Dr. Anwarzeb Khan

CURRICULUM VITAE

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Nationality:	Pakistan
Date of Birth:	23rd March, 1986
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In Brief

I have done Postdoc from Mokpo National University, South Korea and PhD in Environmental Sciences from University of Peshawar, Pakistan. My area of research interests includes soil degradation, soil-plant-microbe interaction, climate change, environmental pollution and their remediation and microbial diversity in contaminated environment. I have completed one research project as Principal Investigator.

I have more than 5 years of teaching, research and administrative experience as Lecturer, Assistant Professor and Program Coordinator. So for I have published 30 research papers in ISI index journals with total impact factor of 144, while, several other papers are under review in high impact journals. During my academic career I have supervised more than 20 BS/MSc and one MPhil research scholar, who have completed their research on various environmental issues. I am also reviewer of various prestigious journals including Chemosphere, ACS Sustainable Chemistry & Engineering, Toxin Reviews, Environmental Monitoring and Assessment, Heliyon, International Journal of Environmental Research and Arabian Journal of Geosciences.

Education

Postdoc Environmental Toxicology, Mokpo National University (MNU), South Korea (2023)

Doctor of Philosophy (PhD) in Environmental Sciences from University of Peshawar, Peshawar, Khyber Pakhtunkhwa, Pakistan. (2016)
Thesis Title: Contamination of food plants with heavy metals and their impacts on nutritional values.

Master of Science (MSc) in Environmental Sciences from University of Peshawar, Pakistan, (2008)
Thesis Title: Soil and vegetables enrichment with heavy metals from

	geological sources in Gilgit, northern Pakistan. **Bachelor of Science (BSc)** in Biological Sciences from Government Superior Science College, Peshawar, Pakistan, (2006) **Intermediate (FSc Pre-Medical)** from Government Superior Science College, Peshawar, Pakistan, (2004) **Matriculation (Science)** from Govt High School Kagawala Peshawar. BISE Peshawar, Pakistan. (2002)
Research Interests	• Waste Management • Biochar and Compost application • Toxicology, Human health and nutrition • Organic pollutants and their impacts • Climate Change • Integrated technologies for remediation of contaminated soils and wastewater • Soil-Plant-Microbe Interaction
Journal's Editorial Board	**Reviewer in** • ACS Sustainable Chemistry & Engineering, • Chemosphere • Arabian Journals of Geosciences • Environmental Monitoring and Assessment • Heliyon
Professional Experience	❖ **January, 2024 – Present,** as **Assistant Professor,** Department of Environmental and Conservation Sciences, University of Swat, Swat, Pakistan ❖ **May, 2023- December, 2023** as **Postdoctoral Research Associate**, Center for Environmental Research, Soil Science Laboratory, Mokpo National University (MNU) South Korea. ❖ **March, 2021-February, 2022** as **Lecturer,** Department of Botanical and Environmental Sciences, Kohat University of Science and Technology (KUST), Kohat, Pakistan. ❖ **August, 2017- March, 2021** as **Assistant Professor,** Department of Environmental and Conservation Sciences, University of Swat, Swat, Pakistan ❖ **Sept-2012 – May-2013** as **Visiting Lecturer,** Department of Environmental Sciences University of Peshawar, Peshawar,

Pakistan

- **July, 2010 – June, 2011** as **Lecturer/internee,** Department of Environmental Sciences University of Peshawar, Peshawar, Pakistan

PROFESSIONAL CERTIFICATION

- Global Environmental Management from **Technical University of Denmark (DTU)**
- Dominant Risk Management Standards and Frameworks from **Kennesaw State University**
- Environmental Health: The Foundation of Global Public Health from **University of Michigan**
- Health & Safety Induction, from **Knights of Safety**
- Human health and Climate change, **UNITAR**
- Introduction to Sustainable Development in Practice, **UNITAR**
- Building Climate Resilience Through Ecosystem-Based Adaptation Planning, **UNITAR**
- Cities and Climate Change, **UNITAR**

Scholarships, Awards & Honors

1. Received PhD scholarship award from **Higher Education Commission, Islamabad,** under Indigenous 5000 PhD Fellowship program. (2012-15)
2. Merit scholarship in MSc, awarded by **University of Peshawar** (2006-08)

Research Projects

1. "Contamination of food plants with heavy metals and their impacts on nutritional values" funded by Higher Education Commission of Pakistan (PhD Project), Budget: Rs. 1,360,000/-

2. "Transport, fate and toxicological effects of heavy metals in soil, food plants and irrigation water in Peshawar basin, Khyber Pakhtunkhwa" project funded by Higher Education Commission of Pakistan, under Startup Research Grant Program (SRGP); Budget: Rs. 4,29,000/-.

Students supervised

MPhil Students

1. **Basharat Ali** (MPhil): "Comparative Analysis of Heavy Metals and Microbial Diversity in Water and Sediments of River Swat and Kabul" (2021)

BS/MSc students

1. **Abdul Ahad & Saifullah Jan (**MSc) "Assessing ground water table dynamics and its linkage with consumption rates in district

Swat, Northern Pakistan" (2020)

2. **Muhammad Ihsan Mian & Maria Zeb** (MSc) "Potential impact of tourism in district Swat, Northern Pakistan" (2020)
3. **Waqar Ahmad & Sakina Bibi** (MSc) "Health risk related with light and trace metals in drinking water of district Swat, Northren Pakistan" (2020)
4. **Umar Saqid & Faisal** (MSc) 2019 "Health risks associated with heavy metals in the ground & surface water of Swat, Khyber Pakhtunkhwa, Northern Pakistan" 2019.
5. **Asma & Afshan Yousaf** (MSc) "Ecotourism potential and impacts on natural resources in swat valley" 2019
6. **Nazish & Sumaya (**MSc) "Farmer perception regarding Climate Change impact on apple production in swat valley" 2019
7. **Shehla Iqbal** (MSc) "Potential toxic metals concentration in drinking water of Shangla and human health risk" 2019.
8. **Muhammad Junaid & Muhammad Owais** (BS) "Multivariate nd geospatial analysis of potentially toxic metals in irrigation water in Peshawar Basin" 2019.
9. **Naeemullah & Sajid Khan** (MSc) "Heavy metals contamination of medicinal plants and their potential health risks" 2018.
10. **Akbar Hussain** (MSc) "Assessment of municipal solid Waste in Swat, KP, Pakistan" 2018
11. **Gulandama Hidayat & Saima** (MSc) "Quantification and Composition Analysis of Hospital Waste in Peshawar, KP, Pakistan" 2018.
12. **Syed Hussain Shah & Sanaullah** (BS) "Transport, fate and toxicological effects of heavy metals in soil, food plants and irrigation water in Peshawar basin, Khyber Pakhtunkhwa" 2018

Conference, Workshops & Seminars

- 55th International Conference on "Present and future of soil "70 years of long-term use of the same fertilizer" organized by the Korean Society of Soil Fertilizers, *South Korea*, October 25-27, 2023
- "Capacity Building Training for Journalists on Peace and Sustainable Development" Jointly organized by Community Resilience Alliance and University of Peshawar. October 3-14, 2022
- One-day Seminar on "Understanding and avoiding Plagiarism" organized by Directorate of Quality Enhancement, Kohat University of Science and Technology, November 02, 2021.
- 1st International hybrid mode conference on Emerging Innovative Research trends in Biology (EIRTB-2021) organized by

Department of Biotechnology and Genetic Engineering, Kohat University of Science and Technology, Kohat, August 11-12, 2021.

- 2nd Environmental Awareness Workshop on Environmental Impact Assessment, July 1st, 2021, Department of Botanical and Environmental Science, Kohat University of Science and Technology, Kohat.
- 2nd International Conference "Conservation of Medicinal and Aromatic plants for improving the livelihood of mountain communities through industrial linkage" September 3-5, 2018 organized by Center for Plant Sciences and Biodiversity, University of Swat. (Organizer)
- Seminar on "World IP day 2018" organized by Intellectual Property Organization of Pakistan, 24 April, 2018.
- Workshop on "Anti-Plagiarism and Use of Turnitin" 10 April, 2018, University of Swat
- Workshop/training on "Environmental impact assessment-processes and regulations" held on 28-30 April, 2015, arranged urban policy and planning unit, P&D department, Gov. KP, Pakistan.
- Certificate of participation in 3 days Training/workshop on "Urban Transportation Planning" conducted by Urban policy unit Khyber Pakhtunkhwa- 24-26 February, 2015
- Certificate of Participation in one-day seminar on" EIA and Khyber Pakhtunkhwa Environmental Protection Act-2013 (Draft)" 13 March, 2013
- Certificate of Excellence at workshop on world water day- 2011.
- Certificate of Participation in Free Eye Camp arranged by Gul Bahar Lions Club Pakistan-2011
- Social work program Govt. Superior Science College, Peshawar.

Member of Various Committees

- Semester Coordinator, BS Program
- Member of the Departmental Purchase Committee
- Member of the Departmental Semester Committee
- Member of the Departmental Semester Examination Committee
- Member of Departmental Academic Committee
- Member of Board of Studies
- Member of Departmental Website Committee
- Member of Departmental Admission Committee
- Member of Departmental Curriculum Committee

Technical

Laboratory analytical skills:

Skills

- ICP-MS and ICP-OES
- GC-MS
- Atomic Absorption Spectrophotometer
- flame photometer and UV-Spectrophotometer Bomb Calorimeter
- Measurements of Alkalinity, pH, Dry matter, Volatile solids, TOC etc.

Computing skills:

- MS office
- SPSS statistical software
- Statistics 8.1
- Sigma Plot
- Command on Coral Draw
- Typing (+40 WPM)

Social skills and competences

- Good communication skills and developing links

Organizational skills and competences

- Very active in management practices

Publications
IF: 144
H-Index: 18
Citation: +2600

*corresponding author

1. Ali, B., **Khan*, A**., Ali, S.A., Khan, H., Alam, M., Ali, A., Alrefaei, A, F., Almutairil, M.H., Kim, K.I. 2023. Heavy metals and microbial diversity; A comparative analysis of river Swat and Kabul. Water 15, 3297. https://doi.org/10.3390/w15183297 **(IF 3.4)**

2. Khan, M.A., Nawab, J., **Khan, A**., Brusseau, M.L., Khan, S.N., Ali, N., Bahadur, S., Khan, S. and Huang, Q., 2023. Human Health and Ecological Risks Associated with Total and Bioaccessible Concentrations of Cadmium and Lead in Urban Park Soils. *Bulletin of Environmental Contamination and Toxicology*, *110*(3), p.61. **(IF 2.7)**

3. Badshah, H., Nisa, S.U., Ali, M.A., Alwahibi, M.S., Mumtaz, A.S., Kamal, A., Kaleem, M., **Khan, A.,** Khan, S.M., 2023. Bio-concentration and influence of environmental factors on accumulation of heavy metals in wild edible autumn morel (Morchella galilaea) of low elevation. *Metals-2195508* **(IF 2.9)**

4. Ghanim, A.A.J., Shah, M.A., Alam, M., **Khan, A***., Khan, M.A., Rahman, S., Alsaiari, M.A., Jalalah, M.S., Khan, M.K.A. Irfan, M., Hussain, Z., 2023. The Influence of Compost Amendments on Bioaccumulation of Potentially Toxic Elements by Pea Plant Cultivated in Mine Degraded Soils. *Arabian Journal of Geosciences*

16:46. **(IF 1.827)**.

5. Alam,, I., Alam, M., **Khan*, A.,** Haq, S., Ayaz, A., Jalal, A., Bhat, J., 2021. Biochar supplementation regulates growth and heavy metal accumulation in tomato grown in contaminated soils. *Physiologia Plantarum* 173(1):340-351. **(IF 6.4)**.

6. **Khan, A.,** Khan, S., Lei, M., Alam, M., Khan, M.A., Khan, A., 2020. Biochar characteristics, applications and importance in health risk reduction through metal immobilization. *Environmental Technology and Innovation.* 20: 101121 **(IF 7.1)**.

7. Yousaf, S., Shakeel, M., Khan, A., Ilyas, M., Jogi, Q., Anjum, S., Nazneen, S., **Khan, A.,** Iqbal, J., 2020. Seasonal characterization and potential human health risk of heavy metals in sediments of the River Jindi, Pakistan. *Journal of Himalayan Earth Sciences*. 53(1): 71-84 **(IF 0.00).**

8. Ali, J., Khan, S., **Khan***, A., Waqas, M., Nasir, M.J., 2020. Contamination of soil with potentially toxic metals and their bioaccumulation in wheat and associated health risk. *Environmental Monitoring and Assessment*. 192:138. https://doi.org/10.1007/s10661-020-8096-6 **(IF 3.0).**

9. Alam, M., Hussain, Z., **Khan*, A.,** Khan, M.A., Rab, A., Asif, M., Shah, M.A., Muhammad, A., 2020. The effects of organic amendments on heavy metals bioavailability in mine impacted soil and associated human health risk. *Scientia Horticulturae* 262: 109067 (**IF 4.3**)

10. Yu, X., Khan, S., **Khan, A.,** Tang, Y., Nunes, M., Yan, J., Li, G., 2020. Methylmercury concentrations in seafood collected from Zhoushan Islands, Zhejiang, China and their potential health risks. *Environment International* 137; 105420 **(IF 11.8)**

11. Khan, S., **Khan*, A**., Khan, M.A., Aamir, M., Li, G., 2019. Arsenic interaction and bioaccumulation in food plants affect the nutritional components and their dietary intake. *Land Degradation and Development*. 30(16), 1954-1967 DOI: 10.1002/ldr.3392 **(IF 4.7)**

12. Ilyas, M., Ahmad, W., Khan, H., Yousaf, S., Yasir, M., **Khan, A.**, 2019. Environmental and health impacts of industrial wastewater effluents in Pakistan: a review. *Reviews on Environmental Health.* 26;34(2):171-186, DOI: https://doi.org/10.1515/reveh-2018-0078 **(IF**

3.9)

13. Alam, M., Khan, M., **Khan*, A.,** Zeb, S., Khan, M.A., Khattak, A.M., Amin, N., Sajid, M., 2018. Concentrations, dietary exposure and human health risk assessment of heavy metals in market vegetables of Peshawar, Pakistan. *Environmental Monitoring and Assessment.* 190(9):505. doi: 10.1007/s10661-018-6881-2. **(IF 3.0)**

14. **Khan, A*.,** Khan, S., Khan, M. A., Aamir, M., Ullah, H, Nawab, J., Rehman, I.U., Shah, J., 2019. Heavy metals effects on plant growth and dietary intake of trace metals in vegetables cultivated in contaminated soil. *International Journal of Environmental Science and Technology*. 16:2295–2304 https://doi.org/10.1007/s13762-018-1849-x. **(IF 3.1)**

15. Khan, M.A., Ding, X., Khan, S., Brusseau, M.L., **Khan, A.**, Nawab, J., 2018. The influence of various organic amendments on the bioavailability and plant uptake of cadmium present in mine-degraded soil. *Science of the Total Environment* 636; 810–817. (**IF 9.8**)

16. Rehman, U., **Khan A.**, Shah, M.T., Muhammad, J., Nasir, M.J., Khan, S., 2017. Quantification of essential elements, their daily intake and health risk via drinking water collected from Southern Khyber Pakhtunkhwa, Pakistan. *Journal of Himalayan Earth Sciences*. 50(2), 14-26 (**IF 0.00**)

17. Khan, M.A., Khan, S., Ding, X., **Khan, A.,** Alam, M., 2018. The effects of biochar and rice husk on adsorption and desorption of cadmium on to soils with different water conditions (upland and saturated). *Chemosphere*, 193; 1120-1126. DOI; 10.1016/j.chemosphere.2017.11.110 **(IF 8.8)**

18. Qamar, Z., Khan, S., **Khan, A.,** Waqas, M. 2017. Appraisement, source apportionment and health risk of polycyclic aromatic hydrocarbons (PAHs) in vehicle-wash wastewater, Peshawar, Pakistan. *Science of the Total Environment.* 605–606; 106–113 **(IF 9.8)**

19. Khan, M.A., Khan, S., **Khan, A.,** Alam, M., 2017. Soil contamination with cadmium and its consequences and remediation using organic amendments. *Science of the Total Environment*. 601–602; 1591–1605 **(IF 9.8)**

20. Ilyas, M., Khan S., **Khan, A*.,** Amin, R., 2017. Analysis of drinking

water quality and health risk assessment-A case study of Dir Pakistan. *Journal of Himalayan Earth Sciences*. 50(1A), 100-110 (**IF 0.00**)

21. Riaz, A., **Khan, A.,** Shah, M.T., Din, I., Khan, S., Khan, S.D., 2017. Determination of Mercury in the wild plants with their soils along Indus, Gilgit and Hunza Rivers. *Journal of Himalayan Earth Sciences*, 50(1A), 35-40. (**IF 0.00**)

22. Sajjad, M., Khan, S., Baig, S.A., Munir, S., Naz, A., Ahmad, S.A., **Khan, A.,** 2017. Removal of potentially toxic elements from aqueous solutions and industrial wastewater using activated carbon. *Water Science and Technology*. 75(11); 2571-2579. DOI: 10.2166/wst.2017.130 **(IF 2.7)**

23. Aamir, M., Khan, S., Xub, C., Qamar, Z., **Khan, A.,** Nawab, J., 2017. Congener-specific evaluation of biota-sediment accumulation factor model for HCHs and DDTs under small scale in situ riverine condition. *Journal of Soils and Sediments*, 17(2):525–535. DOI: 10.1007/s11368-016-1579-y. **(IF 3.6)**

24. Khan, B., Ullah, H., Khan, S., Aamir, M., **Khan, A.,** Khan, W., 2016. Sources and Contamination of Heavy Metals in Sediments of Kabul River: The Role of Organic Matter in Metals Retention and Accumulation. *Soil and Sediment Contamination: An International Journal*. 25(8); 891-904, http://dx.doi.org/10.1080/15320383.2016.1224226. (**(IF 3.057)**

25. Aamir, M., Khan, S., Niu, L., Zhu, S., **Khan, A.,** 2017. Occurrence, enantiomeric signature and ecotoxicological risk assessment of HCH isomers and DDT metabolites in sediments from Kabul River, Pakistan. *Environmental Geochemistry and Health*. 39:779–790. DOI 10.1007/s10653-016-9847-8. **(IF 4.2)**

26. Nawab, J., Li, G., Khan, S., Sher H., Aamir M., Shamshad, I, **Khan, A.,** Khan, M.A., 2016. Health risk assessment from contaminated foodstuffs: a field study in chromite mining-affected areas northern Pakistan. *Environmental Science and Pollution Research*. *23*(12), 12227-12236. DOI 10.1007/s11356-016-6379-9. **(IF 5.8)**

27. **Khan, A.,** Khan, S., Alam, M., Khan, M.A., Aamir, M., Qamar, Z., Rehman, Z.U., Perveen, S., 2016. Toxic metal interactions affect the bioaccumulation and dietary intake of macro- and micro-nutrients.

Chemosphere, 146; 121-128. **(IF 8.8)**

28. Aamir, M., Khan, S., Nawab, J., Qamar, Z., **Khan, A.,** 2016. Tissue distribution of HCH and DDT congeners and human health risks associated with consumption of fish collected from Kabul river, Pakistan. *Ecotoxicology and Environmental Safety*. 125: 128-134. http://dx.doi.org/10.1016/j.ecoenv.2015.12.005. **(IF 6.8)**

29. **Khan, A.**, Khan, S., Khan, M.A., Qamar, Z., Waqas, M., 2015. The uptake and bioaccumulation of heavy metals by food plants, their effects on plants nutrients, and associated health risk: a review. *Environmental Science and Pollution Research.* 22:13772–13799. DOI 10.1007/s11356-015-4881-0. **(IF 5.8)**

30. Khan, S., Rehman, S., **Khan, A.,** Khan, M.A., Shah, M.T., 2010. Soil and vegetables enrichment with heavy metals from geological sources in Gilgit, northern Pakistan. *Ecotoxicology and Environmental Safety*. 73:1820-1827. **(IF 6.8)**