



TASMIA BASHIR

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An energetic and talented researcher with a strong desire to build a career within scientific research and teaching sector. Passionate, self-motivated individual with a drive to succeed excellence for professional skills. Highly efficient and methodical with a good eye for detail with a proactive approach to performance and data accuracy.

RESEARCH EXPERIENCE

SEPTEMBER 2014 - AUGUST 2019

LAB DEMONSTRATOR

QUAID-I-AZAM UNIVERSITY, ISLAMABAD, PAKISTAN

I voluntarily worked as a lab demonstrator for Masters, Master by research, and fellow students. I assisted them with demonstrations of basic genetic techniques, laboratory trainings, research planning, data presentation, and thesis write up.

JANUARY 2017 – DECEMBER 2017

INTERNATIONAL DOCTORAL RESEARCH STUDENTSHIP

MATRIN LUTHER UNIVERSITY HALLE WITTENBERG, GERMANY

I worked as an independent researcher under the supervision of Prof. Dr. Marcel Quint. I had successfully managed a large population of crop plants including day-to-day reports such as; moisture contents, fertilizer ratio, frequency of spray application, careful handling of drought application and measurements on weekly basis, and handled large data sets and worked on 3 – 4 different aspects at a time. Moreover, I performed various research activities;

- DNA extraction, PCR, Primer designing
- RNA Isolation, cDNA preparation, and Real-time PCR
- Stomatal bioassay (Epidermal strips), Tissue processing and Microscopy
- Physiological Parameters such as Porometer measurements,
- Chlorophyll index, Thermal imaging, photosynthetic efficiency
- Drought stress Experiments in soil
- Field trials
- Monitoring of crop plants for fungal and bacterial infections
- Application of water, fertilizers, and spray regularly
- Excellence dealing with emergency situation occurred in fields

TEACHING EXPERIENCE

JANUARY 31ST, 2022 – JANUARY 31ST, 2023

IPFP FELLOW (EQUIVALENT TO ASSISTANT PROFESSOR)

RAWALPINDI WOMEN UNIVERSITY, RAWALPINDI, PAKISTAN

My key responsibilities of the job is lecture demonstration on "mycology and plant pathology, Genetics-I, Fundamentals of Bioinformatics" to undergraduate program, setting up labs, and assisting senior faculty members with seminar and field excursions. Furthermore, I am participating as a focal person in organizing international conference on "Revamped Scientific Outlook in 21st Century". As a focal person, the main tasks include; brochure design, coordinating with the keynote speaker, compiling a list of international and national reviewers, and budget plan for the conference.

FEBRUARY 2021 – JULY 2021

VISITING FACULTY MEMBER

QUAID-I-AZAM UNIVERSITY, ISLAMABAD, PAKISTAN

I taught introductory Biology courses as a visiting faculty member to undergraduate students.

SEPTEMBER 2015 – AUGUST 2016

VISITING FACULTY MEMBER

QUAID-I-AZAM UNIVERSITY, ISLAMABAD, PAKISTAN

I taught introductory biology courses as a visiting faculty member to undergraduate students.

AUGUST 2011 – SEPTEMBER 2012

LECTURER BIOLOGY

QUAID SCIENCE ACADEMY & COLLEGE, RAWALPINDI, PAKISTAN

I taught the subject of biology at secondary (SSC) and higher secondary (HSSC) level.

EDUCATION

AUGUST 2020

DOCTOR OF PHILOSOPHY IN PLANT SCIENCES,

QUAID-I-AZAM UNIVERSITY, ISLAMABAD, PAKISTAN

- Thesis dissertation: Differential expression analysis of Calmodulin-binding (CaM) gene in Pea plants under drought stress and the effects of Plant Growth Promoting Rhizobacteria and Plant Growth Regulators
- GPA: 4.15/5.0

AUGUST 2011

MASTER OF PHILOSOPHY IN CELL & MOLECULAR BIOLOGY,

QUAID-I-AZAM UNIVERSITY, ISLAMABAD, PAKISTAN

- Thesis dissertation: The Genetics of nodulating microbes associated with the Legumes of Quaid-i-Azam University, Islamabad Campus
- GPA: 4.3/5.0

FEBRUARY 2009

MASTER OF SCIENCE IN BOTANY,

QUAID-I-AZAM UNIVERSITY, ISLAMABAD, PAKISTAN

- Grade: B⁺

AUGUST 2006

BACHELOR OF SCIENCE IN BOTANY, ZOOLOGY, APPLIED PSYCHOLOGY,

THE UNIVERSITY OF PUNJAB, LAHORE, PAKISTAN

- Grade: C

AUGUST 2005

HIGHER SECONDARY SCHOOL CERTIFICATE (H.S.S.C) IN PRE-MEDICAL,

GOVT. VIQAR-UN-NISA POST GRADUATE COLLEGE FOR WOMEN, RAWALPINDI, PAKISTAN

- Grade: C

AUGUST 2002

SECONDARY SCHOOL CERTIFICATE (S.S.C) IN SCIENCE,

F. G. GIRLS HIGH SCHOOL, RAWALPINDI, PAKISTAN

- Grade: A

PROFESSIONAL EDUCATION

FEBRUARY 2013

BACHERLOR OF EDUCATION,

ALLAMA IQBAL OPEN UNIVERSITY, ISLAMABAD, PAKISTAN

- Grade: B

SKILLS

- Compliance
- Microsoft office
- Statistical tools: Statistix 8.1 version, SPSS statistics20, XLStat, Sigmaplot, R
- Bioinformatics tools: Primer 3, Mega X, NCBI, DNA dragon
- Photoeditor tools: Photoscapes, Canva, Adobe photoshop, Microsoft paint, coogle
- GIS
- Exceptional oral and written communication
- Fluent in English, Urdu

ACTIVITIES & INTERESTS

- Literature
- Environmental conservation
- Art
- Cooking
- Sketching
- Travel

PUBLICATIONS

- Bashir, S., **Bashir, T.**, Rehman, A. A., & Khan, M. (2026). Composting: Improved Crop Performance and Resilience for Environmentally Friendly Practices. In *Composting of Farm Residues by Nature-Based Solutions: A Potential Key Towards Sustainable Agricultural Practices* (pp. 177-227). Cham: Springer Nature Switzerland
- Shahzad, A., Siddique, A., Ferdous, S., Amin, M. A., Qin, M., Aslam, U., Naeem, M., **Bashir, T.**, Shakoor, A. (2023). Heavy metals mitigation and growth promoting effect of endophytic *Agrococcus terreus*. *Frontiers Microbiology Sec. Terrestrial Microbiology*, 14. doi: 10.3389/fmicb.2023.1255921
- Zafar, S., Khan, I. M., Muddasar, M., Iqbal, R., **Bashir, T.**, Shahzad, A., Bashir, S., & Shah, A. A. (2023). Biochar Application to Soil to Improve Fertility. In *Sustainable Agriculture Reviews 61: Biochar to Improve Crop Production and Decrease Plant Stress under a Changing Climate* (pp. 99-120). Cham: Springer International Publishing.
- Bashir, S., Farrakh, S., Yasmin, T., Muhammad, A., **Bashir, T.**, Manghwar, H., Mora-Poblete, F., Iqbal, S., Baazeem, A., & Hyder, M. Z. (2022). Quantitation of Multipartite Banana Bunchy Top Virus Genomic Components and Their Transcripts in Infected Tissues of Banana (*Musa acuminata*). *Agronomy*, 12(12), 2990.
- **Bashir, T.**, Zafar, S., & Bashir, S. (2022). Phytoremediation of micropollutants. In *Environmental Micropollutants* (pp. 365-386). Elsevier.
- Maqсад, I., Ali, B., **Bashir, T.**, & Mumtaz, A. S. (2021). New record of *Geopora sumneriana* from Pakistan. *Mycotaxon*, 136(2), 511-522.
- Shahzad, A., Qin, M., Elahie, M., Naeem, M., **Bashir, T.**, Yasmin, H., Younas, M., Areeb, A., Irfan, M., Billah, M., Shakoor, A., & Zulfiqar, S. (2021). *Bacillus pumilus* induced tolerance of Maize (*Zea mays* L.) against Cadmium (Cd) stress. *Scientific Reports*, 11(1), 1-11.
- **Bashir, T.**, Naz, S., & Bano, A. (2020). Plant growth promoting rhizobacteria in combination with plant growth regulators attenuate the effect of drought stress. *Pakistan Journal of Botany*, 52(3), 783-792.
- Muhammad, J., Rabbani, M., Muhammad, K., Wasim, M., Ahmad, A., Sheikh, A., Akhtar, F., Rasool, A., Khattak, I., **Bashir, T.**, Islam, Z. U., & Rasheed, M. (2017). Physicochemical factors affecting persistence of *francisella tularensis* in soil. *Journal of Animal and Plant Sciences*, 27, 1047-1050.
- Ali, M. A., Muhammad, K., Anjum, A. A., Rabbani, M., Shabbir, M. Z., Ahmad, A., Nawaz, M., Ghor, M. T., Muhammad, J., Chaudhry, H. R., Jamie, T., Haisem, M., **Awan, T.**, Ahmad, R., & Jayarao, B. M. (2017, January). Association of soil chemistry and other factors with spatially distributed *Burkholderia mallei* DNA in Punjab province, Pakistan. In *2017 14th International Bhurban Conference on Applied Sciences and Technology (IBCAST)* (pp. 220-236). IEEE.
- Ali, B., Sohail, Y., **Bashir, T.**, & Mumtaz, A. S. (2016). Biogeography of Rust Fungi and their Hosts in Pakistan. *Science International (Lahore)*, 28(5), 4777-478.
- Ullah, N., **Bashir, T.**, Asif, M., Badshah, H., & Samad Mumtaz, A. (2015). Characterization of Durable Resistance gene Yr18/Lr34 against Stripe Rust (*Puccinia striiformis* f. sp. *tritici*) in

different Pakistani Wheat Cultivars by Using Molecular (STS) and Morphological (LTN) Markers. *International Journal of Science & Engineering Research*, 6, 63-74.

- Ullah, N., Asif, M., Badshah, H., **Bashir, T.**, & Mumtaz, A. S. (2016). Introgression lines obtained from the cross between *Triticum aestivum* and *Triticum turgidum* (durum wheat) as a source of leaf and stripe (yellow) rust resistance genes. *Turkish Journal of Biology*, 40(3), 547-553.
- Latif, S., Khan, S., Naveed, M., Mustafa, G., **Bashir, T.**, & Mumtaz, A. S. (2013). The diversity of Rhizobia, Sinorhizobia and novel non-Rhizobial Paenibacillus nodulating wild herbaceous legumes. *Archives of microbiology*, 195(9), 647-653.
- Khan, K. Y., Khan, M. A., Niamat, R., Munir, M., Mazari, H. F. P., Seema, N., **Bashir, T.**, Kanwal, A., & Ahmed, S. N. (2011). Element content analysis of plants of genus *Ficus* using atomic absorption spectrometer. *African journal of pharmacy and pharmacology*, 5(3), 317-321.

SEMINARS & WEBINARS

- 2nd International Conference of Botany held on 15th April, 2011 in Lahore.
- 3rd International conference of Botany held on 1st Sep- 3rd Sep 2012 in Quaid-I-Azam University, Islamabad.
- Mastering Statistics by LetPub learning Nexus on November 13, 2020.
- Essential Academic Documents to Ensure Career Success by LetPub learning Nexus on December 15, 2020.
- Guide to Publishing in Top-tier International Journals by LetPub learning Nexus on January 22, 2021.
- Understanding Research Matrices: What Really Matters? By LetPub Learning Nexus on February 24, 2021.
- Strategies for identifying the best journal for publication by LetPub Learning Nexus on April 11, 2021.
- Addressing Reviewer Comments: Resubmit Your Manuscript with Confidence by LetPub Learning Nexus on August 20, 2021.
- Boost Your Citation: Maximize Impact, Readership and Visibility of Your Publications by LetPub Learning Nexus on September 15, 2021.

REFERENCES

- Prof. Marcel Quint
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- Dr. Asim Shahzad
Associate Professor
Ex Director and Head of the Department of Botany
Mohid-Ud-Din Islamic University, AJK
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Distinguished Professor at College of Geography and Environmental Sciences,
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