

# Wajiha Sarfraz

Lecturer  
Department of Botany  
Government College Women University, Sialkot



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## ACADEMIC PROFILE

### EDUCATION

#### MS Botany (Master of Philosophy in Botany)

Govt. College Women University, Sialkot, Pakistan (GCWUS) 2017-2019

**Thesis Title:** "Evaluation of phytoremediation potential of *Ricinus Communis* for cadmium and lead"

**Supervisor:** Assistant Prof. Dr. Noreen Khalid

#### BS Hons Botany (Bachelor of Science honors)

University of Gujrat, Gujrat, Pakistan 2013-2017

#### Board of Intermediate and Secondary Education Gujranwala, Pakistan

F.Sc Pre-medical 2011- 2013

Matric 2009-2011

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## PROFESSIONAL EXPERIENCE

#### Regular Lecturer of Botany (BS-18)

Govt. College Women University, Sialkot, Pakistan

**Duration:** March 2022 - To date

#### Visiting Lecturer of Botany (Teaching Grade BS Hons)

Govt. College Women University, Sialkot, Pakistan

**Duration:** October 2020- March 2022

#### Visiting Lecturer of Botany (Teaching Grade BS Hons)

Punjab College of Commerce, Sialkot, Pakistan

**Duration:** November-2019 – March 2021

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## CURRENT RESPONSIBILITIES IN GCWUS

- BS Program Coordinator
  - Learning Management System (LMS) Incharge
  - Scheme of Study Incharge
  - Timetable Incharge
  - Focal Person of Prime Minister Laptop Scheme-III
  - Exam Coordinator
  - Batch Advisor (2018-2022)
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## COURSE TAUGHT

Plant Tissue Culture + Lab, Environmental Biology + Lab, Plant Biochemistry-I and Lab, Molecular Biology and Lab, Mycology + Lab, Plant Physiology-II and Lab, Research Methodology + Lab, Plant Physiology and Ecology + Lab, Cell Biology, Genetics and Evolution + Lab, Diversity of Plants + Lab

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## RESEARCH INTERESTS

- Ecotoxicology
  - Soil Chemistry
  - Environmental Biology
  - Soil Science
  - Phytoremediation
  - Atmospheric Pollution
  - Plant-Microbe Interaction
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## PUBLICATIONS

(Cumulative Impact Factor: 48.30)

1. Alwutayd K, Alghanem SM, Alwutayd R, Alghamdi SA, Alabdallah NM, Al-Qthanin R, **Sarfraz W**, Khalid N, Naeem N, Ali B, Saleem MH, Javed S, Gómez-Oliván LM, Abeed A (2024). Mitigating chromium toxicity in rice (*Oryza sativa* L.) via ABA and 6-BAP: Unveiling synergistic benefits on morphophysiological traits and ASA-GSH cycle. *The Science of the Total Environment* DOI: [10.1016/j.scitotenv.2023.168208](https://doi.org/10.1016/j.scitotenv.2023.168208) **IF 10.754**
2. Qaiser Z, Aqeel M, **Sarfraz W**, Rizvi ZF, Noman A, Naeem S, Khalid N (2023) Microplastics in wastewaters and their potential effects on aquatic and terrestrial biota. *Case Studies in Chemical and Environmental Engineering* 8:100536 <https://doi.org/10.1016/j.cscee.2023.100536> **IF 7.93**
3. Zaka S, Aqeel M, Mehmood A, Noman A, Rizvi ZF, **Sarfraz W**, Nazir A, Arshad K, Khalid N (2023). Integrative valuation of the ecological hazards by microplastics and heavy metals in wetland ecosystem. *Bulletin of Environmental Contamination and Toxicology*. 110:81 <https://doi.org/10.1007/s00128-023-03716-6> **IF 2.891**

4. Arshad K, Aqeel M, Noman A, Nazir A, Mahmood A, Rizvi ZF, **Sarfraz W**, Hyder S, Zaka S, Khalid N (2023). Ecological health risk assessment of microplastics and heavy metals in sediments, water, hydrophytes (*Alternanthera philoxeroides*, *Typha latifolia*, and *Ipomoea carnea*), and fish (*Labeo rohita*) in Marala wetlands in Sialkot, Pakistan. *Environment Science and Pollution Research*. <https://doi.org/10.1007/s11356-023-25142-1> **IF 5.190**
5. Nazir A, **Sarfraz W**, Allah D, Khalid N, Farid M, Shafiq M, e-Bareen F, Rizvi ZF, Naeem N (2023). Synergistic impact of two autochthonous saprobic fungi (*A. niger* and *T. pseudokoningii*) on the growth, ionic contents, and metals uptake in *Brassica juncea* L. and *Vigna radiata* L. under tannery solid waste contaminated soil. *International Journal of Phytoremediation*. <https://doi.org/10.1080/15226514.2023.2166> **IF 4.003**
6. **Sarfraz W**, Farid M, Khalid N, Rizvi ZF, Asam Z-ul-Z, Nazir A, Naeem N, Farid S, Ali S (2022) Ameliorative role of foliar Zn-lysine application on wheat (*Triticum aestivum* L.) stressed by Tannery Wastewater. *Physiology and Molecular Biology of Plants* 28(11–12):2099–2110 <https://doi.org/10.1007/s12298-022-01265-6> **IF 3.08**
7. Ejaz U, Khan SM, Aqeel M, Khalid N, **Sarfraz W**, Naeem N, Han H, Yu J, Yue G and Raposo A (2022) Use of *Parthenium hysterophorus* with synthetic chelator for enhanced uptake of cadmium and lead from contaminated soils—a step toward better public health. *Front. Public Health* 10:1009479. DOI: [10.3389/fpubh.2022.1009479](https://doi.org/10.3389/fpubh.2022.1009479) **IF 6.461**
8. Farid M, Abubakar M, Asam ZUZ, **Sarfraz W**, Abbas M, Shakoor MB, Ali S, Ahmad SR, Jilani A, Iqbal J, Al-Sehemi AG, Al-Hartomy OA (2022) Microwave Irradiation and Glutamic Acid-Assisted Phytotreatment of Textile and Surgical Industrial Wastewater by Sorghum. *Molecules* 27, 4004. <https://doi.org/10.3390/molecules27134004>. **IF 4.412**
9. **Sarfraz W**, Farid M, Ejaz U, Naeem N, Yousaf A, Kabir Z, Rizvi ZF, Hadayat N, Khalid N (2022) EDTA could enhance the bioaccumulation of Pb and Cd in *Ricinus communis* for potential decontamination of roadside soils. *Fresenius Environmental Bulletin* 31(01): 81-91. **IF 0.691**
10. Naeem N, Khalid N, **Sarfraz W**, Ejaz U, Yousaf A, Rizvi ZF, Ikram S (2021). Assessment of lead and cadmium pollution in soil and wild plants at different functional areas of Sialkot. *Bulletin of Environmental Contamination and Toxicology*. 107(2): 336–342 DOI: [10.1007/s00128-021-03251-2](https://doi.org/10.1007/s00128-021-03251-2) **IF 2.891**
11. Yousaf A, Khalid N, Aqeel M, Noman A, Naeem N, **Sarfraz W**, Ejaz U, Qaiser Z, Khalid A (2021) Nitrogen Dynamics in Wetland Systems and Its Impact on Biodiversity. *Nitrogen*. 2: 196–217. DOI: [10.3390/nitrogen2020013](https://doi.org/10.3390/nitrogen2020013)

## CHAPTERS

1. Farid M, **Sarfraz W**, Shahbaz S, Shakoor MB, Afzal H, Kanwal S, Tahir A, Tahir M, Butt MS (2023) Role of Microbial Ecology to Manage Remediations and Degradation processes in the Environment. Hasanuzzaman M (Eds): *Climate Resilient Agriculture*, Vol 2. Springer Nature DOI: [10.1007/978-3-031-37424-1\\_33](https://doi.org/10.1007/978-3-031-37424-1_33)

2. Farid M, **Sarfraz W**, Asam ZUZ, Abbas M, Sattar FA, Asif K, Abbas S, Iqbal M, Afgun Z, Afzal A (2023) Role of Biotechnology in Management of Solid Waste. Hasanuzzaman M (Eds): Climate Resilient Agriculture, Vol 2. Springer Nature DOI: [10.1007/978-3-031-37428-9\\_31](https://doi.org/10.1007/978-3-031-37428-9_31)
3. **Sarfraz W**, Farid M, Khalid N, Ditta A, Ejaz U, Rizvi ZF, Raza, N Ali S (2023). "Ecophysiological Responses of Tropical Plants to Varying Resources Availability". Ecophysiology of Tropical Plants. CRC Press-Taylor & Francis. DOI:[10.1201/9781003335054-11](https://doi.org/10.1201/9781003335054-11)
4. Farid M, Tul Muntaha S, Abubakar M, Farid S, **Sarfraz W**, Ali S, Asam ZUZ, Zubair M, Ramzan M (2022) Wastewater Pollution, Types and Treatment Methods Assisted Different Amendments. A Review In: Hasanuzzaman M., Ahammed G.J., Nahar K. (eds) Managing Plant Production Under Changing Environment. Springer Nature, Singapore pp 293-310. [https://doi.org/10.1007/978-981-16-5059-8\\_11](https://doi.org/10.1007/978-981-16-5059-8_11)
5. Farid, M., Iqbal, S., Rana, D.N., Mushtaq, H., **Sarfraz, W.**, Islam, M., Raza, N., Ramzan, M., Umer, M., Saqib Z. (2022). Development of rangeland conservation and sustainable management practices under changing climate. In: Hasanuzzaman M., Ahammed G.J., Nahar K. (eds) Managing Plant Production Under Changing Environment. Springer Nature, Singapore pp 327-349. [https://doi.org/10.1007/978-981-16-5059-8\\_13](https://doi.org/10.1007/978-981-16-5059-8_13)
6. Farid, M., Fayyaz, A., Ahmed, E., Arooj, M., Ali. S., **Sarfraz, W.**, Abbas, M., Idrees A., Shahzadi M., Rasheed Z. (2022). Increase in Food Scarcity, Agricultural Challenges, and Their Management: Pakistan Perspectives. In: Hasanuzzaman M., Ahammed G.J., Nahar K. (eds). Managing Plant Production Under Changing Environment. Springer Nature, Singapore pp 437-458. [https://doi.org/10.1007/978-981-16-5059-8\\_18](https://doi.org/10.1007/978-981-16-5059-8_18)

## ABSTRACTS CITATIONS

1. Khalid A., Khalid N., Qaiser Z., Yousaf A., **Sarfraz W.**, Ejaz U., Naeem N., Munir Y. (2021). Use of *Parthenium Hysterophorous* In Remediation Of Chromium And Arsenic Contaminated Soils. 3<sup>rd</sup> International Conference on Environment and Sustainable Development, 13–15<sup>th</sup> September, 2021 held in GC. University, Lahore, Pakistan.

## MEMBERSHIP

- Ambassador RemTech Europe, 2022- todate
- In-charge /Focal person of the **Botanical Society** GCWUS September 2022- todate
- Secretary of Plantation Committee in GCWUS, October 2023-todate
- Member of Horticulture Committee in GCWUS, December 2023-todate

## TECHNICAL SKILLS

- Flame photometer
- Atomic Absorption Spectrophotometer
- Fourier-transform infrared spectroscopy (FTIR)
- pH meter / EC meter
- Expert in Acid digestion of plants and soil.
- Expert in Scientific Data Analysis

## **CONFERENCES/WORKSHOPS/SEMINARS**

### **ORGANIZER**

- Received certificate for organizing a seminar on ‘Research and Publication Ethics in Science’ on November 07, 2023 in GC Women University Sialkot, Pakistan.
- Received certificate for organizing a three days Hands on Training on “Application of Plant Data in R language” on October 11-13, 2022 in Department of Botany, GC Women University Sialkot, Pakistan.
- Received certificate for organizing an international webinar on “Impact of COVID-19 on academic activities and way forward” on September 30, 2020 in Department of Botany, GC Women University Sialkot, Pakistan

### **HOSTED**

- Two-day Hands-on Training on Kitchen Gardening / Organic Vegetable Production hosted at GC Women University Sialkot, Pakistan, March 02 -03, 2022.

### **CONDUCTION**

- Certificate awarded for conduction of Two-Day Sessions of Mock Interviews of English Works Program organized by Lahore Institute of Future Education in collaboration with Relo Pakistan/US Consulate General, Lahore on 26 - 27 February, 2022.

### **ATTENDED**

- Attended session on Persistent Organic Pollutant organized by REM TECH Europe, Italy, September 20th, 2023
- Attended session on Sustainable Remediation organized by REM TECH Europe, Italy, September 20<sup>th</sup>, 2023
- Workshop attended on Bridging the gender gap: Creating Women leader through mentorship / coaching program in Pakistan organized by Fatima Jinnah Women University, Rawalpindi, Pakistan and University of Warwick, England, August 15<sup>th</sup> – 19<sup>th</sup>, 2023
- Training attended on Faculty Development Program organized by QEC in collaboration with ORIC Govt. College Women University, Sialkot, Pakistan, June 19 - July 23, 2023.
- Training attended on Atomic Absorption Spectrophotometer (AAS) on November, 2022 at Central Research Laboratory, GC Women University Sialkot, Pakistan.
- Attended session on Emerging contaminants of concern organized by REM TECH Europe, Italy, September 19-23, 2022
- Training attended on Fourier-transform infrared spectroscopy (FTIR) on August 10th, 2022 at Central Research Laboratory, GC Women University Sialkot, Pakistan.

- Training attended on Professional Development of Faculty 2022, organized by Govt. College Women University, Sialkot, Pakistan, funded by Higher Education Commission, Islamabad, Pakistan, June 20 - July 1, 2022.
- Attended International Webinar on Recent Advancements in Biological Control of Plant Pathogens: A way Forward to Sustainable Agriculture on April 16, 2021.
- Attended 1st International Conference Advances in Drug Discovery Development (ICAD3). January, 2018. Organized by Department of Biochemistry, Abdul Wali Khan University Mardan and PARC Islamabad, Pakistan.

### **ORGANIZED EVENT AS INCHARGE OF BOTANICAL SOCIETY**

- Organized a Movie show for BS and MS students on November 22, 2023, at GC Women University Sialkot, Pakistan.
  - Organized and Hosted a Monsoon Plantation Drive in Imam Bibi Campus, Aimenabad, of GC Women University Sialkot, Pakistan, August 25, 2022.
  - Organized a Plantation Campaign-2022 in collaboration with Green Youth Movement (GYM) on August 12, 2022, at GC Women University Sialkot, Pakistan.
  - Organized and Hosted a Spring Plantation Campaign-2022 at GC Women University Sialkot, Pakistan, March 17, 2022
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### **ACADEMIC AWARDS / ACHIEVEMENTS**

- Got 4.00 out of 4.00 GPA in MS Dissertation  
Government College Women University, Sialkot
  - Awarded by Laptop by Prime Minister Laptop Scheme in BS Hons.  
University of Gujrat, Pakistan.
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### **REFEREES**

- 1. Dr. Noreen Khalid (MS Supervisor)**  
Assistant Professor  
Department of Botany  
Government College Women University, Sialkot (Pakistan)  
Email: [noreen.khalid@gcwus.edu.pk](mailto:noreen.khalid@gcwus.edu.pk)
- 2. Prof. Dr. Zarrin Fatima Rizvi**  
Vice Chancellor  
Dean of Faculty of Natural Sciences  
Chairperson of Department of Botany  
Government College Women University, Sialkot (Pakistan)  
Email: [zarrin.fatima.rizvi@gcwus.edu.pk](mailto:zarrin.fatima.rizvi@gcwus.edu.pk)