

Curriculum Vitae

Dr. Safira Attacha

Associate Professor | Plant Molecular Biology Researcher | Biotechnology Specialist

Institute of Biotechnology & Genetic Engineering (IBGE)

The University of Agriculture, Peshawar, Pakistan

Email: safira@aup.edu.pk

Professional Profile

Highly motivated and research-driven academic with extensive expertise in Plant Molecular Biology, Biotechnology, and Genetic Engineering. Experienced in university teaching, scientific research, student supervision, and interdisciplinary collaboration. Skilled in molecular biology techniques, plant biotechnology, genetic transformation, and scientific publication. Recognized for academic excellence through international scholarships and research awards. Passionate about advancing innovative teaching, impactful research and scientific development.

Academic Qualifications

Degree	Institution	Year	
PhD in Plant Molecular Biology	University of Bonn, Germany (INRES – Chemical Signaling)	2013 – 2017	
MPhil in Biotechnology	Institute of Biotechnology & Genetic Engineering (IBGE), The University of Agriculture Peshawar, Pakistan	2009 – 2011	
BS (Hons.) Biotechnology	University of Malakand, Pakistan	2004 – 2008	
F.Sc. (Pre-Medical)	Government Frontier College for Women, Peshawar	2001 – 2002	
SSC (Science)	Ever Green Public High School	2000	

Professional Experience

➤ Associate Professor

Institute of Biotechnology & Genetic Engineering (IBGE), The University of Agriculture Peshawar

December 2025 – Present

- Teaching undergraduate and postgraduate biotechnology courses.
- Supervising student research projects and academic activities.
- Conducting research in plant molecular biology and biotechnology.
- Contributing to curriculum development and departmental research initiatives.

➤ Assistant Professor

Institute of Biotechnology & Genetic Engineering (IBGE), The University of Agriculture Peshawar

November 2017 – November 2025

- Delivered lectures and laboratory training in biotechnology and molecular biology.
- Supervised MPhil and undergraduate research students.
- Published research articles in internationally recognized journals.
- Participated in collaborative national and international research projects.

➤ Lecturer

Institute of Biotechnology & Genetic Engineering (IBGE), The University of Agriculture Peshawar

April 2017 – November 2025

➤ PhD Research Scholar

Institute of Crop Science and Resource Conservation (INRES), University of Bonn, Germany

December 2012 – March 2017

- Conducted advanced research on glutathione peroxidase-like enzymes in *Arabidopsis thaliana*.
- Worked on subcellular localization and mutant characterization studies.

- Applied molecular and cellular biology techniques in plant stress physiology research
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Research Interests

- Plant Molecular Biology
 - Plant Stress Physiology
 - Genetic Engineering
 - Plant Biotechnology
 - Molecular Characterization
 - Plant-Microbe Interactions
 - Crop Improvement Research
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Research Experience

BS (Hons.) Research Thesis

University of Malakand

Effect of Auto-Painting Workshops on the Health Status of autopainters

MPhil Research Thesis

Institute of Biotechnology & Genetic Engineering (IBGE), The University of Agriculture Peshawar

Agrobacterium-Mediated Transformation of Oilseed Rape with Chitinase Gene Conferring Resistance Against Fungal Pathogens

PhD Research Thesis

University of Bonn, Germany

Subcellular Localization of Glutathione Peroxidase-Like Enzymes in Arabidopsis thaliana and Characterization of GPXL3 Deficient Mutants

Awards & Distinctions

- Awarded HEC Overseas PhD Scholarship under Faculty Development Program (2012–2017)
 - Recipient of “Best PhD of the Year 2017” Award, University of Bonn, Germany
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Publications

1. Attacha, S., Solbach, D., Bela, K., Moseler, A., Wagner, S., Schwarzländer, M., Aller, I., Müller, S. J., & Meyer, A. J. (2017). *Glutathione peroxidase-like enzymes cover five distinct cell compartments and membrane surfaces in Arabidopsis thaliana*. Plant, Cell & Environment.
2. Habib, S., Gardezi, S. D. A., Ismail, A. M., Attacha, S., et al. (2026). *Biochemical Characterization and Phylogenetic Diversity Assessment of Onion (Allium cepa L.) Genotypes*. Plant Molecular Biology Reporter.
3. Shah, S. J., Bibi, S., Attacha, S., et al. (2026). *Isolation and molecular characterization of plant growth-promoting rhizobacteria for biocontrol of Fusarium head blight in wheat*. Cereal Research Communications.
4. Arif, S., Ahmed, H. M., Attacha, S., et al. (2024). *Comparative Transcriptomic Analysis of Carotenoid Synthesis Genes in Sea Buckthorn*. Journal of Soil Science and Plant Nutrition.
5. Rashid, M. U., Shah, S. J., Attacha, S., et al. (2024). *Green Synthesis and Characterization of Zinc Oxide Nanoparticles Using Citrus limetta Peel Extract*. Waste and Biomass Valorization.
6. Zaib, P., Ahmad, H. M., Attacha, S., et al. (2023). *Comparative genomics of light harvesting chlorophyll gene family under drought stress in sunflower*. Journal of Plant Physiology.
7. Ullah, I., Uzair, M., Rehman, O. U., Attacha, S., et al. (2023). *Characterization of tubby-like proteins gene family in Cucumis sativus under salt stress*. Genetic Resources and Crop Evolution.
8. Tahir, M. F., Khan, M. Z., Attacha, S., et al. (2022). *Comparative Performance of Green Synthesized Nanoparticles-Loaded Textiles to Avoid Nosocomial Infections*. Nanomaterials.
9. Saeed, M., Ibrahim, M., Ahmad, W., Attacha, S., et al. (2022). *Molecular Characterization of Wheat Genetic Resources for Resistance to Yellow Rust Pathogen*. Agronomy.
10. Ali, I., Siddique, L., Rehman, L. U., Attacha, S., et al. (2011). *Prevalence of HCV among high-risk groups in Khyber Pakhtunkhwa*. Virology Journal.

Language Skills

- English
- Urdu
- Pashto

Professional Skills

- Molecular Biology Techniques
 - Plant Tissue Culture
 - Genetic Transformation
 - Scientific Writing & Publishing
 - Research Supervision
 - Laboratory Management
 - Data Analysis & Interpretation
 - Academic Teaching & Mentorship
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