MUHAMMAD IMRAN KHAN

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ACADEMIC QUALIFICATION AND PROFESSIONAL TRAINING

Post-Doc. Department of Isotope Biogeochemistry, February 1, 2019- January 31, 2020 & February 1, 2022- January 31, 2023, **Helmholtz-Centre for Environmental Research-UFZ**, Leipzig, **Germany**.
Host: Dr. Hans Hermann Richnow, Dr. Ivonne Nijenhuis
Research title: Development and characterization of anaerobic microbial consortia for complete detoxification of hexachlorocyclohexanes
Ph.D. Civil & Environmental Engineering, August 2011-2015, **Yonsei University**, Seoul, **Republic of Korea**
Advisor: Prof. Dr. Joonhong Park
Thesis title: Starch-stimulated aerobic degradation of explosives: Microbial consortia development and soil applicability
M.S. Environmental Engineering, August 2006-2009, **Zhejiang University**, Hangzhou, **China**
Advisor: Prof. Dr. Yingxu Chen
Thesis title: Evaluation of PAHs bioavailability and eco-toxicity in soil by using combination of chemical and biological assays
B.Sc. (Hons.) Agronomy, 2000-2004, **University of Agriculture, Faisalabad**, **Pakistan**

PROFESSIONAL AND TEACHING EXPERIENCE

- ***Associate Professor**, Institute of Soil and Environmental Sciences, University of Agriculture Faisalabad, Pakistan, November 12, 2022-Present*
- ***Assistant Professor**, Institute of Soil and Environmental Sciences, University of Agriculture Faisalabad, Pakistan, February 28, 2016- November 11, 2022*
- ***Guest Scientist**, Department of Isotope Biogeochemistry, Helmholtz-Centre for Environmental Research-UFZ, Leipzig, Germany, February 1, 2019-January 31, 2020 & February 1, 2022- January 31, 2023*
- ***Lecturer**, Department of Agronomy, University of Agriculture Faisalabad, Pakistan, November 16, 2009-February 2016*
- ***Graduate Student Research Assistant/Ph.D. Student**, Department of Civil and Environmental Engineering, Yonsei University, Republic of Korea, September 2011-August 2015*
- ***Scientific Officer**, Pakistan Agricultural Research Council (PARC), National Agricultural Research Centre (NARC), Islamabad, Pakistan, August 2009 ~ November 2009*
- ***Research Assistant/ MS Student**, Department of Environmental Engineering, Zhejiang University, China, September 2006~ June 2009*

COURSES TAUGHT

Undergraduate: SES-308: Environmental microbiology; ENV-402: Applied ecology; ENV-410: Psychology of environmental sustainability; SES-517/ENV-501: Microbial ecology and plant growth; SES-302/ENV-301: Introduction to environmental science; SES-301: Soil science-I; SES-401: Soil science-II; SES-612: Internship and external evaluation; SES-313: Microbial ecology and plant growth; SES-319: Introduction to environmental science; SES-325: Environmental laws and policies; SES-102: Introduction to environmental science; SES-401: Introduction to soil science; SES-403: Environment pollution and management.

Postgraduate: SES-723: Principles and applications of bioremediation; CC-708: Disaster management under climate change; SES-733: Environmental laws & policies; SES-721: Biosequestration and environment; SES-723: Agrochemicals and environment; SES-722: Water and air contamination.

PhD/MSc STUDENTS SUPERVISION

	Status	As Supervisor	As Co-Supervisor/Committee Member	Total
PhD	**In progress**	02	03	05
	Completed	01	02	03
M.Sc./M.Phil.	**In progress**	10	15	25
	Completed	25	40	65
Total		38	60	**98**

RESEARCH INTERESTS

- Soil and environmental sciences mainly focusing on environmental microbiology, soil and water pollution (SDG 6), ecotoxicology and bioremediation of inorganic and organic pollutants (SDG 3). Current research projects focused on microbial bioremediation, biotransformation and rhizoremediation of persistent organic pollutants (e.g., petroleum hydrocarbons, explosives and pesticides) and the role of microbes in improving crop productivity (SDG 2) under abiotic stresses and changing climate (SDG13).

AWARDS, APPRECIATIONS & HONORS

- **George Forster Fellowship** for Post-doctoral researchers, Alexander von Humboldt (AvH) Foundation, **Germany**, February 2019 ~ January 2020 and February 2022 ~ January 2023.
- **Best Research Paper Award** 2015/2016 (Biological Sciences), Higher Education Commission (HEC), **Pakistan**. March 1, 2018.
- **Bill and Melinda** Gates Foundation **Abstract/Travel Award,** World Microbe Forum, ASM and FEMS, June 20-24, 2021.
- 6th Position (Earth & Environmental Sciences), Young **Productive Scientist of Pakistan** (PSP), 2016, Pakistan Council for Science & Technology (PCST), **Pakistan**. June 2016.
- Shield of Appreciation, Annual Sports Gala 2016-17, The Agrarian Society, University of Agriculture, Faisalabad, **Pakistan**. December 2016.
- Awarded **Certificate of Distinction** for outstanding contributions in the academic field of Natural Science, Yonsei University, **Republic of Korea**, December 2015

- Awarded **Certificate of Merit** for outstanding contributions in the academic field of Natural Science, Yonsei University, **Republic of Korea**, May 2015
- Awarded **Global Scholarship for Outstanding Student**, Yonsei University, **Republic of Korea**, August 2012 ~ February 2014
- Awarded **Certificate of Achievement** for Outstanding Presentation at International Environmental Engineering Conference & Annual Meeting of Korean Society of Environmental Engineers, Convergence Technology, June 11 ~ 13, 2013, COEX, Seoul, **Republic of Korea**
- Awarded **Best Paper Presenter** in the Korean Society of Environmental Engineering Conference, August 22 ~ 24, 2012 Changwon, **Republic of Korea**
- Awarded **Korean Government Scholarship** (KGS) for Ph.D. studies in Yonsei University, **Republic of Korea**, September 2010 ~ August 2015
- Awarded **Cultural Exchange Scholarship** from Ministry of Education, Pakistan, and Chinese Scholarship Council, China for MS studies in Zhejiang University, **China** in September 2005 ~ 2009
- Awarded with **University Merit Scholarship**, University of Agriculture Faisalabad, **Pakistan**, December 2001 ~ 2005
- Awarded with **Certificate of Brilliant Performance**, University of Agriculture Faisalabad, **Pakistan**, December 2004
- Awarded with **Certificate of Excellence** for Best Management from the Department of Agronomy, University of Agriculture Faisalabad, **Pakistan**, April 2004
- Awarded with **Certificate of Honor** from the Department of Agronomy, University of Agriculture Faisalabad, **Pakistan**, April 2004
- Awarded with **Certificate of Sports** (2nd position in Tug of War), Annual Sports Gala, from The Agrarian Society, University of Agriculture Faisalabad, **Pakistan**, 2003
- Awarded with **Certificate of Merit** for 3rd position in Master Mind Quiz Competition from Quiz Club, University of Agriculture Faisalabad, **Pakistan**, 2002

RESEARCH PROJECTS

Projects: Completed, in Progress or Submitted

Sr. No.	Project	Funding Agency	Amount (Rs. Million)	Status	Position
1	Assessment of explosive contamination in the mining and explosion sites in Pakistan	SRGP, HEC, Pakistan	0.40	Completed	Principal Investigator
2	Improving petroleum hydrocarbons bioremediation and crop productivity by microbial bioresources	NRPU, HEC, Pakistan	3.43	Completed	Principal Investigator
3	Development and characterization of anaerobic microbial consortia for complete detoxification of hexachlorocyclohexanes	AvH Foundation, Germany	5.76 (19200 €)	Completed	Principal Investigator
4	Establishment and demonstration of model papaya orchard for technology transfer at PARS for growers	University of Agriculture, Faisalabad (UAF), Pakistan	2.59	Completed	Team Member
5	Improving glyphosate remediation and crop productivity in glyphosate contaminated soil by mixed microbial cultures	Pakistan Agricultural Research Council (PARC), Pakistan	6.40	Submitted	Principal Investigator
6	Removal of inorganic and organic pollutants and treatment of wastewater	Pakistan Agricultural Research Council	3.50	Submitted	Principal Investigator

	by aquatic macrophytes	(PARC), Pakistan			
7	Development of nutrients enriched organic fertilizer from poultry waste	RTTG, HEC, Pakistan	9.55	Submitted	Co-PI
8	Integrating genetics, precision agronomy and rhizosphere biology; a futuristic approach to reduce nitrogen use in agriculture	Nationally Determined Contributions (NDCS)	-	Submitted	Co-PI
9	Glyphosate remediation and alleviation of glyphosate phytotoxicity to mungbean by a mixed microbial culture	AvH Foundation, Germany	6.20 (20,000 €)	Submitted	Principal Investigator
10	Smog-Free and Breath-Easy Pakistan Initiative: Awareness among Stakeholders	AvH Foundation, Germany	8.75 (30,000 €)	Submitted	Principal Investigator

Completed as a Researcher and/or Post Graduate Student

- Brain Korea 21 Plus (BK21-plus), September 2014~August 2015
- Korea Ministry of Environment, In-situ sustainable green technology development for the remediation of mixed contaminants in military shooting ranges, 2011~2013
- Korea Ministry of Environment, Geo-Advanced Innovative Action (GAIA) Project of the Korea Environmental Industry and Technology Institute (Project No.173-111-036), 2011~2015
- Korea Ministry of Environment, RNA-based metagenomics technology for aids in selecting and optimizing bioremediation processes (Project No. 2012000550030), 2012~2015
- The National High Technology Research and Development Program of China (Grants No. 2009AA063104, 2012AA06A203), 2006~2009
- The National Natural Science Foundation of China project (Grant No. 40901153), 2006~2009
- The China Postdoctoral Science Foundation project (Grant No. 2011M500103), 2006~2009

SELECTED PUBLICATIONS

- **Khan M.I.*,** Yoo K., Schwab L., Kümmel S., Nijenhuis I. 2024 (**July**). Characterization of anaerobic biotransformation of hexachlorocyclohexanes by novel microbial consortia enriched from channel and river sediments. Journal of Hazardous Materials. 476: 135198. https://doi.org/10.1016/j.jhazmat.2024.135198 (**IF: 13.600**)
- **Khan M.I.***, Farooq Q., Ali M., Ali M.H., Naveed M. 2025 (**February**). Integrated effects of microbial culture and nitrogen application on phytoremediation, physiology and growth of maize in glyphosate-contaminated soil. International Journal of Phytoremediation. 27(4): 1-13. https://doi.org/10.1080/15226514.2025.2464625. (**IF: 3.70**)
- **Khan M.I.***, Afzal M.J., Bashir S., Anum S., Naveed M., Cheema S.A., Wakeel A., Sanaullah M., Ali M.H., Chen Z. 2021 (**February**). Improving nutrient uptake, growth, yield and protein content in chickpea by the co-addition of phosphorus fertilizers, organic manures and *Bacillus* sp. MN-54. Agronomy, 11: 436. https://doi.org/10.3390/agronomy11030436 (**IF: 3.700**)
- **Khan M.I.**, Yoo K., Kim S., Cheema S.A., Bashir S., Park J.H. 2020 (**June**). A *Sporolactobacillus*-, *Clostridium*-, and *Paenibacillus*-dominant microbial consortium improved anaerobic RDX detoxification by starch addition. Journal of Microbiology and Biotechnology, 30: 839-847. https://doi.org/10.4014/jmb.1910.10034 (**IF: 2.800**)
- **Khan M.I.**, Lee J., Yoo K., Kim S., Park J.H. 2015 (**September**). Improved TNT detoxification by starch addition in a nitrogen-fixing *Methylophilus*-dominant aerobic microbial consortium. Journal of Hazardous Materials, 300: 873-881. https://doi.org/10.1016/j.jhazmat.2015.08.032 (**IF: 13.600**)

- **Khan M.I.**, Yang J.H., Yoo B.U., Park J.H. 2015 (**April**). Improved RDX detoxification with starch addition using a novel nitrogen-fixing aerobic microbial consortium from soil contaminated with explosives. Journal of Hazardous Materials, 287: 243-251. https://doi.org/10.1016/j.jhazmat.2015.01.058 (**IF: 13.600**)
- **Khan M.I**., Lee J.J., Park J.H. 2013 (**September**). A toxicological review on potential microbial degradation intermediates of 2,4,6-trinitrotoluene, and its implications in bioremediation. KSCE Journal of Civil Engineering, 17: 1223-1231. https://doi.org/10.1007/s12205-013-0305-1 (**IF: 2.200**)
- **Khan M.I.**,Cheema S.A.,Tang X.J., Shen C.F., Park J.H., Chen Y.X. 2013 (**July**). A battery of bioassays for the evaluation of phenanthrene biotoxicity in soil. Archives of Environmental Contamination and Toxicology, 65: 47-55. https://doi.org/10.1007/s00244-013-9879-3 (**IF: 4.000**)
- **Khan M.I.**, Cheema S.A., Shen C.F., Tang X.J., Park J.H., Chen Y.X. 2012 (**November**). Biotoxicity assessment of pyrene in soil by using a battery of biological assays. Archives of Environmental Contamination and Toxicology, 63:503-512. https://doi.org/10.1007/s00244-012-9793-0 (**IF: 4.000**)
- **Khan M.I**., Lee J.J., Park J.H. 2012 (**September**). Microbial degradation and toxicity of hexahydro-1,3,5-trinitro-1,3,5-triazine: A Review. Journal of Microbiology and Biotechnology. 22: 1321-1333. https://doi.org/10.4014/jmb.1203.04002 (**IF: 2.800**)
- **Khan M.I.**, Cheema S.A., Zhang C.K., Shen C.F., Tang X.J., Chen Y.X. 2012 (**January**). Assessment of phenanthrene bioavailability in aged and unaged soils by mild extraction. Environmental Monitoring and Assessment, 184:549-559. https://doi.org/10.1007/s10661-011-1987-9 (**IF: 3.000**)
- **Khan M.I.**, Cheema S.A., Shen C.F., Zhang C.K., Tang X.J., Zaffar M., Chen X.C., Chen Y.X. 2011 (**January**). Assessment of pyrene bioavailability in soil by mild hydroxypropyl-β-cyclodextrin extraction. Archives of Environmental Contamination and Toxicology, 60:107-115. https://doi.org/10.1007/s00244-010-9517-2 (**IF: 4.000**)
- **Khan M.I.**, Cheema S.A., Shen C.F., Hassan I., Chen Y.X. 2014 (**June**). Phytotoxicity assessment of phenanthrene and pyrene in soil using two barley genotypes. Toxicological and Environmental Chemistry, 96: 94-105. https://doi.org/10.1080/02772248.2014.923425 (**IF: 1.800**)
- Cheema S.A., **Khan M.I.**, Tang X.J., Zhang C.K., Shen C.F., Chen X.C., Chen Y.X. 2010 (**May**). Degradation of phenanthrene and pyrene in spiked soils by single and combined plants cultivation. Journal of Hazardous Materials, 177: 384-389. https://doi.org/10.1016/j.jhazmat.2009.12.044 (**IF: 13.600)**
- Arshad M.J., **Khan M.I.*,** Ali M.H., Farooq Q., Hussain M.I., Seleiman M.F., Asghar M.A. 2024 (**May**). Enhanced wheat productivity in saline soil through the combined application of poultry manure and beneficial microbes. BMC Plant Biology. 24: 423. https://doi.org/10.1186/s12870-024-05137-x. (**IF: 5.300**)
- Ali M.H., **Khan M.I.**, Amjad F., Khan N., Seleimon M.F. 2024 (**October**). Improved chickpea growth, physiology, nutrient assimilation and rhizoremediation of hydrocarbons by bacterial consortia. BMC Plant Biology. 24:984. https://doi.org/10.1186/s12870-024-05709-x. (**IF: 5.30**)
- Ali M.H., **Khan M.I**.*, Naveed M., Tanvir M.A. 2024 (**February**). Microbe-assisted rhizodegradation of hydrocarbons and growth enhancement of wheat plants in hydrocarbons contaminated soil. International Journal of Environmental Science and Technology, 21: 3169-3184. https://doi.org/10.1007/s13762-023-05174-3. (**IF: 3.100**)
- Cheema S.A., **Khan M.I.**, Tang X.J., Shen C., Farooq M., Chen Y.X. 2016 (**June**). Surfactant enhanced pyrene degradation in the rhizosphere of Tall fescue (*Festuca arundinacea*). Environmental Science and Pollution Research, 23: 18129-18136. https://doi.org/10.1007/s11356-016-6987-4 (**IF: 5.800**)
- Ali M.H., Muzaffar A., **Khan M.I.***, Farooq Q., Tanvir M.A., Dawood M., Hussain M.I. 2024 (**January**). Microbes-assisted phytoremediation of lead and petroleum hydrocarbons contaminated water by water hyacinth. International Journal of Phytoremediation, 26(3): 405-415. https://doi.org/10.1080/15226514.2023.2245905. (**IF: 3.700**)

- Cheema S.A., **Khan M.I.**, Tang X.J., Zhang C.K., Shen C.F., Chen X.C., Chen Y.X. 2009 (**July**). Enhancement of phenanthrene and pyrene degradation in rhizosphere of Tall Fescue (*Festuca arundinacea*). Journal of Hazardous Materials, 166: 1226-1231. https://doi.org/10.1016/j.jhazmat.2008.12.027 (**IF: 13.600**)
- Farooq Q., **Khan M.I**.*, Ali M.H., Bashir S., Azam M., Qadri R., Ali B., Dawood M., Hussain M.I. 2023 (**November**). A bacterial consortium and L-tryptophan boosted glyphosate removal, mungbean growth and physiology in contaminated soil. Arabian Journal of Geosciences. 16: 653. 653. https://doi.org/10.1007/s12517-023-11777-4 **(IF: 1.827)**
- Nasir A., **Khan M.I**.*, Asif M., Nawaz M.F., Irfan A. 2023 (**October**). Farmyard manure enhances phytoremediation and mitigates Pb, Cd, and drought stress in ryegrass. Sustainability, 15: 15319. https://doi.org/10.3390/su152115319 (**IF: 3.900**)
- Ud Din M.M., **Khan M.I.***, Azam M., Ali M.H., Qadri R., Naveed M., Nasir A. 2023 (**August**). Effect of biochar and compost addition on mitigating salinity stress and improving fruit quality of tomato. Agronomy, 13: 2197. https://doi.org/10.3390/agronomy13092197 (**IF: 3.700**)
- Gondal A.H., **Khan M.I.***, Cheema S.A., Hussain M.I., Ali B., Nawaz M., Dawood M., Murtaza G. 2023 (**May**). The co-application of bioslurry and compost with inorganic zinc fertilizer improved soil quality, zinc uptake and growth of maize crop. Arabian Journal of Geosciences, 16: 393. https://doi.org/10.1007/s12517-023-11503-0 (**IF: 1.827**)
- Ali M.H., **Khan M.I**.*, Naveed M., Tanvir M.A. 2023 (**March**). Microbe-assisted rhizoremediation of hydrocarbons and growth promotion of chickpea plants in petroleum hydrocarbons contaminated soil. Sustainability, 15 (7): 6081. https://doi.org/10.3390/su15076081 (**IF: 3.900**)
- Wang D., Randhawa M.S., Azam M., Liu H.R., Ejaz S., Riadh I., Qadri R., **Khan M.I.**, Umer M.A., Khan M.A. 2022 (**December**). Exogenous melatonin treatment reduces postharvest senescence and maintains quality of papaya fruit during cold storage. Frontiers in Plant Science, 13: 1039373. https://doi.org/10.3389/fpls.2022.1039373 (**IF: 5.600**)
- Hussain M.I., Al-Dakheel A.J., Chaudhry U.K., **Khan M.I.**, ALHaithloul H.A.S., Alghanem S.M., Alaklabi A. 2022 (**October**). Morpho-physiological response of barley to assess genotypic differences of salinity tolerance under hyper arid climate. Agricultural Water Management, 272: 107832. https://doi.org/10.1016/j.agwat.2022.107832 (**IF: 6.700**)
- Naveed M., Fatima M., Naseem Z., Ahmad Z., Gaafar A.Z., Shabbir M., Farooq Q.A., Hodhod M.S., **Khan M.I.**, Shahid D., Mustafa A. 2024 (**September**). Improving the growth of pea plant by biochar–polyacrylamide association to cope with heavy metal stress under sewage water application in a greenhouse. Frontiers in Environmental Science. 12: 1380867. doi: 10.3389/fenvs.2024.1380867. (**IF: 3.300**)
- Khan Z.I., Hussain M.I., Zafar A., Ahmad K., Ashraf M.A., Ahmed M., ALrashidi A.A., ALHaithloul H.A.S., Alghanem S.M., **Khan M.I.**, Hamid Y., Hussain H. 2022 (**May**). Ecological risk assessment and bioaccumulation of trace element, copper, in wheat varieties irrigated with non-conventional water resources in a semi-arid tropics. Agricultural Water Management, 269: 107711. https://doi.org/10.1016/j.agwat.2022.107711 (**IF: 6.700**)
- Ishfaq M., Aslam S., **Khan M.I**., Wakeel A. 2022 (**March**). Higher remediation of petroleum hydrocarbons by *Enterobacter* sp. MN17 is coupled with improved wheat growth in contaminated soil. Plant & Environment. 01: PE01.
- Samreen T., Naveed M., Nazir M.Z., Asghar H.N., **Khan M.I.**, Zahir Z.A., Kanwal S., Jeevan B., Sharma D., Meena S.K. 2021 (**December**). Seed associated bacterial and fungal endophytes: Diversity, life cycle, transmission, and application potential. Applied Soil Ecology, 168: 104191. https://doi.org/10.1016/j.apsoil.2021.104191 (**IF: 4.800**)

- Ali M.H., **Khan M.I**.*, Bashir S., Azam M., Naveed M., Qadri R., Mehmood F., Shoukat M.A., Yunzhou Li., Jawaher A., Solyman M., Yheni D. 2021 (**September**). Biochar and *Bacillus* sp. MN54 assisted phytoremediation of diesel and plant growth promotion of maize in hydrocarbons contaminated soil. Agronomy, 11: 1795. https://doi.org/10.3390/agronomy11091795 (**IF: 3.700**)
- Latif R., Afzal M.A., **Khan M.I.***, Khan M.S., Bashir M.A., Hussain S., Ehsan M., Arsalan M. 2021 (**July**). Co-application of farmyard manure and gypsum improves yield and quality of peanut (*Arachis hypogaea*) under rainfed conditions. International Journal of Agriculture and Biology, 26: 224-230. DOI:10.17957/IJAB/15.1828 (**IF: 0.802**)
- Zou L., Lu Y., Dai Y., **Khan M.I.**, Gustave W., Nie J., Liao Y., Tang X., Shi J. Xu J. 2021 (**April**). Spatial variation in microbial community in response to As and Pb contamination in paddy soils near a Pb-Zn mining site. Frontiers in Environmental Science, 9: 630668. https://doi.org/10.3389/fenvs.2021.630668 (**IF: 4.600**)
- Ejaz M., Zhao B., Wang X., Bashir S., Haider F., Aslam Z., **Khan M.I.**, Shabaan M., Naveed M., Mustafa A. 2021 (**April**). Isolation and characterization of oil degrading *Enterobacter* sp. from naturally hydrocarbon contaminated soils and their potential against bioremediation of crude oil. Applied Sciences, 11(8): 3504. https://doi.org/10.3390/app11083504 (**IF: 2.700**)
- Malik Z., Afzal S., Dawood M., Abbasi G.H., **Khan M.I.**, Kamran M., Mostafa A.Z., Hayat M.T., Aslam M.N., Rafay M. 2021 (**April**). Exogenous melatonin mitigates chromium toxicity in maize seedlings by modulating antioxidant system, suppresses chromium uptake and oxidative stress. Environmental Geochemistry and Health, 44, 1451–1469. https://doi.org/10.1007/s10653-021-00908-z (**IF: 4.200**)
- Haider F.U., Ejaz M., Cheema S.A., **Khan M.I.**, Zhao B., Liqun C., Salim M.A., Naveed M., Khan N., Núñez-Delgado A., Mustafa A. 2021 (**June**). Phytotoxicity of petroleum hydrocarbons: Sources, impacts and remediation strategies. Environmental Research, 197: 111031. https://doi.org/10.1016/j.envres.2021.111031 (**IF: 8.300**)
- Azam M., Hameed L., Qadri R., Ejaz S., Aslam A., **Khan M.I.**, Shen J., Zhang J., Nafees M., Ahmad I., Ghani M.A., Chen J., Anjum N. 2021 (**July**). Postharvest ascorbic acid application maintained physiological and antioxidant responses of Guava (*Psidium guajava* L.) at ambient storage. Food Science and Technology, 41: 748-754. https://doi.org/10.1590/fst.19820 (**IF: 2.602**)
- Azam M., Qadri R., Aslam A., **Khan M.I.**, Khan A.S., Anwar R., Ghani M.A., Ejaz S., Hussain Z., Iqbal M.A., Chen J. 2021 (**March**). Effects of different combinations of N, P and K at different time interval on vegetative, reproductive, yield and quality traits of mango (*Mangifera indica* L) cv. Dusehri. Brazilian Journal of Biology, 82: e235612. https://doi.org/10.1590/1519-6984.235612 (**IF: 1.651**)
- Ali M.H., Sattar M.T., **Khan M.I.***, Naveed M., Rafique M., Alamri S., Siddiqui M.H. 2020 (**November**). Enhanced growth of mungbean and remediation of petroleum hydrocarbons by *Enterobacter* sp. MN17 and biochar addition in diesel contaminated soil. Applied Sciences, 10: 8548. https://doi.org/10.3390/app10238548 (**IF: 2.700**)
- Afzal M.J., **Khan M.I.***, Cheema S.A., Hussain S., Haq M.A., Ali M.H., Naveed M. 2020 (**August**). Combined application of *Bacillus* sp. MN-54 and phosphorus improved growth and reduced lead uptake by maize in the lead contaminated soil. Environmental Science and Pollution Research, 27: 44528-44539. https://doi.org/10.1007/s11356-020-10372-4 (**IF: 5.800**)
- Tang X., Li L., Wu C., **Khan M.I.**, Manzoor M., Zou L., Shi J. 2020 (**September**). The response of arsenic bioavailability and microbial community in paddy soil with the application of sulfur fertilizers. Environmental Pollution, 264: 114679. https://doi.org/10.1016/j.envpol.2020.114679 (**IF: 8.900**)
- Zhai W., Qin T., Li L., Guo T., Yin X., **Khan M.I.**, Hashmi M.Z., Liu X., Tang X., Xu J. 2020 (**May**). Abundance and diversity of microbial arsenic biotransformation genes in the sludge of full-scale anaerobic

digesters from municipal wastewater treatment plant. Environment International, 138: 105535. https://doi.org/10.1016/j.envint.2020.105535 (**IF: 11.800**)

- Malik Z., Abbasi G.H., Cheema S.A., Dawood M., Javed M.B., Rafey M., Mansha M.N., **Khan M.I.*** 2020 (**March**). Alleviation of toxic effects of untreated wastewater on selective vegetables using soil organic amendments. Tarim Bilimleri Dergisi- Journal of Agricultural Sciences, 26(1): 54-63. https://doi.org/10.15832/ankutbd.449876 (**IF: 0.900**)
- Nisar N., Mustafa F., Tahira A., Qadri R.W.K., Yang Y., **Khan M.I.** Wang F. 2020 (**March**). Proximate composition, functional properties and quantitative analysis of benzoyl peroxide and benzoic acid in wheat flour samples: effect on wheat flour quality. PeerJ, 8: e8788. https://doi.org/10.7717/peerj.8788 (**IF: 2.700**)
- **Khan M.I.***, Shoukat M.A., Cheema S.A., Arif H.N., Niazi N.K., Azam M., Bashir S., Ashraf I., Qadri R. 2020 (**January**). Use, contamination and exposure of pesticides in Pakistan: A review. Pakistan Journal of Agricultural Sciences, 57: 131-149. (IF: **0.800**)
- Aslam Z., Bashir S., Hassan W., Belliturk K., Ahmad N., Niazi N.K., Khan A., **Khan M.I.**, Chen Z., Maitah M. 2019 (**November**). Unveiling the efficiency of vermicompost derived from different biowastes on wheat (*Triticum aestivum* L.) plant growth and soil health. Agronomy, 9: 791. https://doi.org/10.3390/agronomy9120791 (IF: **3.700**)
- Yoo K., Il H., Ko K.S., Lee T.K., Yoo H., **Khan M.I.**, Tiedje J., Park J.H. 2019 (**March**). Bacillus-dominant airborne bacterial communities identified during Asian dust events. Microbial Ecology, 78:677-687. https://doi.org/10.1007/s00248-019-01348-0 (**IF: 3.600**)
- **Khan M.I.***, Shoukat M.A., Cheema S.A., Ali S., Azam M., Rizwan M., Qadri R. Al-Wabel M.I. 2019 (**January**). Foliar- and soil-applied salicylic acid and bagasse compost addition to soil reduced deleterious effects of salinity on wheat. Arabian Journal of Geosciences, 12:78. https://doi.org/10.1007/s12517-019-4227-1 (**IF: 1.827**)
- Malik Z., Zong Y., Lu S., Abbasi G.H., Ali S., **Khan M.I.**, Kamran M., Jamal M., Al-Wabel M.I., Rizwan M. 2018 (**August**). Effect of biochar and quicklime on growth of wheat and physico-chemical properties of Ultisols. Arabian Journal of Geosciences, 11:496. https://doi.org/10.1007/s12517-018-3863-1 (**IF: 1.827**)
- Il H., Yoo K., Kang B.R., No J.H., We G.N., **Khan M.I.,** Jeong T.Y., Lee T.K. 2018 (**February**). A comparison study of potential environmental risks induced in arable-land and forest soil by load of carcass-derived pollutants. Environmental Geochemistry and Health, 40: 451-460. doi: 10.1007/s10653-017-9932-7 (**IF: 4.200**)
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- **Khan M.I.**, Cheema S.A., Anum S., Niazi N.K., Malik Z., Azam M., Bashir S., Ashraf I., Qadri R. 2020 (**March**). Phytoremediation of Agricultural Pollutants: In, Shmaefsky B.R. (Eds.), *Phytoremediation. Concepts and Strategies in Plant Sciences* (1st Ed). pp. 27-81, Springer, Cham. Switzerland. (https://doi.org/10.1007/978-3-030-00099-8_2)
- Gondal A.H., **Khan M.I.**, Cotrina Cabello G.G., Aguilar V.S., Areche F.O. and Sumarriva-Bustinza L.A. 2024 (**March**). Synthesis of bionanoparticles and their significance in soil nutrition and plant development. In, Abd-Elsalam K.A. (Eds.), *Nanobiotechnology for Plant Protection, Nanofertilizer Synthesis Methods and Types*. pp. 93-108, Elsevier. https://doi.org/10.1016/B978-0-443-13535-4.00001-8
- Qadri R., Azam M., **Khan I.**, Yang Y., Ejaz S., Akram M.T., Khan M.A. 2020 (**February**) Conventional and Modern Technologies for the Management of Post-Harvest Diseases. In: Ul Haq I., Ijaz S. (Eds.) Plant Disease Management Strategies for Sustainable Agriculture through Traditional and Modern Approaches. Sustainability in Plant and Crop Protection, Vol. 13. pp. 137-172. Springer, Cham. (https://doi.org/10.1007/978-3-030-35955-3_7)
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- Bashir S., Aslam Z., Niazi N.K., **Khan M.I.**, Chen Z. 2021 (**March**) Impacts of water quality on human health in Pakistan. In: Watto M.A., Mitchell M., Bashir S. (Eds.), Water Resources of Pakistan. World Water Resources, vol 9. Springer, Cham. Switzerland. https://doi.org/10.1007/978-3-030-65679-9_12

CONFERENCE/ WORKSHOPS/ SYMPOSIA/ SEMINAR PRESENTATIONS

Oral Presentations/Invited Talks

- Participated as an invited speaker and with oral/poster presentations in more than 100 international and national scientific events.

Conference/Symposium/Workshop Organized

- Organized more than 20 scientific and social events

LANGUAGE TRAININGS, SHORT COURSES, AND WORKSHOPS (SELECTED)

- **Short Course**, Using Degradation Rate Constants, May 19~22, 2014, Battelle, Ninth International Conference on Remediation of Chlorinated and Recalcitrant Compounds, Monterey, California, **USA**; May 18, 2014 (1 day)
- **Korean Language**, Yonsei University, Seoul, **Republic of Korea;** September 2010 - August 2011 (1 year)
- **Chinese Language**, Zhejiang University, Hangzhou, **China;** September 2005 - August 2006 (1 year)
- **Training** on ASTM COMPASS Database, November 8, 2022, ASTM International, **Pakistan.** (Attended online)
- **Phytoremediation Training,** September 19, 2022. Remtech Europe-2022, Ferrara, **Italy.**
- **Short HIGRADE Course**, Modern Methods and Applications for Isotope Analysis of Light Elements, Helmholtz Centre for Environmental Research- UFZ, Leipzig, **Germany**; March 4 - 7, 2019 (4 days)
- **Training Workshop**, Dry Chain Technology for Reducing Post Harvest Losses of Seeds and Grains, U.S. Pakistan Center for Advanced Studies in Agriculture and Food Security, University of Agriculture, Faisalabad, **Pakistan**; November 23, 2016 (1 day)

PROFESSIONAL SKILLS

- High-performance liquid chromatography (HPLC), Ion chromatography, Gas chromatography, Spectrophotometer, Pollutants extractions and analysis, Comet assay (DNA damage) and Microtox, Persistent organic pollutants (PAHs, RDX, TNT, Glyphosate, Lindane, and other Pesticides), Pollutants microbial biodegradation, DNA extraction, PCR, Quantitative real-time PCR, DNA and gel purification, NGS (Titanium 454 pyrosequencing, Illumina MiSeq sequencing), Isotope analysis (C & Cl), Acetylene reduction assay.

MEMBERSHIP AND AFFILIATION

- Reviewer, Environmental Science & Technology, ACS publication
- Reviewer, Journal of Hazardous Materials, Elsevier publication
- Reviewer, Environmental Research, Elsevier publication
- Reviewer, Scientific Reports, Nature publication
- Reviewer, Soil Systems, MDPI publication
- Reviewer, Science of the Total Environment, Elsevier publication
- Reviewer, Environmental Science and Pollution Research, Springer publication
- Reviewer, Applied Soil Ecology, Elsevier publication
- Reviewer, Chemosphere, Elsevier publication

- Reviewer, Microorganisms, MDPI publication
- Reviewer, Ecotoxicology and Environmental Safety, Elsevier publication
- Reviewer, Biodegradation, Springer publication
- Reviewer, Environmental Technology & Innovation, Elsevier publication
- Reviewer, PLOS One, PLOS publication
- Reviewer, 3 Biotech, Springer publication
- Reviewer, KSCE Journal of Civil Engineering, Springer publication
- Reviewer, Polish Journal of Environmental Studies, JS publication
- Reviewer, International Journal of Environmental Analytical Chemistry, Taylor and Francis publication
- Reviewer, Saudi Journal of Biological Sciences, Elsevier publication
- Reviewer, Journal of Soil Science and Environmental Management (JSSEM), Academic Journals
- Reviewer, International Journal of Sustainable Energy and Environmental Research, Pak Publishing Group (http://www.pakinsight.com/?ic=editorial-board&journal=13)
- Reviewer, Water Environment Research, Water Environment Federation
- Reviewer, Groundwater for Sustainable Development, Elsevier publication
- Reviewer, Soil & Environment, Soil Science Society of Pakistan
- Reviewer, Defence Technology, Elsevier publication
- Reviewer, International Journal of Agriculture and Biology, FS publishers
- Lead Guest Editor, Sustainability, MDPI publication
- American Society for Microbiology (active)
- Soil Science Society of Pakistan (active)
- Pakistan Society of Agronomy (active)
- Pakistan Agricultural Scientist (PAS) Forum
- International Society for Microbial Ecology
- Soil Science Society of America (Ex-member)
- Korean Society of Soil and Groundwater Environment
- Korean Society of Environmental Engineers
- Korean Society of Civil Engineers

REFERENCES

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