

**Dr. Fahad Shafiq**  
**Department of Botany, Government College University Lahore**  
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**Fields of interest: Botany, Plant Physiology, Plant Nano-material Interactions, Signalling in plants**

#### **PROFILE**

Over five years of experience as Assistant Professor in Botany and a Post-doctoral Fellowship from the world's prestigious University of Cambridge during 2022-23. Results-oriented leader with a solid track record of academic achievements and problem-solving skills.

#### **EDUCATION**

<b>Postdoc Fellowship in Botany (Plant Physiology) – University of Cambridge, United Kingdom</b>	<b>2023</b>
- <b>Thesis title:</b> Stress signaling in wheat roots and its relationship with cytosolic calcium levels	
<b>Doctor of Philosophy in Botany (PhD Botany) – Government College University Faisalabad</b>	<b>2019</b>
- <b>Thesis title:</b> Induction of salt tolerance in wheat ( <i>Triticum aestivum</i> L.) through exogenous application of polyhydroxy fullerene nanoparticles	
<b>Master of Philosophy (M.Phil. Botany) – Government College University Faisalabad</b>	<b>2013</b>
- <b>Thesis title:</b> Osmo-priming mediated induction and modulation of wheat antioxidant potential <i>in lieu</i> to improve salt tolerance	
<b>Master of Science (M.Sc. Botany; Gold Medal) – Government College University Faisalabad</b>	<b>2011</b>
- <b>Thesis title:</b> Alleviating the adverse effects of cadmium chloride by the exogenous application of salicylic acid on two radish ( <i>Raphanus sativus</i> L.) varieties	
<b>Bachelor of Science (B.Sc., Botany, Zoology and Chemistry) – The University of Punjab, Lahore</b>	<b>2008</b>
- Two years course based degree	

#### **EXPERIENCE**

<b>Assistant Professor (Government College University Lahore)</b> <i>Leading Public Sector University in Pakistan</i>	<b>Jan-2023 – Till date</b>
<b>Postdoc Fellow, University of Cambridge, UK</b> <i>2<sup>nd</sup> Best University in the World QS Ranking</i>	<b>April-2022 to Jan-2023</b>
<b>Assistant Professor (IMBB, The University of Lahore)</b> <i>HEC Recognised One of the Largest Private Sector University</i>	<b>Feb-2020 to Jan-2023</b>
<b>Coordinator Botany Discipline (IMBB, The University of Lahore)</b> Manage routine matters including course offerings, examinations, synopsis defence, research activities within department and related administrative tasks	<b>July-2021 to April-2022</b>

#### **Key Achievements**

- Research Honorarium (2025) by ORIC, Government College University Lahore.
- Research Honorarium (2024) by ORIC, Government College University Lahore.
- Research and Productivity Award, 2023 - Category A (University of Lahore, Pakistan)
- Research and Productivity Award, 2022 - Category A (University of Lahore, Pakistan)
- Successfully organised a 06 months training course (Agricultural Farm Manager) under the Kamyab Jawan Project launched by **Govt. of Pakistan**.

#### **Grants awarded**

- **Chinese Academy of Tropical Agricultural Sciences** "Study of the growth, physiological and molecular mechanisms of phosphorus regulated selenite absorption in banana" **0.2 million Yuan** (PKR 7.94 million) as Co-PI, 2025.
- **Pakistan Science Foundation** grant "Development of biofertilizer from rhizobacteria associated with rhizosphere and nodules of cluster bean growing in marginal land" **4.72 million PKR** as Co-PI, 2022.

## Research Achievements (63 Publications; Total Impact Factor = 249.34)

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### - Selected Publications

- Wang, L., **Shafiq, F.**, Ding, Z., He, Y. (2025). Integrating molecular mechanisms and agronomic strategies for selenium biofortification in horticultural crops. *Frontiers in Plant Science*, 16:1714617. **(IF-4.8)**.
- Ishfaq, M., **Shafiq\*, F.**, Anwar, S., Iqbal, M., Raza, S. H., Mahmood, A., & Ashraf, M. (2025). Amino acid-modified nano-magnetite boosts okra [*Abelmoschus esculentus* (L.) Moench] yield and iron enrichment for improved nutrition. *BioMetals*, 38, 1469-1484. **(IF-4.1)**.
- Ji, S., Liu, P., Zhao, S., Dai, M., Han, W., Zhang, Z., Chao, W., **Shafiq, F.**, Qiao, X., Xiao, L., Feng, M., Zhang, M., Yang, W., & Song, X. (2025). Under the combined application of selenium and sulfur, sulfur does not interfere with selenite uptake in Tartary buckwheat. *Food Chemistry*, 144895. **(IF-9.8)**.
- **Shafiq\* F**, Anwar S & Khan S (2024). Editorial - Advances in Soil-Plant N management strategies. *Frontiers in Plant Science*, 15, 1380284. **(IF-4.1)**.
- Su, Y., Yan, X., Li, H., Liang, Z., Zhao, S., Chen, P., Zheng, Z., Qiao, X., Zhao, Y., Feng, M., **Shafiq, F.**, Song, X., Xiao, L., Yang, W., & Wang, C. (2025). Monitoring the growth status of winter wheat by using the machine learning algorithm and the fusion of spectral and texture features derived from the UAV remote sensing. *Computers and Electronics in Agriculture*, 237, 110758. **(IF-7.7)**.
- Tayyab M, Anwar S, **Shafiq F**, Shafique U, Kaya C, & Ashraf M (2025). Adsorption isotherms and removal of lead (II) and cadmium (II) from aqueous media using nanobiochar and rice husk. *International Journal of Phytoremediation*, 27(2), 244-259. **(IF-3.4)**.
- **Shafiq\* F**, Ahmad A, Anwar S, Nisa MU, Iqbal M, Raza SH, Mahmood A & Ashraf M (2023). Spinel nanocomposite (nMnZnFe<sub>2</sub>O<sub>4</sub>) synchronously promotes grain yield and Fe-Zn biofortification in non-aromatic rice. *Plant Physiology and Biochemistry*, 201, 107830. **(IF-6.5)**.
- **Shafiq\* F**, Anwar S, Zhang L, & Ashraf M (2023). Nano-biochar: Properties and prospects for sustainable agriculture. *Land Degradation & Development*, 34(9), 2445-2463. **(IF-4.7)**.
- Matthus E, Ning Y, **Shafiq F**, & Davies JM (2023). Phosphate-deprivation and damage signalling by extracellular ATP. *Frontiers in Plant Science*, 13, 1098146. **(IF-5.6)**.
- **Shafiq\* F**, Iqbal M, Raza SH, Akram NA, & Ashraf M (2023). Fullerol [60] Nano-cages for protection of crops against oxidative stress: a critical review. *Journal of Plant Growth Regulation*, 42(3), 1267-1290. **(IF-4.8)**.
- **Shafiq\* F**, Iqbal M, Ali M & Ashraf MA (2021). Fullerol regulates oxidative stress and tissue ionic homeostasis in spring wheat to improve net-primary productivity under salt-stress. *Ecotoxicology and Environmental Safety*, 211, 111901. **(IF-6.291)**.
- Akram NA, **Shafiq F** & Ashraf M (2018). Peanut (*Arachis hypogaea* L.): A prospective legume crop to offer multiple health benefits. *Comprehensive Reviews in Food Science and Food Safety*, 17(5), 1325-1338. **(IF-7.02)**.
- Akram NA, **Shafiq F** & Ashraf M (2017). Ascorbic acid-a potential oxidant scavenger and its role in plant development and abiotic stress tolerance. *Frontiers in Plant Science*, 8, 613. **(IF-4.745)**.

## INVITED LECTURES

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1. **Soil and water: a source of life** at University of Education Lahore (Faisalabad Campus), Pakistan on World Soil Day, 5<sup>th</sup> December, 2023.
2. **Agricultural use of functionalized nanomaterials to boost crop production and mineral nutrition: A two-way approach** at 2022 SAERIA-Forum jointly organized by Northwest Agriculture and Forestry University China and The University of Lahore, Pakistan September, 2022.
3. **The economic perspectives of agriculture and future strategies in focus**. delivered in two days International Webinar on “Plants, Abiotic Stresses and Economy: Scenario and Strategies Worldwide” at Government College University Faisalabad on 14-15, July, 2021.
4. **Use of brackish water for wheat cultivation: Polyhydroxy fullerene nanoparticles mediated enhancement in salt tolerance** delivered in one day International Symposium on “Use of Waste Water in Agriculture: Pros and Cons” at Government College University Faisalabad on 27- August-2019.

## RESEARCH PROFILES

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- **Scopus profile:** <https://www.scopus.com/authid/detail.uri?authorId=55642962600>
- **ORCID:** <https://orcid.org/0000-0003-2183-2714>
- **Google Scholar Profile:** <https://scholar.google.com.pk/citations?hl=en&user=-UngzgkAAAAJ>