

Curriculum Vitae

Dr. Muhammad Ali

Assistant Professor, Department of Biotechnology
Institute of Biotechnology and Microbiology
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EDUCATION:

PhD Biotechnology (2011)

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

M.Phil Biotechnology (2005)

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

RESEARCH INTEREST:

As a biotechnologist specializing in plant sciences, my research interests lie at the intersection of plant biology, genetics, and biotechnology. I am passionate about exploring the molecular mechanisms underlying plant growth, development, and responses to environmental stresses. My research focuses on developing sustainable solutions to improve crop productivity, disease resistance, and nutritional quality, ultimately contributing to global food security and sustainability. I am particularly interested in investigating the applications of biotechnology in plant breeding, genetic engineering, and genomics to address pressing challenges in agriculture and environmental conservation.

AWARDS/ DISTINCTIONS:

- Indigenous scholarship award from Higher Education Commission of Pakistan (HEC) for PhD.
- HEC IRSIP award for PhD research work at Iowa State University, Ames, Iowa, USA.
- Agricultural Merit Scholarship – awarded during M.Phil degree program at KP Agricultural University Peshawar.

WORK EXPERIENCE:

Currently working as Assistant Professor Department of Biotechnology, Institute of Biotechnology and Microbiology at Bacha Khan University, Charsadda Pakistan.

Computer Skills: MS Office, operation of all windows and software, MSTATC, GENSTAT, Statistix.

ADMINISTRATIVE SKILLS

S. No	Name of Organization	Designation	From	To
1	Bacha Khan University Charsadda, Pakistan.	Provost	August 2025	Till date
2	Bacha Khan University Charsadda, Pakistan.	Controller of Examination	March 2025	August 2025
3	Bacha Khan University Charsadda, Pakistan.	Provost	August 2024	March 2025
4	Bacha Khan University Charsadda, Pakistan.	Director Student Affairs	Feb 2024	August 2024
5	Bacha Khan University Charsadda, Pakistan.	Additional Registrar	February 2017	July 2017
6	Bacha Khan University Charsadda, Pakistan.	Director Academics &Admissions & Advanced Studies & Research	March 2016	February 2017
7	Bacha Khan University Charsadda, Pakistan.	Head of Department (Biotechnology)	July 2015	March 2016
8	Bacha Khan University Charsadda, Pakistan.	Director Academics &Admissions & Advanced Studies & Research	September 2014	July 2015
9	Bacha Khan University Charsadda, Pakistan.	Focal Person to Vice Chancellor To assist the duties of Dean	November 2014	March 2015
10	Bacha Khan University Charsadda, Pakistan.	Head of Department (Biotechnology)	September 2012	September 2014

Professional Trainings

Course	Diploma/Certificate	Field of study	Institution
Secretarial Services for BKUC Staff	Certificate	Secretarial Training	Bacha Khan University Charsadda August 2014
2nd National Conference on Biotechnology & Microbiology	Certificate	Biotechnology	Centre of Biotechnology & Microbiology University of Peshawar July 2012
Status of Postgraduate Research: Strategies for Improvement	Certificate	Research	Department of Zoology University of Peshawar July 2006
International Symposium on Institutional Linkages for Agriculture Development in Pakistan.	Certificate	Agriculture	Agricultural University Peshawar December 20-21, 2010.
Maize Pollination Techniques	Certificate	Maize Crop	AGRELIENT GENETICS Ames, Iowa, USA from July 27- August 14, 2009
National Training Course in "Biotechnological Techniques for Crop Improvement",	Certificate	Biotechnology	Agricultural University Peshawar September 12-17, 2005
(HEC) sponsored workshop for In-service Teachers of Botany	Certificate	Teaching	DEPARTMENT OF WEED SCIENCE Agricultural University Peshawar August 9-14, 2005
REAL TIME PCR WORKSHOP	Certificate	Biotechnology	Shifa College of Medicine, Islamabad, 12th of August 2005

Research Supervision

S.No	Research Scholars	Number	Degree Status
1	PhD	1	awarded
2	M.Phil	7	awarded
3	BS	8	awarded

RESEARCH PUBLICATIONS

1. Sheheryar, **Muhammad Ali**, Ikramullah, Roohul Amin, Khan Niaz Khan, Taimur Nawaz and Shahzeb Khan. Screening of plant growth promoting endophytic bacteria for salinity stress tolerance.Journal of Xi'an Shiyou University, Natural Science Edition. (2023).

2. Tayyaba kamal, **Muhammad Ali**, Ikramullah, Roohul Amin, Khan Niaz Khan, Taimur Nawaz and Shahzeb Khan. Green synthesis of nickle oxide nanoparticles from ficus carica and their antibacterial activity. Journal of Xi'an Shiyou University, Natural Science Edition. (2023).

3. Roohul Amin, Ikramullah, **Muhammad Ali**, Wajid Ali Shah, Manzoor Ahmad, Shah Nawaz Khan, and Rani Gul. Response of wheat to application methods of nitrogen, seed priming and irrigation under saline conditions. Journal of Xi'an Shiyou University, Natural Science Edition, 19(6) 974-985. (2023).

4. Shakoor Wisal, Ikramullah, **Muhammad Ali**, Roohul Amin, Khan Niaz Khan, and Umair Akbar. Storage studies of pure strawberry juice preserved with sodium benzoate, potassium sorbate and anti oxidant stored at ambient temperature. Journal of Xi'an Shiyou University, Natural Science Edition, 19(6) 668-679. (2023).

5. Taimur Nawaz, **Muhammad Ali**, Shazma Anwar, Ikramullah, Khan Niaz Khan, Shakoor Wisal and Muhammad Ahmad Saleem. Green Synthesis of Zinc Oxide Nanoparticles Using Aqueous Seed Extract of Black Pepper and Their Biological Applications. Journal of Xi'an Shiyou University, Natural Science Edition, 19(2) 1600-1615. (2023).

6. Sajjad Ali, **Muhammad Ali**, Khan Niaz Khan, Ajmal Khan, Farhan Ahmad, Fawad Ali and Wajeeha Khattak. Morphological and biochemical study of Allium Sativum L. Under the selected micronutrients. Tianjin Daxue Xuebao (Ziran Kexue yu Gongcheng Jishu Ban)/ Journal of Tianjin University Science and Technology, Vol: 55 Issue: 12: 2022. DOI10.17605/OSF.IO/BWH6M

7. Muhammad Haroon, Aisha Siddique, Adeela Saud, Fawad Ali, **Muhammad Ali**, Khan Niaz Khan and Umair Akbar. Association of Gstt1 And Gstm1 Polymorphism with anti Tb drug Induced Hepatotoxicity. Jilin Daxue Xuebao (Gongxueban)/Journal of Jilin University (Engineering and Technology Edition), 41(12) 2022. DOI 10.17605/OSF.IO/52XVR.

8. Ghani Ur Rehman, Hong Shi, **Muhammad Ali**, Muhammad Rahman Ali Shah and Muhamad Awais. A Comparison of Rare Alleles of ABO Blood Group System in Three Asian Population. International Journal of Pure and Applied Zoology. 10(9): 1-3, 2022.

9. Ghani Ur Rehman, Hong Shi, Muhammad Khan, **Muhammad Ali** and Muhammad Rahman Ali Shah. Molecular genetic analysis reveals a novel B variant allele at the ABO locus. Transplant Immunology, 75, 101684 (2022). https://doi.org/10.1016/j.trim.2022.101684

10. Ghani Ur Rehman, Hong Shi, **Muhammad Ali** and Muhammad Rahman Ali Shah. Contemporary global distribution of ABO polymorphism. Human Gene, 33 (2022) 201051. https://doi.org/10.1016/j.humgen.2022.201051

11. Shazma Anwar, Maaz Khan, Wajid Ali Shah, Anwar Ali Shad, **Muhammad Ali** and Junaid Ahmad. Effect of iron foliar application and phosphorus fertilization on nutrional indices of mung bean. Journal of Xi'an Shiyou University, Natural Science Edition, 18(10) 187-206. (2022).

12. Shazma Anwar, Wajid Ali Shah, **Muhammad Ali**, Anwar Ali Shad, Junaid Ahmad Maaz Khan and Ikramullah. Effect of Salicylic acid spray and molybdenum priming on yield and physiological properties of mungbean. Journal of Xi'an Shiyou University, Natural Science Edition, 18(10) 140-158. (2022).

13. Ihsanullah, **Muhammad Ali** and Muhammad Ibrahim. Characterization and identification of plant growth promoting endophytic bacterial strain IU10. AJ Life Sci. 5 (1): 1-10 (2022).

14. Iftikhar Alam, **Muhammad Ali** and Muhammad Farooq. Assessment of healthy eating and active lifestyle on campus environment in a university settingas perceived by students using the innovative photo voice method, a healthy eating and active lifestyle (HEAL) study. Journal of Innovative Sciences, 8(1): 113-123. (2022). https://dx.doi.org/10.17582/journal.jis/2022/8.1.113.123

15. Khan Niaz Khan, **Muhammad Ali** and Muhammad Zahid. PCR based identification of mosquitoes species in the Western belt of Khyber Pakhtunkhwa, Pakistan. BIOSCIENCE RESEARCH, 2022 19(2): 1000-1006.

16. Shah Faisal, Shahzar Khan, Abdullah, Sania Zafar, Muhammad Rizwan, **Muhammad Ali**, Riaz Ullah, Ghadeer M. Albadrani, Hanan R. H. Mohamed and Fazal Akbar. Fagoniacretica-Mediated Synthesis of Manganese Oxide (MnO2) Nanomaterials Their Characterization and Evaluation of Their Bio-Catalytic and Enzyme Inhibition Potential for Maintaining Flavor and Texture in Apples. Catalysts (2022), 12, 558. https://doi.org/10.3390/catal12050558

17. Khan Niaz Khan, **Muhammad Ali**, Muhammad Zahid znd Wasim Ahmad. Diversity of mosquitoes collected from the southern areas of khyber pakhtunkhwa Pakistan. J Gandhara Med Dent Sci. 2022; 9(1): 3-8.

18. Syed Saifur Shah, **Muhammad Ali**, Fawad Ali, Yamin Rashid, Ikramullah, Khan Niaz Khan, Farrah Shams. Susceptibility Pattern of Pathogenic Bacteria Pseudomonas aeruginosa to various Antibiotics isolated from Post-Surgical Wound of Diabetic Patient at Hayatabad Medical Complex Peshawar. Pakistan BioMedical Journal,5(4). pp 96-102. (2022).https://doi.org/10.54393/pbmj.v5i4.355

19. Umair Akbar, **Muhammad Ali**, Fawad Ali, Yamin Rashid, Ikramullah, Khan Niaz Khan.Phenotypic Detection of Antibiotic Resistance and Production of Extended-Spectrum Beta-Lactamases in E. coli isolated from Urinary Tract Infected patients at Hayatabad Medical Complex. Pakistan BioMedical Journal, 5(4). pp. 103-108. (2022). https://doi.org/10.54393/pbmj.v5i4.360

20. Wadood Shah, Sami Ullah, Sajjad Ali, Muhammad Idrees, Muhammad Nauman Khan, Kashif Ali, Ajmal Khan, **Muhammad Ali**, Farhan Younas. Effect of exogenous alphatocopherolon physio-biochemical attributes and agronomic performance of lentil (Lens culinarisMedik.) under drought stress. PLoS ONE 16(8): pp.1-20. (2021). e0248200. https://doi.org/10.1371/journal.pone.0248200

21. Iftikhar Alam, Atta Ulllah Jan, **Muhammad Ali** and Muhammad Farooq. defining research priorities in nutrition in a resource limited setting a Delphi study inPakistan. Journal of Innovative Sciences, 7(1): 121-127. (2021). https://dx.doi.org/10.17582/journal.jis/2021/7.1.121.127

22. Muhammad Sabir, Yasir Anwar,Akram Khan, **Muhammad Ali**,PeerzadaYasirYousuf, Khalid Al Ghamdi and Khalid Rehman Hakeem. ChiCgene Enhances Fungal Resistance in Indigenous PotatoVariety (Diamant) via Agrobacterium-Mediated Transformation. BIOSCIENCES BIOTECHNOLOGY RESEARCH ASIA. Vol 16 (2), pp. 343-350, (2019).

23. Zafar Hayat Khan, Shad Khan Khalil,Ikramullah, **Muhammad Ali**, Amjad Iqbal, Badshah Islam, Kawsar Ali, Wajid Ali, Manzoor Ahmad, Sahib Gul Afridi, and Farooq Shah. Physical Characteristics of Cobs and Kernels in Sweet Corn Under

Varying Planting Environments. Fresenius Environmental Bulletin. Vol 28 (9), pp. 6568-6573, (2019).

24. Zafar Hayat Khan, Shad Khan Khalil, Farman Ali, Badshah Islam, Amjad Iqbal, Ikramullah, **Muhammad Ali**, Farooq Shah. Variations in Planting Dates of Sweet Corn Affect its Agronomic Traits Via Altering Crop Micro-Environment. Fresenius Environmental Bulletin. Vol 27 (7), pp. 4822-4829, (2018).

25. Zafar Hayat Khan, Shad Khan Khalil, Ikramullah, **Muhammad Ali**, Tariq Shah, Amjad Iqbal, Wei Wu and Farooq Shah. Nitrogen Doses and Plant Density Affect Phenology and Yield of Sweet Corn. Fresenius Environmental Bulletin. Vol 26(6), pp. 3809-3815, (2017).

26. Zafar Hayat Khan, Shad Khan Khalil, Farooq Shah, Amjad Iqbal, Farman Ali, Badshah Islam, Ikramullah, **Muhammad Ali**. Plant Density and Nitrogen Doses can Affect Growth of Sweet Corn. Fresenius Environmental Bulletin. Vol 26 (6), pp. 3872-3879, (2017).

27. Akram Khan, Yasir Anwar, Md. Mahadi Hasan, Aqib Iqbal, **Muhammad Ali**,Hesham F. Alharby, Khalid Rehman Hakeem and Mirza Hasanuzzaman. Attenuation of Drought Stress in Brassica Seedlings with Exogenous Application of Ca2+ and H2O2. Plants. Plants 2017, 6, 20; doi:10.3390/plants6020020. pp. 1-13, (2017).

28. Ghani Ur Rehman, **Muhammad Ali**, Farooq Shah, Amjad Iqbal, Ayaz Ahmad, Zafar Hayat, Badshah Islam, Farman Ali, Ikram Ullah, Yousaf Jamal, Sartaj Alam, Muhammad Sajjad, and Muhammad Zeeshan Bhatti. Prevalence of DiabetesType 2 in Hepatitis C Infected Patients in Kpk-Pakistan. BioMed Research International. Volume 2017, Article ID 2416281, 4 pages. https://doi.org/10.1155/2017/2416281.

29. Sajjad Ali, Sami Ullah, Muhammad Hashim Khan, Fazli Rahim, Muhammad Ishaq Khan and **Muhammad Ali**. Application of foliar spray of gibberellic acid and nitrogen on the Marigold quantitatively and qualitatively (Tageteserecta and Tagetespatula L.). Plant. Pure and Applied Biology Vol 5(4), pp. 1225-1229,(2016).

30. Syed Majid Rasheed, Hidayatur Rahman, Ikramullah, Zafar Hayat Khan, **Muhammad Ali**, Syed Saleem Shah, Wajid Ali Shah, Manzoor Ahmad, TariqShah, Amjad Iqbal, Arshad Ali Khan and Farooq Shah. Stability of modified double cross maize hybrids for yield parameters across four environments. Fresenius Environmental Bulletin Vol 25(6), pp. 2113-2120, (2016).

31. Sajjad Ali, Kashif Ali, Ehsan Ali, Syed Salim Shah, **Muhammad Ali**, Ikramullah. Effect of ascorbic acid on the wilting and resistance of capsicum annum L. Plant. Pure and Applied Biology Vol 5(1), pp. 172-176, (2016).

32. Sajjad Ali, Ehsan Ali, **Muhammad Ali,** Kashif Ali, IkramUllah, Wisal Muhammad Khan. Impact of selected industrial effluents on some morphological and Biochemical characteristics of Triticumaestivum L. Pure and Applied Biology Vol 4(4), pp. 528-534, (2015).

33. Yasir Hayat, Zahid Hussain, Shad Khan Khalil, Zafar Hayat Khan, Ikramullah, **Muhammad Ali,** Tariq Shah and Farooq Shah. Effects of nitrogen and foliarsulphur applications on the growth and yield of two wheat varieties grown in Northern Pakistan. ARPN Journal of Agricultural and Biological Science., vol. 10, no. 4, april 2015.

34. Mark A Newell, Karla E Voge, Marie Adams, Nevzat Aydin, Anastasia L Bodnar, **Muhammad Ali**, Adrienne N Moran Lauter and M Paul Scott. Genetic andbiochemical differences in populations bred for extremes in maize grain methionine concentration. BMC Plant Biology 2014, 14:49.

35. Ibrar Alam, Iftikhar Alam, Ijaz Ali and **Muhammad Ali**. Weight loss in HCV patients can be used as a surrogate marker for evaluation of interferon (IFN-α) treatment efficacy – A prospective pilot study. Pak. J. Pharm. Sci., Vol.27, No.3, May 2014, pp.571-576.

36. Muhammad Ikram, Sadia Rehman, **Muhammad Ali,** Faridoon, CarolaSchulzke, Robert J. Baker, es Blake, Khan Malook, Henry Wong, Saeed-Ur-Rehman. Urease and α-chymotrypsin inhibitory activities of transition metal complexes of new Schiff base ligand: Kinetic and thermodynamic studies of the synthesized complexes using TG DTA pyrolysis. Thermochimica Acta. 06/2013; 562:22-28.

37. **Muhammad Ali,** Marvin Paul Scott and JehanBakht. Molecular mechanism of methionine differentiation in high and low methionine maize lines. African Journal of Biotechnology. Vol. 10(19), pp. 3747-3752, 9 May, 2011.

38. Ali Farhad, JehanBakht, Saleem Khan, **Muhammad Ali,** Tahir Hussain, Muhammad Ali, Wajid Khan, Bilal Muhammad Khan and Muhammad Maroof Shah. 2011. Pcr based molecular characterization of popular wheat varieties of kpk-pakistan. African Journal of Biotechnology Vol. 10(82), pp. 18958-18964 (2011).

39. **Muhammad Ali,** Muhammad Faisal Saddiqui, IhsanUllah and JehanBakht. Analysis of HMWGS of historical set of Pakistani bread wheat varieties using SDS-PAGE, African Journal of Biotechnology Vol. 9 (27), pp. 4286-4289, (2010).

COURSES THOUGHT

(The following courses taught to BS Biotechnology, BS Microbiology and PhD Classes)

1.	Environmental Microbiology	BS
2.	Gene Regulation & Expression	BS
3.	Environmental Biotechnology	BS
4.	Ecology & Ecosystem	BS
5.	Bioinformatics	BS
6.	Molecular Biology	BS
7.	Plant Physiology	BS
8.	Advanced Molecular Biology	PhD
9.	Molecular and Microbial Genetics	PhD

LANGUGE PROFICIENCY

Language	Reading			Writing			Speaking		
	Excellent	Good	Fair	Excellent	Good	Fair	Excellent	Good	Fair
Urdu	√			√			√		
Pashto	√			√			√		
English	√			√			√		
Arabic	√			√				√	

REFERENCES:

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Dr. Muhammad Shakeel
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Institute of Biotechnology and Microbiology
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