-437. **(Impact factor 1.3)**
15. **Kumar S**, Bhateria R, Arya S. (2023) Assessing the Environmental Impact of Heavy Metal Contamination in Water, Sediments, and Aquatic Vegetation of River Yamuna in Delhi. *Indian Journal of Science and Technology*, 16(44):4090-4097. **(Web of Science Indexed)**
16. Singh A, **Kumar S. (2022)** Application of Aquatic Plants Dead Biomass in Remediation of Heavy Metals Pollution By Adsorption: A Review. *Indian Journal of Science and Technology*, 15(16): 729-735. **(Web of Science Indexed)**
17. Sharma Y, **Kumar S**, Bhateria R. (2022) Analyzing the Efficiency of Di-FeNPs in Removal of Methyl Orange Dye using Statistical Approach. *Indian Journal of Science and Technology*, 15(21):1032-1040. **(Web of Science Indexed)**
18. Arora D, Arora A, Singh A, Agarwal R, **Kumar S. (2022)** Usability of *Brachiaria mutica* (para grass) and *Cyperus rotundus* (nut grass) as bioadsorbents for the removal of methylene blue from aqueous solution: isotherms, kinetics, and thermodynamics studies. *Sustainable Water Resource Management*, 9: 168 **(.Impact factor 2.1)**
19. Panghal V, Singh A, Kumar R, Kumari G, Kumar P, **Kumar S. (2021)** Soil heavy metals contamination and ecological risk assessment in Rohtak urban area, Haryana (India). *Environmental Earth Sciences*. 80:731 **(.Impact factor 2.8)**
20. Singh A, Panghal V, **Kumar S. (2021)** Adsorption of chromium (Cr^{6+}) on dead biomass of *Salvinia molesta* (Kariba weed) and *Typha latifolia* (broadleaf cattail): isotherm, kinetic, and thermodynamic study. *Applied Water Science*, 11:149 <https://doi.org/10.1007/s00604-023-05984-9> **(Impact factor 5.5)**
21. **Kumar S.** and Dhankhar R. (2020) Isotherm, Kinetics and Thermodynamic Studies of Hexavalent Chromium Adsorption by Using Dead Biomass of *Eichhornia crassipes*. *Oriental Journal of Chemistry* 36:915-922 **(Web of Science Indexed)**
22. **Kumar S.** and Dhankhar R. (2020) Optimization of experimental factors for Hexavalent Chromium removal by dead biomass of water Hyacinth. *Rasayan Journal of Chemistry*, 13(4):2376-2384 **(Scopus Indexed)**
23. **Kumar S.**, Kumar J., Singh S., Kumar S. and Arya S. S. (2020) Lead (Pb) phytoremediation potential assessment of *Brachiaria mutica* (para grass) and *Cyperus rotundus* I (nut grass) from aqueous solution. *Plant Archives*, 20(2):6051-6056 **(Scopus Indexed)**
24. Kumar S., Singh A., Panghal V. and **Kumar S.** (2020) Assessment of heavy metals contamination in drains water and aquatic plants of Rohtak and Bahadurgarh (Haryana), India. *Plant Archives*, 20(2): 6421-6427 **(Scopus Indexed)**
25. **Kumar S.** and Dhankhar R. (2020) Column studies of adsorption by using dead biomass of *Eichhornia crassipes* for Hexavalent Chromium. *Research Journal of Chemistry and Environment*, 24(10): 31-38 **(Scopus Indexed)**

26. Kumar S., Singh A., Vishal, Singh B., Mor V. and **Kumar S. (2020)** Heavy metals toxicity and their remediation through phytotechnology: A review. *Plant Archives*, 20(1): 3174-3186 (**Scopus Indexed**)
27. **Kumar S.** and Dhankhar R. (2020) Assessment of change in soil properties before and after flooding due to the rainy season in Bhindawas wetland, Jhajjar, Haryana (India). *Indian Journal of Science and Technology*, 13(20): 2057-2064 (**Web of Science Indexed**)
28. Singh A., Kumar S., Panghal V., Arya S.S. and **Kumar S. (2019)** Utilization of unwanted terrestrial weeds for removal of dyes. *Rasayan Journal of Chemistry*, 12(4): 1956-1963 (**Scopus Indexed**)
29. Yadav S., Bansal S. K., Yadav S. and **Kumar S. (2019)** Fluoride distribution in underground water of district Mahendergarh Haryana, India. *Applied Water Science*, 9:62 DOI: 10.1007/s13201-019-0935-7 (**Impact factor 5.5**)
30. **Kumar S.**, Dhankhar R. Singh S. (2017) Analysis of water, sediment quality and total metals accumulation in aquatic vegetation at Bhindawas wetland, Jhajjar Haryana, India. *Plant Archives*, 17(2):1139-1145 (**Scopus Indexed**)
31. **Kumar S.** Lata S., Yadav J. and Yadav J.P. (2017) Relationship between water, urine and serum fluoride and fluorosis in school children of Jhajjar District, Haryana, India. *Applied Water Science*, DOI 10.1007/s13201-016-0492-2. (**Impact factor 5.5**)
32. Amarjeet, Poonam, Kumar Sand **Kumar S. (2016)** Ground water quality assessment of rural habitation at Meham block, Rohtak, Haryana (India): Focused on fluoride and nitrate. *International Journal of Pharma and Bio Sciences*, 7(2): (B) 568-574. (**Scopus Indexed**)
33. **Kumar S.** and Dhankhar R. (2015) Assessment of floristic and avian faunal diversity of Bhindawas wetland, Jhajjar Haryana (India). *Plant Archives*, 15(2): 733-740 (**Scopus Indexed**)
34. **Kumar S.** and Dhankhar R. (2015) Monitoring of Noise Levels at Various Sites during Winter Season at Bhindawas Wetland, Haryana, India. *Current World Environment*, 10(3): 807-812. (**Web of Science Indexed**)
35. **Kumar S.** and Dhankhar R. (2012) Trophic State Index and Assessment of Water Quality for Domestic and Agriculture Purpose of Bhindawas Wetland, Jhajjar, Haryana (India). *Annals of Biology*, 28(2): 144-151. (**Scopus Indexed**)
36. Panghal M., Arya V., Yadav S., **Kumar S.**, Yadav J.P. (2010) Indigenous Knowledge of Medicinal plants used by Saperas Community of Khetawas Jhajjar District, Haryana, India. *Journal of Ethnobiology and Ethnomedicine* 6, 4. <https://doi.org/10.1186/1746-4269-6-4> (**Impact factor 3.6**)
37. Yadav, J.P., Lata S. and **Kumar S. (2008)** Fluoride distribution in underground drinking water sources of Jhajjar district, Haryana, India. *Environment Geochemistry and Health*. 31:431-438. (**Impact factor 4.8**)
38. **Kumar, Sunil;** Gupta, A. and Yadav, J.P. (2008) Removal of fluoride by thermally activated carbon prepared from neem (*Azadirachta indica*) and kikar (*Acacia arabica*) leaves. *Journal of Environment Biology*, 29(2): 227-232 (**Impact factor 0.67**)
39. **Kumar, S.,** Gupta, A. and Yadav, J. P. (2007) Fluoride removal by mixtures of activated carbon prepared from Neem (*Azadirachta indica*) and Kikar (*Acacia arabica*) leaves. *Indian Journal of*

ChemicalTechnology,14:355-361. (Impact factor 0.50)

40. Yadav, J. P.,Lata S.and **Kumar S.** (2003) Pollution and dental fluorosis in Matanhail block of Jhajjar District, Haryana, India. *International. Journal .of Medical. Toxicology.& Legal Medicine*.6 (1): 37-42.(Scopus Indexed)

Papers in other peer reviewed journals

41. Yadav S., Bansal S. K., **Kumar S.** and Yadav S. (2018) Prevalence of Fluorosis among school going children in district Mahendergarh, Haryana, India. *International Journal of Basic and Applied Research*, 8(9): 1349-1363.
42. Yadav S., Bansal S.K and **Kumar S.** (2018) Occurrence of Fluoride in Aqueous Environment : A Review. *The Konkan Geographer*, 17: 113-115.
43. **Kumar S.** and Dhankhar R. (2015) Economic value assessment of Bhindawas wetland, Jhajjar Haryana(India). *Indian Journal of Environmental Sciences* , 19(1&2):5-10.
44. **Kumar S.** and Dhankhar R. (2015) Variation in physic-chemical characteristics of water quality of Bhindawas Wetland, Jhajjar, Haryana(India). *Research Journal Chemical Science*,(7):29-34.
45. Meenakshi, Anuradha, Shashi, Dhankar S., Kanupriya, **Kumar S.**and Arya S.S. (2015) Effect of salinity on plantwater status, soluteaccumulation and distribution in wheat (*Triticumaestivum*L.)genotypes. *InternationalJournalof Research*, 2(3):96-109.
46. Amarjeet, Kumar S., Arya S.S. and **Kumar S.** (2015) Ground water suitability for domestic and irrigation purpose at villages of Meham block, Rohtak, India. *International Journalof Research*, 2(2):666-680.
47. Saini S., Kumar S and Yadav J.P. (2013) Isonymic Electrophoretic Patterns of *Salvadorapersica*. *Biojournal*,8(1):70-7.

Published in Conferences/SeminarProceedings

1. **Kumar S.**,Kumar K.and Bishnoi M.(2010) Spectral Distribution of noise level at various traffic sites of Hisar city, Haryana. Proceeding of National Seminar on Environmental Challenges: Sustainable Development p.185-191: organized by Department of Environmental Sc. M D U Rohtak.
2. **Kumar, S.** and Gupta, A.(2011) Defluoridation by thermally activated carbon prepared from NeemRemoval of fluoride by thermally activated carbon prepared from neem(*Azadirachtaindica*) andkikar (*Acacia arabica*) leaves though column process. Proceeding ofNational ConferenceonMultidisciplinary Approach in Frontier Area of Environmental Science and Engineering. p. 236-234: organized byDepartment of Environmental Sc. &Engg G.J.U.S.& T Hisar on 3-4March.
3. KumarS.and**KumarS.** (2014)Constructed wetlands an alternative technology for wastewater treatment:A Review: In Proceeding of National Seminaron Next Generation Sciences: Vision 2020 and Beyond. P. 377-389: Organized by Department of Zoology, M.D.U. Rohtak on March 08,2014.
4. **Kumar S.** (2014) Fluoride problems and its health effects:A Review:In Proceeding of National Seminar on Next Generation Sciences:Vision 2020 and Beyond. P.464-475:2014.Organized by Department of Zoology, M.D.U. Rohtak on March 08,2014.

Book Chapters Publications (other than research papers)

1. Singh A., **Kumar S.** (2023) Utilization of Aquatic Plants Dead Biomass in Adsorption of Heavy Metals from Wastewater, In Grace A.N., Sonar p., Bhardwaj P., Chakravorty A.(eds) Handbook of Porous Carbon Materials, 655-668, Springer Nature Singapore Pvt Ltd.
2. Yadav, N. Monika, Kumar A., Kumar N., Mamta, Heena, **Kumar S.**, Arya S..S (2022). Impacts on Plant Growth and Development Under Stress. In: Vaishnav, A., Arya, S., Choudhary, D.K. (eds) Plant Stress Mitigators. Springer, Singapore. https://doi.org/10.1007/978-981-16-7759-5_4
3. Monika, Yadav N. Monika, Kumar A., Kumar N., Mamta, Heena, **Kumar S.**, Arya S..S (2022). Arbuscular Mycorrhizal Fungi: A Potential Candidate for Nitrogen Fixation. In: Vaishnav, A., Arya, S., Choudhary, D.K. (eds) Plant Stress Mitigators. Pp 217-233. Pp 61-100. Springer, Singapore. https://doi.org/10.1007/978-981-16-7759-5_11
4. Yadav N. Monika, Kumar A., Kumar N., Mamta, Heena, **Kumar S.**, Arya S.S. (2022) Microbe-Mediated Amelioration of Salinity Stress in Crop . In: Vaishnav, A., Arya, S., Choudhary, D.K. (eds) Plant Stress Mitigators. Pp 429-450. Springer, Singapore
5. Bhateria R., Rimmy, Yogita, **Kumar S.** (2022) Role of Plant-Microbe Interactions in Combating Salinity Stress. In: Vaishnav, A., Arya, S., Choudhary, D.K. (eds) Plant Stress Mitigators. Pp 459-480. Springer, Singapore
6. Singh R, **Kumar S.**, Bhateria R. (2022) Recent Trends in Synthesis and Application of GO-Based Nanomaterials in Environmental Remediation. In: Rai JPN., Sarawat S (eds) Nano-biotechnology for Waste Water Treatment Theory and Practices. Pp 151-170.
7. Mamta, Kumar A., Kumar N., **Kumar S.**, Monika, Heena, Arya S. S. (2020) Salinity: Distribution and Impacts on Plants. In S. Gurumurthy and S.S. Jinus (Eds.) Management of Abiotic Stress in Crop Plants, 41-73, IP Innovative Publication Pvt. Ltd
8. Arya SS., Devi S., Ram K., **Kumar S.**, Kumar N., Mann A., Kumar A., Chand G. (2019). Responses and Utilization of Halophytes. In M. Hasanuzzaman et al. (Eds.) Ecophysiology, Abiotic Stress Responses, 271-287, Springer Nature Singapore Pvt Ltd.
9. Kumar S. (2017). Air Pollution Monitoring, Modeling and Control. In B.R Gurjar and P. Kumar (Ed.) Environmental Science and Engineering Vol.3: Air and Noise Pollution (pp1-31) Studium Press LLC. ISBN1-62699-091-3

Papers presented in seminars/conferences:

37

Research Supervision:-

Ph.D Completed Candidates

Sr. No.	Program me	Name of University	No of students supervised (Degree Awarded)
1	Ph.D	Maharshi Dayanand University	Sandeep Kumar S/o ShZile Singh, 07-VB-113, 2022 Heavy Metals Removal Potential of Macrophytic Plants by Phytoremediation from Wastewater.
2.	Ph.D	Maharshi Dayanand University	Asha D/o Sh. Umed Singh, 10-VAB-3003, 2023 Evaluation of Heavy Metal Removal by Aquatic Plants through Adsorption Process.
3.	Ph.D	Maharshi Dayanand University	Sucheta Yadav, 97-SCA-01, 2019 (Geography) Fluorosis and fluoride contamination of land and water: A case study of Mahendergarh District of Haryana (Co-supervisor)
4.	Ph.D	Maharshi Dayanand University	Neha Yadav D/o Sh. Chaman Prakash, 1176861895 (Botany) Studies on vegetative and reproductive vigour of salt stressed Linseed (<i>Linum usitatissimum</i> L.) after gibberellic acid and calcium treatment
5.	Ph.D	Maharshi Dayanand University	Ajay Kumar, 1177190571 (Botany) Chelator assisted phytoremediation of cadmium and lead by Indian Mustard (<i>Brassica juncea</i> L.)

Administrative assignment(s)

1. Work as a IQAC Incharge in the Department
2. Member of Admission committee
3. Member of Anti-Ragging Committee
4. Member of Departmental sexual harassment committee
5. Member of Departmental Committee
6. Member of PGBOS in Environmental Science

Professor Sunil Kumar
Department of Environmental Science
Maharshi Dayanand University, Rohtak