Dr. Qaiser Javed

Researcher
Faculty of Humanities and Natural Sciences, Department of Ecology,
Prešov University in Prešov.

EXPERTISE

Ecosystems, Agriculture, Plant Ecology, Invasive species, Environmental Pollution and stressors, Plants functional traits, Soil Enzyme activities, Plant-soil interaction.

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EXPERIENCE

2023 > current
University of Presov

Researcher

Currently, I am working on evaluation of the biological activity and ecotoxicity of the various plant extracts and essential oils from the representatives of the invasive neophyte genus spp. using various laboratory methods and model organisms.

2021 > 2023
Jiangsu University

Associate Professor

I did work on biological invasion in fragile ecosystems and interested to predict the future expansion of invasive species in different ecosystems, i.e., farmlands, terrestrial ecosystems, wetlands, and freshwater ecosystem.

Course taught: Advanced Environmental Biology

2018 > 2020
Jiangsu University

Postdoctoral Researcher

I have researched during my post-doctorate on the growth behavior of different invasive species under different habitats by comparing the production of biomass, plasticity index, and relative competitive interaction.

2018 > 2018
University of Agriculture Faisalabad

Assistant Professor

I have did research related to water saving irrigation and taught Courses:
1) Fluid mechanics; 2) Fluid flow system

EDUCATION

University of Agriculture Faisalabad
2006 > 2010

Bachelor in Agricultural Engineering

Areas of Concentration: Irrigation and Drainage, Farm Machinery and Power, structures and Environmental, Agriculture

University of Agriculture Faisalabad

2010 > 2012

Master in Agricultural Engineering

Areas of Concentration: Irrigation and drainage

Dissertation title: "Performance Evaluation of Drip Irrigation System for Orchard".

Jiangsu University

2013 > 2017

Ph.D. in Agricultural Water & Soil Engineering

Areas of Concentration: Irrigation, abiotic stresses, crops

Dissertation title: "Dilution Strategy for Saline Irrigation based on Physiological Characteristics of Rapeseed (*Brassica napus*) and Chinese violet cress (*Orychophragmus violaceus*) in Salt-Stress and Subsequent Re-Watering Conditions".

Jiangsu University

2018 > 2020

Post-doctorate

Research Areas: Abiotic stresses, biological invasion, invasive species, functional traits of plants, environemental variations, ecosystems etc.

PUBLICATIONS

Plant Ecology, invasion and environment

1. **Qaiser Javed**, Jianfan Sun, Susan Rutherford, Juan Li, Babar Iqbal, Yan Xiang, Guangqian Ren, Feng He, Linxuan Pan, Yanwen Bo, Wajid Ali Khattak, Daolin Du. 2023. Soil pollution and the invasion of congener *Sphagneticola* in crop lands. *Journal of Environmental Management***.** *15;340:118013.*
2. B. Iqbal, X. Zhao, K.Y. Khan, **Q. Javed**, et al., 2023. Microplastics meetinvasive plants: Unraveling the ecological hazards to agroecosystems. *Science of the Total Environment.* https://doi.org/10.1016/j.scitotenv.2023.167756**.**
3. Nawaz, Mohsin, Jianfan Sun, Samina Shabbir, Wajid Ali Khattak, Guangqian Ren, Xiaojun Nie, Yanwen Bo, **Qaiser Javed**, Daolin Du, and Christian Sonne. 2023. A review of plants strategies to resist biotic and abiotic environmental stressors." *Science of the Total Environment: 165832.*
4. Sun, J., Khattak, W.A., Abbas, A., Nawaz, M., Hameed, R., **Javed, Q**., Bo, Y., Khan, K.A. and Du, D., 2023. Ecological adaptability of invasive weeds under environmental pollutants: a review. *Environmental and Experimental Botany, p.105492.*
5. Babar Iqbal, Guanlin Li, Khulood Fahad Alabbosh, Hamad Hussain, Ismail Khan, Muhammad Tariq, **Qaiser Javed**, Muhammad Naeem, Naveed Ahmad, Advancing environmental sustainability through microbial reprogramming in growth improvement, stress alleviation, and phytoremediation. 2023. *Plant Stress*, Volume 10, 100283, https://doi.org/10.1016/j.stress.2023.100283.

6. Xiang Y, **Javed Q**, Wu Y, et al. 2023. *Root Exudates of Wedelia trilobata Suppress Soil-Borne Pathogenic Fungi and Increase Its Invasion. Polish Journal of Environmental Studies. 32(5). doi:10.15244/pjoes/168421.*
7. Iqbal, Babar, **Qaiser Javed**, Ismail Khan, Muhammad Tariq, Naveed Ahmad, Hosam O. Elansary, Arshad Jalal, Guanlin Li, and Daolin Du. 2023. Influence of soil microplastic contamination and cadmium toxicity on the growth, physiology, and root growth traits of Triticum aestivum L. *South African Journal of Botany 160: 369-375*
8. Rakhwe Kama, **Qaiser Javed**, Yanwen Bo, Muhammad A. Imran, Faten Zubair Filimban, Zhongyang Li, Xuhua Nong, Sekouna Diatta, Guangqian Ren, Sayed M Eldin, Rashid Iqbal, Iftikhar Ali, Javed Iqbal, and Jianfan Sun. 2023. Identity and Diversity of Invasive Plant Affecting the Growth of Native Lactuca indica. *ACS Omega*. https://doi.org/10.1021/acsomega.3c01139.
9. Pan, L., He, F., Liang, Q., Bo, Y., Lin, X., Javed, Q., Ullah, M.S. and Sun, J., 2023. Allelopathic Effects of Caffeic Acid and Its Derivatives on Seed Germination and Growth Competitiveness of Native Plants (*Lantana indica*) and Invasive Plants (*Solidago canadensis*). *Agriculture*, *13*(9), p.1719.
10. Li, G., Zhao, X., Iqbal, B., Zhao, X., Liu, J., **Javed, Q**. and Du, D., 2023. The effect of soil microplastics on Oryza sativa L. root growth traits under alien plant invasion. *Frontiers in Ecology and Evolution*, *11*, p. 1172093.
11. Yu-Han He, Susan Rutherford, **Qaiser Javed**, Justin S.H. Wan, Guang-Qian Ren, Wen-Jie Hu, Yan Xiang, Yi-ran Zhang, Jian-Fan Sun, Dao-Lin Dua. 2022. Mixed litter and incubation sites drive non-additive responses in seed germination and seedling growth of lettuce. *Biochemical Systematics and Ecology 105, p.104479*.
12. Kama, R., **Javed, Q**., Liu, Y., Li, Z., Iqbal, B., Diatta, S. and Sun, J., 2022. Effect of Soil Type on Native Pterocypsela laciniata Performance under Single Invasion and Co-Invasion. *Life*, *12*(11), p.1898.
13. Guangqian Ren, Bin Yang, Miaomiao Cui, Zhicong Dai, Yan Xiang, Haiyan Zhang, Guanlin Li, Jian Li, **Qaiser Javed** & Daolin Du. 2022. Warming and elevated nitrogen deposition accelerate the invasion process of *Solidago canadensis* L. *Ecological Processes* 11(1):62.
14. Jianfan Sun, **Qaiser Javed***, Yizhou Du, Ahmad Azeem, Adeel Abbas, Babar Iqbal, Yuhan He, Yan Xiang, Daolin Du. 2022. Invasive Alternanthera philoxeroides has performance advantages over natives under flooding with high amount of nitrogen. *Aquatic Ecology* 56(3):891-903.
15. Jianfan Sun, Yuhan He, Na Wu, **Qaiser Javed***, Yan Xiang, Daolin Du. 2022. Nitrogen deposition elevated the allelopathic effects of three Compositae invasive species on indigenous *Lactuca sativa*. *Polish Journal of Environmental Studies*. *31*(4).
16. Jianfan Sun, Qiuju Liang, Na Wu, **Qaiser Javed***, Ping Huang, Daolin Du. (2021). Allelopathic effects of aqueous extracts from different plant parts of *Solidago canadensis* L. on seed germination and seedling growth of *Zoysia japonica* Steud. *Applied Ecology and Environmental Research. 20(2).*
17. Azeem, A., Sun, J., **Javed, Q**., Jabran, K., Saifullah, M., Huang, Y. and Du, D., 2021. Water deficiency with nitrogen enrichment makes Wedelia trilobata to become weak competitor under competition. *International Journal of Environmental Science and Technology*, pp.1-8.
18. Ullah, M.S., Sun, J., Rutherford, S., Ullah, I., **Javed, Q**., Rasool, G., Ajmal, M. and Du, D., 2021. Evaluation of the allelopathic effects of leachate from an invasive species (Wedelia triobata) on its own growth and performance and those of a native congener (W. chinensis). *Biological Invasions*, 23(10):3135-49.

19. Jianfan Sun, Susan Rutherford, Muhammad Saif Ullah, Ikram Ullah, **Qaiser Javed**, Ghulam Rasool, Muhammad Ajmal, Ahmad Azeem, Muhammad Junaid Nazir, Daolin Du. (2021). Plant-soil feedback during biological invasions: effect of litter decomposition from an invasive plant (*Sphagneticola trilobata*) on its native congener (*S. calendulacea*). *Journal of Plant Ecology*, 15(3): 610-624.
20. Jianfan Sun, **Qaiser Javed**, Ahmad Azeem, Muhammad Saif Ullah, Ghulam Rasool, and Daolin Du. 2020. Addition of phosphorus and nitrogen support the invasiveness of Alternanthera philoxeroides under water stress. *Clean-Soil, Air, Water*. 48(9):2000059.
21. **Qaiser Javed**, Ahmad Azeem, Jianfan Sun, Ikram Ullah, Daolin Du, Muhammad Ali Imran, Muhammad Imran Nawaz. 2020. Growth prediction of Alternanthera philoxeroides in salt stress by application of artificial neural networking. *Plant Biosystems-An International Journal Dealing with all Aspects of Plant Biology, 156(1):61-7.*
22. **Qaiser Javed**, Jianfan Sun, Ahmad Azeem, Khawar Jabran, Daolin Du. 2020. Competitive ability and plasticity of Wedelia trilobata (L.) under wetland hydrological variations**.** *Scientific Reports* 10(1):9431.
23. Azeem, Ahmad, **Qaiser Javed**, Jianfan Sun, and Daolin Du. (2020). Artificial neural networking to estimate the leaf area for invasive plant Wedelia trilobata. *Nordic Journal of Botany* 38, no. 6.
24. Ahmad Azeem, **Qaiser Javed**, Jianfan Sun, Ikram Ullah, Rakhwe Kama and Daolin Du. 2020. Adaptationof singapore daisy (*wedelia trilobata*) todifferent environmental conditions; water stress, soil type and temperature. *Applied Ecology and Environmental Research* 18(4).
25. Ahmad Azeem, Jianfan Sun, **Qaiser Javed**, Khawar Jabran and Daolin Du. 2020. The Effect of Submergence and Eutrophication on the Trait's Performance of Wedelia Trilobata over Its Congener Native Wedelia Chinensis. *Water*, 12(4):934.
26. Sun, J., **Javed, Q.***, Azeem, A., Ullah, I., Saifullah, M., Kama, R. And Du, D., 2019. Fluctuated water depth with high nutrient concentrations promote the invasiveness of wedelia trilobata in wetland. *Ecology and Evolution*. 10(2):832-42.
27. **Javed, Q**., Sun, J., Azeem, A., Ullah, I., Huang, P., Kama, R., Jabran, K. And Du, D., 2019. The enhanced tolerance of invasive alternanthera philoxeroides over native species under salt-stress in china. *Applied Ecology and Environmental Research*, 17(6), pp.14767-14785

Plants, salt stress, irrigation and functional traits

1. Iqbal, B., Khan, I., **Javed, Q***., Alabbosh, K.F., Inamullah, Z.Z. and Rehman, A., The High Phosphorus Incorporation Promotes the Soil Enzymatic Activity, Nutritional Status, and Biomass of the Crop. *Polish Journal of Environmental Studies*. 32(3).
2. Ahmad, A., **Javed, Q**., Sun, J., Nawaz, M. I., Ullah, I., Kama, R., & Du, D. (2020). Functional traits of okra cultivars (Chinese green and Chinese red) under salt stress. *Folia Horticulturae*, *32*(2), 159-170.
3. **Javed, Q**., Azeem, A., Sun, J., Ullah, I., Jabran, K., Anandkumar, A., Prabakaran, K., Buttar, N.A. and Du, D., 2019. Impacts of salt stress on the physiology of plants and opportunity to rewater the stressed plants with diluted water: a review. Applied Ecology and Environmental Research, 17(5), pp.12583-12604.

4. Azeem, A., **Javed, Q**., Sun, J., Ullah, I., Buttar, N. A., Saifullah, M., & Du, D. (2020). Effect of salt stress on seed germination and seedling vigour in okra. *Indian Journal of Horticulture*, *77*(3), 513-517.
5. Ikram Ullah, Mao Hanping, **Qaiser Javed**, Ghulam Rasool, Muddassir Ali, Ahmad Azeem and Muhammad Saif Ullah. 2020. Nitrogen Fertilization Effects on Growth, Leaf Gas Exchange and Chlorophyll Fluorescence of *Brassica juncea. International Journal of Agriculture & Biology*. 24(5), 1070-1076.
6. Ikram Ullah, Mao Hanping, Abdul Shabbir, Muhammad Saif Ullah, Khawar Jabran, **Qaiser Javed**, Noman Ali Buttar and Ahmad Azeem. 2020. Physiological response of tomato plants under different irrigation levels and nutrient concentrations in greenhouse. Pak. J. Agri. Sci., Vol. 57(2)599-608.
7. Rasool, G., Guo, X., Wang, Z., Hassan, M., Aleem, M., **Javed, Q**. and Chen, S., 2020. Effect of Buried Straw Layer Coupled with Fertigation on Florescence and Yield Parameters of Chinese Cabbage Under Greenhouse Environment. Journal of Soil Science and Plant Nutrition, 20:598-609.
8. Rasool, G., Xiangping, G., Zhenchang, W., Sheng, C., Alhaj Hamoud, Y. and **Javed, Q**., 2019. Response of fertigation under buried straw layer on growth, yield, and water-fertilizer productivity of Chinese cabbage under greenhouse conditions. Communications in Soil Science and Plant Analysis, 50(8), pp.1030-1043.
9. Nawaz, M.I., Yi, C., Zhao, H., Asilevi, P.J., Yin, L., Yi, R., **Javed, Q**. and Wang, H., 2019. Experimental study of nitrobenzene degradation in water by strong ionization dielectric barrier discharge. Environmental technology, 42(5):789-800.
10. **Qaiser Javed**, Yanyou Wu, Deke Xing, Ikram Ullah, Ahmad Azeem, Ghulam Rasool (2018). Salt-induced effects on growth and photosynthetic traits of Orychophragmus violaceus and its restoration through re-watering. *Brazilian Journal of Botany*. 41(1), 29-41.
11. **Qaiser Javed**, Yanyou Wu, Deke Xing, Ahmad Azeem, Ikram Ullah, and Muhammad Zaman (2017). Re-watering: an effective measure to recover growth and photosynthetic characteristics in salt-stressed Brassica napus L. *Chilean Journal of Agricultural Research*. 77(1):78-86.
12. **Qaiser Javed**, Yanyou Wu, Ahmad Azeem, Ikram Ullah (2017). Evaluation of Irrigation Effects using Diluted Salted Water based on Electrophysiological Properties of Plants. *Journal of Plant Interactions*. 12(1): 219-227.
13. Ahmad Azeem, Yanyou Wu, Deke Xing, **Qaiser Javed** & Ikram Ullah (2017). Photosynthetic response of two okra cultivars under salt stress and re-watering. *Journal of Plant Interactions*. 12(1): 67–77.
14. Mao Hanping, Ikram Ullah, Ni Jiheng, **Qaiser Javed** & Ahmad Azeem (2017). Estimating tomato water consumption by sap flow measurement in response to water stress under greenhouse conditions. *Journal of Plant Interactions*. 12(1): 402-413.
15. Ikram Ullah, Mao Hanping, Zhang Chuan, **Qaiser Javed**, Ahmad Azeem. (2017).Optimizationof irrigation & nutrient concentration based on economic returns, substrate salt accumulation and water use efficiency for tomato in greenhouse, *Archives of Agronomy and Soil Science*. *63*(12), 1748-1762.

16. Ahmad Azeem, Yanyou Wu, Deke Xing, **Qaiser Javed**, Ikram Ullah, Francis Kumi (2017). Response of Okra based on electrophysiological modelling under salt stress and re-watering. *Biosciences* Journal**,** v. 33, n. 5, p. 1219-1229.
17. Muhammad Zaman, Guohua Fang, Muhammad Saifullah, and **Qaiser Javed**. (2016). Seasonal and Annual Precipitation Trend Prediction in Xin'anjiang China. *Fresenius Environmental Bulletin*. Volume 25, pages 89-102.
18. Guiyao Zhou, Yanyou Wu, Deke Xing, Mingming Zhang, Rui Yu, Weiyi Qiao, and **Qaiser Javed**. (2016). The influence of three mangrove species on the distribution of inorganic nitrogen and phosphorus in the Quanzhou Bay estuarine wetland soils. *Acta Geochim*, 35(1):64–71.
19. D. K. Xing, Y.Y. Wu, R. Wang, W.G. Fu, Y.C. Zhou and **Q. Javed**. (2015). Effects of Drought Stress On Photosynthesis and Glucose-6-Phosphate Dehydrogenase Activity of Two Biomass Energy Plants (*Jatrophacurcas* L. and *Verniciafordii* H.). *The Journal of Animal & Plant Sciences*, 25 (3 Suppl. 1) 2015 Special Issue Page: 172-179.
20. Xing Deke, Wu Yanyou, Wang Rui, Fu Weiguo, Hang Hongtao, and **Qaiser Javed**. (2015). Inorganic Carbon Utilization Traits of three woody species Growing in the Mountain Area of Guizhou Province*. Acta Bot. Boreal. –Occident. Sin.* 35(3):0579-0586.
21. **Qaiser Javed**, M. Arshad, Allah Bakhsh, Aamir Shakoor, Zia A. Chatha and Ijaz Ahmad. (2015). Redesigning of Drip Irrigation System Using Locally Manufactured Material to Control Pipe Losses for Orchard*. Pakistan Journal of Life and Social Sciences*, 13(x): xxx. E-ISSN: 2221-7630; P-ISSN: 1727-4915

Patents

1. Wu Yanyou, Ahmad Azeem, Wu Yansheng, **Qaiser Javed**, Xing Deke, Yu Rui, Li Minghong,一种植物叶片最大生理电容和最大紧张度的测定方法(A method for the determination of maximum physiological capacitance and maximum tension of plant leaves) (under review in Chinese)
2. Wu Yanyou, Ahmad Azeem, Yu Rui, **Qaiser Javed**, Xing Deke, Wu Yansheng, Li Minghong,一种盐水灌溉节点的获取方法(method of obtaining salt water irrigation node), (under review in Chinese)
3. Wu Yanyou, Ahmad Azeem, Li Minghong, **Qaiser Javed**, Xing Deke, Yu Rui,一种表征植物抗盐能力的方法,(Method for characterizing plant salt tolerance), (under review in Chinese)
4. Wu Yanyou, Ahmad Azeem, Xing Deke, **Qaiser Javed**, Wu Yansheng, Yu Rui, Li Minghong,一种预测作物盐胁迫水平的方法,(Method for predicting the level of salt stress in crops), (under review Chinese)

FUNDING

- I have won the funding for 10-month (September 2023 to July 2024) in the framework of the National Scholarship Programme of the Slovak.
  Project Title: Evaluation of the biological activity and ecotoxicity of the various plant extracts and essential oils from the representatives of the invasive neophyte genus spp. using various laboratory methods and model organisms.

- I have applied for National Natural Science Fund of China, Research Fund for International Young Scientist in 2022.
  Project Title: Mechanism of agricultural pollutants changing the soil microenvironment and aggravating alien plant invasion in farmland ecosystem.
- I have applied for Jiangsu Province Science and Technology Plan (Funding) Project in 2021.
  Project Title: Soil Pollution and the invasion of invasion of alien plants in different ecosystem.
- I have applied for National Natural Science Fund of China, Research Fund for International Young Scientist in 2019.
- Project Title: Survival of invasive species over native species under environmental stresses: Phyto-chemical properties as a stress indicator.

WORKSHOPS AND CONFERENCES

- Participation as a Speaker (Performance of native and invasive plant species under environmental changes – competitive ability and plasticity) in the 4th International Symposium on Global Change and Biological Invasion, hosted by School of Environment and Safety Engineering, Jiangsu University, Zhenjiang, China. November 16-19, 2020.
- Attended the international symposium on weed management and Biosafety –the 16th annual meeting of weed science Branch of Jiangsu association of agriculture sciences societies (Weed Science Society of Jiangsu province). November 11-13, 2018.
- Attended 2016 AFRB (Asia Forum for Rhizoma Bletillae Industry Development) Guiyang, Guizhou, China. November 12-13th, 2016.
- 15 Days Survey camp at Kalar Kahaar held by department of Agricultural engineering & tech. UAF, Faisalabad.
- 4- Months Internship in different sectors including PARC and PCRWR, Islamabad by department of Agricultural engineering & tech. UAF, Faisalabad.
- 1-month Wheat Sowing Campaign 2009-2010 at Agriculture Extension Davis road Lahore.
- Remote Sensing and GIS short Course from Centre of Excellence in Water Resources Engineering, UET Lahore, Pakistan.
- Professional training of “Civil Defence Training Course” under Civil Defence Department organized by University of Agriculture Faisalabad, 25-28 September 2007.
- Workshop on “Leadership & Communication Skill Development” organized by Quiz Club, Art & Literary forum, University of Agriculture Faisalabad, 23-24 December 2009.

LANGUAGE SKILLS

Chinese
English
Urdu
Punjabi

PROFESSIONAL SKILLS

OriginPro
SigmaPlot
SPSS
Minitab
R Studio