

CURRICULUM VITAE

Azhar Rashid Ph.D.

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EDUCATION

Qualification	Year	Div./Grade	Board/University	Major Subject
Ph.D.	2011	Research	Quaid-i-Azam University, Islamabad	Biology (Ecotoxicology)
M.Sc. (Hons.) Agri.	1999	1st / A	University of Arid Agriculture, Rawalpindi	Plant Pathology
B.Sc. (Hons.) Agri	1996	1st / B	University of Arid Agriculture, Rawalpindi	Plant Pathology

PROFESSIONAL EXPERIENCE

Designation	Period	Employer	Place of posting
Professor	6 th Oct. to todate	The University of Haripur, Pakistan	
Principal Scientist	10 th Jan 2019 to 5 th Oct, 2020	PAEC	NIFA, Peshawar, Pakistan
Associate Professor	11 th Apr. 2017 to 9 th Jan. 2019	PIFI-CAS	IUE, Xiamen, China
Principal Scientist	1 st Dec. 2012 to 10 th Apr. 2017	PAEC	NIFA, Peshawar, Pakistan
Senior Scientist	12 th July, 2010 to 30 th Nov. 2012	PAEC	NIFA, Peshawar, Pakistan
Senior Scientist	1 st Dec. 2003 to 2 nd July, 2010	PAEC	NIA, Tandojam, Pakistan
Scientific Officer	28 th Feb. 2001 to 30 th Nov. 2003	PAEC	NIA, Tandojam, Pakistan
Research Fellow	Jan. 2000 to Feb. 2001	PARC	NARC, Islamabad, Pakistan

TRAININGS/WORKSHOPS

National

- Office Procedures and Practices under Step Down Training Programme, from 1st to 31st August 2000, at Secretariat Training Institute, Establishment Division, Government of Pakistan, Islamabad.
- 17th Training Course in Nuclear and other Advanced Techniques in Food and Agriculture Research, from 18th to 29th September, 2000 at Nuclear Institute for Food and Agriculture, Tarnab, Peshawar, Pakistan.
- Five days workshop on LCMS, GCMS and AAS the Powerful Analytical Techniques, from 25th – 29th April, 2011 at National Institute for Biotechnology and Genetic Engineering, Faisalabad, Pakistan.
- Workshop on Project Formulation at KPK University Peshawar from 8-9 February, 2012 by Pakistan Science Foundation, Islamabad, Pakistan.
- Two-day Workshop on “Commercial Exploitation of Food Irradiation Technology in Pakistan-Potentials, Opportunities and Challenges” from 2-3 October, 2013 at Pakistan Council for Scientific and Industrial Research (PCSIR), Lahore, Pakistan.
- Two-day training course on Quality Policy Implementation Programme (Phase-2) from 9-10 June, 2014 organised by Directorate of Quality Assurance at Nuclear Institute for Food and Agriculture, Peshawar, Pakistan.
- Two-day training course on Quality Policy Implementation Programme (Phase-3) from 12-13 October, 2015 organised by Directorate of Quality Assurance at Nuclear Institute for Food and Agriculture, Peshawar, Pakistan.
- IBA Faculty Development Workshop Islamabad 2020, December 21 – 22, 2020 organized by Institute of Business Administration (IBA), Karachi at Serena Hotel, Islamabad.
- Teamwork: Getting People to Work Together, August 09-11, 2021 organized by Pakistan Institute of Management, Islamabad.

International

- Six month training/research fellowship under “International Research Support Initiative Programme”, HEC, Pakistan from 29th March - 25th September, 2008 at The Food and Environment Research Agency (FERA), Sand Hutton, York, United Kingdom.
- IAEA/RCA Train the Trainer Course for Trainers “For Quarantine Inspectors”, from 19-23 September, 2011 at Malaysian Nuclear Agency, Ministry of Science Technology and Innovation, Kajang, Selangor, Malaysia.
- IAEA/RCA Scientific Visit on Commercial Applications of Irradiation Technology for Food Safety, Security and Global Trade from 20-24 February 2012 at Thailand Institute of Nuclear Technology (TINT), Bangkok, Thailand.

TEACHING EXPERIENCES

- 1. Hunan Agricultural University, Hunan. P.R. China (Online teaching)**
 - i. Environmental Impact Assessment (EIA)
 - ii. Environmental Protection and Sustainable Development
- 2. University of Haripur, Haripur, Pakistan (Physical & Online teaching)**
 - i. Environmental Impact Assessment (EIA) (Graduate level)
 - ii. Environmental Protection and Sustainable Development (Graduate level)
 - iii. Research Techniques and Instrumentation (Graduate level)
 - iv. Environmental Toxicology ((Graduate & undergraduate levels)

RESEARCH EXPERIENCES

University of Haripur (October 2020 – todate)

- Professor and Chairman Department of Environmental Sciences

Nuclear Institute for Food and Agriculture (NIFA), Peshawar (2019 – 2020)

- Method development for the determination of organic contaminants in the food and environmental matrices.
- Monitoring and management of pesticide residues in fruit and vegetables.
- Quality evaluation of semi-processed and processed foods.

Institute of Urban Environment, Chinese Academy of Sciences (2017 – 2019)

- Development and validation of methods for analysis of Contaminants of Emerging Concerns (CECs) including Pharmaceuticals and Personal Care Products (PPCPs) sediment and sludge matrices matrices by liquid chromatography with tandem quadrupole mass spectrometry (LC-MS/MS).
- Monitoring of PPCPs and antibiotics in solid and liquid matrices from rivers, waste water treatment plants and other water bodies.
- Fate and dissipation of antibiotics under natural environmental conditions and elucidation of degradation pathways by employing structural equation modeling (SEM) technique employing partial least square multiple linear regression.
- Elucidation of transformation product of sulfamethoxazole by Q-ToF and their toxicity evaluation by using by ECOSAR packet of EPI-SUITE.
- Application of source apportionment models CMB 8.2, PMF 6.0 and UNMIX 5.0 to apportion sources of CECs in riverine and wastewater ecosystems.

- Microbial ecology and diversity under different aquatic environments and role of physic-chemical influences in shaping the microbial community composition by using 16S rRNA amplicon sequencing.
- Role of microalgae in the biodegradation of antibiotics *In Vitro* and lab. scale bio-reactors.

Nuclear Institute for Food and Agriculture (NIFA), Peshawar (2010 – 2017)

- Development and validation of methods for analysis of new and abundantly used pesticide residues in food matrices by gas chromatography with electron capture detector (GC-ECD) and flame ionization detector (GC-FID).
- Monitoring of pesticide residues in locally consumed and exportable fruit and vegetables.
- To exploit and develop post-harvest fruit and vegetable processing technologies to minimize the residue carryover.
- Bioremediation of pesticide contaminants in food and environmental matrices.

Quaid-i-Azam University Islamabad (2004 – 2010)

- Environmental analysis for pesticide residues and other contaminants.
 1. To investigate the occurrence of organochlorine pesticide residues in the soils under long term cotton cultivation.
 2. Studies on OCs residue variation in relation to soil physico-chemical and biological properties.
 3. Method development and validation for organic residue extraction and cleanup from soil, water, plant and animal matrices.
 4. Development of multiclass, multiresidue analytical methods by gas chromatography equipped with tandem quadruple mass spectrometry (GC-MS/MS), mass selective detector (GC-MSD) and ion trap detector (GC-ITD), electron capture detection (GC-ECD) in food and environmental matrices.
- Ecotoxicology and Risk Assessment
 1. Monitoring, bioaccumulation potential, and human risk assessment of organochlorine pesticides (OCPs) and polychlorinated biphenyls (PCBs) in edible freshwater fish from riverian ecosystem in River Chenab, Pakistan.
 2. Ecotoxicological risk assessment of agricultural and industrial contaminants in riverian ecosystem.
 3. Elucidation of organic pollutants of agricultural and industrial origin in rice agro-ecosystem through the use of the cattle egret (*Bubulcus ibis*) as bio-indicator.
 4. Risk assessment of pesticides by monitoring pesticide in blood serum and milk from lactating mothers.

5. Physiological implications of pesticide exposure through serum cholinesterase activity.

Nuclear Institute for Agriculture (NIA), Tandojam (2001 – 2004)

- Transfer of disease resistance in bread wheat (*Triticum aestivum* L.) with the following objectives:
 1. Identification of potential sources of resistance and their assessment over site, season and pathotypes.
 2. Incorporation of resistance genes into cultivars.
 3. Testing and evaluation of selected resistant lines/strains in yield trials.

National Agricultural Research Centre, PARC, Islamabad (2000 – 2001)

- Biological studies on Oyster mushroom (*Pleurotus spp.*) under different physical, nutritional and environmental conditions to investigate the best-suited conditions for commercial cultivation.
- Evaluation of Neem (*Azadirachta indica* A. Juss) as potential fungicide for the management of *Phytophthora infestans* (Mont.) de Bary (the causal organism of late blight of potato).
- Studies on the “Bacterial wilt of Solanaceous Crops”. The studies included:
 1. Screening of exotic germplasm of chilies, eggplant and tomato in green house and the sick fields of Punjab and NWFP.
 2. Biochemical studies for biotype analysis of *Ralstonia solanacearum* isolates collected from different bacterial wilt prone areas of Pakistan.
 3. Biological control studies on *Ralstonia solanacearum* using neem (*Azadirachta indica* A. Juss) products viz. neem seed oil and neem seed cake.

RESEARCH GRANT

- Research project “Development and Validation of Technologies for Pesticide Residue Management in Fruit and Vegetable Produce” worth **Rs. 2.84M** approved by Pakistan Science Foundation (2012 - 2016).

HONOURS/AWARDS

- “Best Poster (1st) Presentation Award”, by Pakistan Phytopathological Society at National Conference on Plant Pathology, NARC, Islamabad. 1-3 Oct. 2001.
- Ph.D. Scholarship under “Indigenous PhD Fellowship scheme” by Higher Education Commission, Pakistan.
- Six month fellowship at The Food and Environment Research Agency, Sand Hutton, York, United Kingdom from 29-03-2008 to 25-09-2008 under “International Research Support Initiative Programme”, of Higher Education Commission, Pakistan.

- “Gold Medal Award” by Pakistan Atomic Energy Commission in recognition to the contributions in food and agricultural research on 28th May 2014.

COMPUTER SKILLS

Proficiency and Hands-on experience in MS Office, SPSS, Statistica, PC-ORD, MVSP, CombiTool, WarpPLS, Power BI, Tableau, CMB 8.2, PMF 6.0 and UNMIX 5.0, Geoda, SAM v4.0, CompuSyn etc.

CONFERENCE PROCEEDINGS

Khanzada, S.D., **A. Rashid**, Naseer-ud-Din, A.R. Rattu, A. Raza. 2012. Effectiveness of yellow rust resistance genes in Pakistani wheats. In: Yahyaou A, Rajaram S, editors. Meet Chall Yellow Rust Cereal Crop Proc 2nd, 3rd 4th Reg Conf Yellow Rust Cent West Asia North Africa Reg.: International Center for Agricultural Research in the Dry Areas (ICARDA); p. 102–112. Available from: <https://www.ars.usda.gov/ARSDUserFiles/50620500/Publications/ICARDAYellowRustProceedings2004-2006-2010.pdf>

Azhar Rashid, S.A. Anwar and S.M. Iqbal. 1996. Physiological studies of Oyster Mushroom (*Pleurotus spp.*). Proceedings of Crop Protection Conference, NWFP, Agricultural University, Peshawar. 20-22 April, 1996.

Karim, A., **Azhar Rashid**, R. Zada and K. Burney. 2000. Occurrence of Bacterial Wilt latent infection in seed tubers in seed stores of potato Agro-zone 3 and 4 of NWFP. Proceedings of 7th National Conference of Plant Scientists. Department of Botany, university of the Punjab, Lahore. November 14-16, 2000.

Khanzada, S.D., I. H. Korejo and **Azhar Rashid**. 2001. Development of future food missiles endowed with resistance to major diseases and tolerance to drought. Proceedings of 3rd national Conference of Plant Pathology. National Agricultural Research Centre, Islamabad, Pakistan. October 1-3, 2001.

Khanzada, S.D., I.H. Korejo and **Azhar Rashid**. 2001. Stem rust: A new future challenge for sustainable wheat production. Proceedings of 3rd national Conference of Plant Pathology. National Agricultural Research Centre, Islamabad, Pakistan. October, 1-3, 2001.

Azhar Rashid and I. Ahmad. 2001. *In Plantae* evaluation of Neem (*Azadirachta indica* A. Juss.) products against late blight of potato. Proceedings of 3rd National Conference of Plant Pathology. National Agricultural Research Centre, Islamabad, Pakistan. October, 1-3, 2001.

RESEARCH PUBLICATIONS

S.No.	Research Article	Impact factor
1.	Peter, P.O., Rashid, A. , Nkinahamira, F., Wang, H., Sun, Q., Gad, M., Yu, C., Hu, A., 2021. Integrated assessment of major and trace elements in surface and core sediments from an urban lagoon, China: Potential ecological risks and influencing factors. Mar. Pollut. Bull. 170, 112651. https://doi.org/10.1016/j.marpolbul.2021.112651	5.553
2.	Zaffar, H., Fareed, A., Riaz, S., Ali, M., Ahmed, R., Rashid, A. , Kamran-ui-Hassan Naqvi, S., Alam Naqvi, T., 2021. Kinetic Modeling of Endosulfan Degradation by Mixed Bacterial Culture. Soil Sediment Contam. 00, 1–14. https://doi.org/10.1080/15320383.2021.1897082	1.350
3.	Mazhar, S.H., Li, X., Rashid, A. , Su, J., Xu, J., Brejnrod, A.D., Su, J.-Q., Wu, Y., Zhu, Y.-G., Zhou, S.G., Feng, R., Rensing, C., 2021. Co-selection of antibiotic resistance genes, and mobile genetic elements in the presence of heavy metals in poultry farm environments. Sci. Total Environ. 755, 142702. https://doi.org/10.1016/j.scitotenv.2020.142702	6.551
4.	Wang, H., Hou, L., Liu, Y., Liu, K., Zhang, L., Huang, F., Wang, L., Rashid, A. , Hu, A., Yu, C., 2021. Horizontal and vertical gene transfer drive sediment antibiotic resistome in an urban lagoon system. J. Environ. Sci. 102, 11–23. https://doi.org/10.1016/j.jes.2020.09.004	4.302
5.	Gad, M., Hou, L., Li, J., Wu, Y., Rashid, A. , Chen, N., Hu, A., 2020. Distinct mechanisms underlying the assembly of microeukaryotic generalists and specialists in an anthropogenically impacted river. Sci. Total Environ. 748. https://doi.org/10.1016/j.scitotenv.2020.141434	6.551
6.	Hu, A., Wang, H., Li, J., Mulla, S.I., Qiu, Q., Tang, L., Rashid, A. , Wu, Y., Sun, Q., Yu, C., 2020. Homogeneous selection drives antibiotic resistome in two adjacent sub-watersheds, China. J. Hazard. Mater. 398, 122820.	9.038
7.	Peter, P.O., Rashid, A. , Hou, L., Nkinahamira, F., Kiki, C., Sun, Q., Yu, C., Hu, A., 2020. Elemental Contaminants in Surface Sediments from Jiulong River Estuary, China: Pollution Level and Ecotoxicological Risk Assessment. Water 12, 1640. https://doi.org/10.3390/w1206164	2.544
8.	Rashid, A. , Mazhar, S.H., Zeng, Q., Kiki, C., Yu, C., Sun, Q. 2020. Simultaneous analysis of multiclass antibiotic residues in complex environmental matrices by liquid chromatography with tandem quadrupole mass spectrometry, J. Chromatogr. B. 1145. 122103. doi:10.1016/j.jchromb.2020.122103 .	3.004
9.	Adyari, B., Shen, D., Li, S., Zhang, L., Rashid, A. , Sun, Q., Hu, A., Chen, N., Yu, C.-P., 2020. Strong impact of micropollutants on prokaryotic communities at the horizontal but not vertical scales in a	6.551

- subtropical reservoir, China. *Sci. Total Environ.* 721, 137767. <https://doi.org/10.1016/j.scitotenv.2020.137767>.
10. Kiki, C., **Rashid, A.**, Wang, Y., Li, Y., Zeng, Q., Yu, C., Sun, Q., 2020. Dissipation of antibiotics by microalgae: Kinetics, identification of transformation products and pathways. *J. Hazard. Mater.* 387, 121985. <https://doi.org/10.1016/j.jhazmat.2019.121985> 9.038
 11. Wang, H., Yang, X., Chen, Q., Su, J.-Q., Mulla, S.I., **Rashid, A.**, Hu, A., Yu, C.-P., 2020. Response of prokaryotic communities to extreme precipitation events in an urban coastal lagoon: A case study of Yundang lagoon, China. *Sci. Total Environ.* 706, 135937. <https://doi.org/10.1016/j.scitotenv.2019.135937> 6.551
 12. Li, Y., Zhang, H., **Rashid, A.**, Hu, A., Xin, K., Li, H., Adyari, B., Wang, Y., Yu, C.-P., Sun, Q., 2020. Bisphenol A attenuation in natural microcosm: Contribution of ecological components and identification of transformation pathways through stable isotope tracing. *J. Hazard. Mater.* 385, 121584. <https://doi.org/10.1016/j.jhazmat.2019.121584> 9.038
 13. Hu, A., Wang, H., Cao, M., **Rashid, A.**, Li, M., Yu, C.-P., 2019. Environmental Filtering Drives the Assembly of Habitat Generalists and Specialists in the Coastal Sand Microbial Communities of Southern China. *c* 7, 598. <https://doi.org/10.3390/microorganisms7120598> 4.152
 14. Fareed, A., Riaz, S., Nawaz, I., Iqbal, M., Ahmed, R., Hussain, J., Hussain, A., **Rashid, A.**, Naqvi, T.A., 2019. Immobilized cells of a novel bacterium increased the degradation of N-methylated carbamates under low temperature conditions. *Heliyon* 5, e02740. <https://doi.org/10.1016/j.heliyon.2019.e02740> 1.65
 15. Hou, L., S.I. Mulla, J.P. Niño-Garcia, D. Ning, A. **Rashid, A.** Hu, C.-P. Yu. 2019. Deterministic and stochastic processes driving the shift in the prokaryotic community composition in wastewater treatment plants of a coastal Chinese city, *Appl. Microbiol. Biotechnol.* doi:10.1007/s00253-019-10177-7. 3.53
 16. **Rashid, A.**, Y. Wang, Y. Li, C. Yu, Q. Sun. 2019 Simultaneous Analysis of Multiclass Contaminants of Emerging Concern in Sediments by Liquid Chromatography with Tandem Quadrupole Mass Spectrometry, *Environ. Toxicol. Chem.* doi:10.1002/etc.4450. 3.152
 17. Hou, L., A. Hu, S. Chen, K. Zhang, S. Orlić, **A. Rashid**, C.P. Yu. 2019. Deciphering the Assembly Processes of the Key Ecological Assemblages of Microbial Communities in Thirteen Full-Scale Wastewater Treatment Plants, *Microbes Environ.* 00. doi:10.1264/jsme2.ME18107 2.575
 18. Ashfaq, M., Sun, Q., Ma, C., **Rashid, A.** Li, Y., Mulla, S.I. Occurrence, seasonal variation and risk evaluation of selected endocrine disrupting compounds and their transformation products in Jiulong river and estuary , China, *Mar. Pollut. Bull.* 145 (2019) 370–376. doi:10.1016/j.marpolbul.2019.05.016. 4.049

19. Suanon, F., Q. Chi, X. Yang, H. Wang, **A. Rashid**, B. Asefi, D. Mama, C.P. Yu, Q. Sun. 2018. Diagnosis and ecotoxicological risk assessment of 49 elements in sludge from wastewater treatment plants of Chongqing and Xiamen cities, China, *Environ. Sci. Pollut. Res.* doi:10.1007/s11356-018-2888-z. 3.056
20. Hu, A., S. Li, L. Zhang, H. Wang, J. Yang, Z. Luo, **A. Rashid**, S. Chen, W. Huang, C.-P. Yu. 2018. Prokaryotic footprints in urban water ecosystems: A case study of urban landscape ponds in a coastal city, China, *Environ. Pollut.* 1–11. doi:10.1016/j.envpol.2018.07.097. 6.792
21. Wang, Y., Y. Li, A. Hu, **A. Rashid**, M. Ashfaq, Y. Wang, H. Wang, H. Luo, C.P. Yu, Q. Sun. 2018. Monitoring, mass balance and fate of pharmaceuticals and personal care products in seven wastewater treatment plants in Xiamen City, China, *J. Hazard. Mater.* 354: 81–90. doi:10.1016/j.jhazmat.2018.04.064. 9.038
22. Li, Y., **A. Rashid**, H. Wang, A. Hu, L. Lin, C.-P. Yu, M. Chen, Q. Sun. 2018. Contribution of biotic and abiotic factors in the natural attenuation of sulfamethoxazole: A path analysis approach, *Sci. Total Environ.* 633:1217–1226. doi:10.1016/j.scitotenv.2018.03.232. 6.551
23. Ashfaq, M., Y. Li, Y. Wang, D. Qin, M.S.U. Rehman, **A. Rashid**, C.-P. Yu, Q. Sun. 2018. Monitoring and mass balance analysis of endocrine disrupting compounds and their transformation products in an anaerobic-anoxic-oxic wastewater treatment system in Xiamen, China, *Chemosphere.* 204: 170–177. doi:https://doi.org/10.1016/j.chemosphere.2018.04.028. 5.778
24. Fareed A., H. Zaffar, **A. Rashid**, M.M. Shah, T.A. Naqvi. 2017. Biodegradation of N-methylated carbamates by free and immobilized cells of newly isolated strain *Enterobacter cloacae* strain TA7. *Bioremediation Journal*, 1-9. DOI: https://doi.org/10.1080/10889868.2017.1404964. 1.724
25. Ihsanullah I., **A. Rashid**. 2016. Current Activities in Food Irradiation as a Sanitary and Phytosanitary Treatment in the Asia and the Pacific Region and a Comparison with Advanced Countries, *Food Control*, doi: 10.1016/j.foodcont.2016.03.011. 4.258
26. Sarwar, M., N. Ahmad, **A. Rashid**, S.M.M. Shah. 2015. Valuation of gamma irradiation for proficient production of parasitoids (Hymenoptera: Chalcididae & Eucilidae) in the management of the peach fruit-fly, *Bactrocera zonata* (Saunders). *International Journal of Pest Management*, 1-9. DOI:10.1080/09670874.2015.1018854. 1.091
27. Sadiq, S., H.M. Inam, I. Ahmad, K. Ahad, **A. Rashid**, N. Rafiq. 2015. Bioremediation Potential of White Rot Fungi, *Pleurotus* Spp against Organochlorines. *J Bioremed Biodeg* 6:308. doi:10.4172/2155-6199.1000308.
28. Khan, M, Mohammad A, Ahad K, Katsoyiannis A, Malik S, Abdullaha M, **Rashid A**, Fasola M, Hussain A, Bokhari H, Eqani S. 2014. Cattle egrets as a biosentinels of persistent organic pollutants 3.472

- exposure. *Environmental Geochemistry and Health*:1-10. doi:10.1007/s10653-013-9556-5.
29. Eqani, S.A.M.A.S, R.N. Malik, A. Cincinelli, G. Zhang, A. Mohammad, A. Qadir, **A. Rashid**, H. Bokhari, K.C. Jones and A. Katsoyiannis. 2013. Uptake of organochlorine pesticides (OCPs) and polychlorinated biphenyls (PCBs) by river water fish: the case of River Chenab. *Science of the Total Environment* 450-451: 83–91. 6.551
 30. **Rashid, A.**, S. Nawaz, H. Barker, I. Ahmad and M. Ashraf. 2010. Development of a simple extraction and clean-up procedure for determination of organochlorine pesticides in soil using gas chromatography–tandem mass spectrometry. *J. Chromatogr. A*, 1217: 2933–2939. 4.049
 31. **Rashid A.**, I. Ahmad, S. Iram, J.I. Mirza and C.A. Rauf. 2004. Efficacy of different Neem (*Azadirachta indica* A. Juss) products against Various Life Stages of *Phytophthora infestans* (Mont.) de Bary. *Pak.J.Bot.* 36(4): 881-886. 0.73
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