

Ahmad Ali

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Father's Name: Shah Kamin Khan
Date of Birth: March 3, 1980
N.I.C No: 15601-0972135-1
Permanent address: Sambat, Matta, Swat, Khyber Pakhtunkhwa.

Present Position:

- Assistant Professor (IPFP), Center for Plant Sciences and Biodiversity, University of Swat, Khyber Pakhtunkhwa (September 20, 2013 till June 30, 2014)
- Assistant Professor (Regular), Center for Plant Sciences and Biodiversity, University of Swat, Khyber Pakhtunkhwa (July 01, 2014 till date)
- In-Charge, Department of Environmental and Conservation Sciences, University of Swat (February 14, 2017 till June 20, 2018).

Academic Background:

- **Ph. D Botany 2013** "Utilization of the Triticeae Primary Gene Pool to Improve Drought Tolerance in Bread Wheat (*Triticum aestivum* L.)" from PMAS Arid Agriculture University Rawalpindi.
- **M. Phil Botany 2008** "Morphological and Physiological Studies of Ethnobotanically Important Grasses of Potohar Region" from PMAS Arid Agriculture University Rawalpindi
- **M.Sc. Botany 2002:** University of Peshawar, Pakistan
- **B.Sc (Che. Zoo. Bot.) 1999:** University of Peshawar, Pakistan
- **F.Sc. (Pre-Medical) 1997:** B.I.S.E Swat, Khyber Pakhtunkhwa, Pakistan
- **S.S.C (Matric) 1995:** B.I.S.E Swat, Khyber Pakhtunkhwa, Pakistan

Scholarships Aailed:

- IRSIP Scholarship for Six Months to Cereal Research Centre, Foggia, Italy
- HEC Indigenous 5000 Fellowship for MS leading to PhD
- Merit scholarship at M.Phil level
- Travel Grant aailed for presentation of research paper in CBB4 at Budapest Hungary.

Research Project:

Currently Awarded Research Project from Higher Education Commission (HEC) Pakistan. The title of the research project is "Molecular and physiological evaluation of stay green wheat genotypes for drought tolerance".

Publications:

1. **Ahmad Ali**, Muhammad Arshad, Anna Maria Mastrangelo, Pasquale de Vita, Alvina Gul Kazi and Abdul Mujeeb-kazi. 2013. Comparative assessment of glutenin composition and its relationship with grain quality traits in bread wheat and synthetic derivatives. *Pakistan Journal of Botany* 45(SI): 289-296.

2. Madeeha Khalid, Tariq Mahmood, Awais Rasheed, Alvina Gul Kazi, **Ahmad Ali** and Abdul Mujeeb-kazi A. 2013. *Glu-D^T1* allelic variation in synthetic hexaploid wheats derived from durum cultivar 'Decoy' × *Aegilops tauschii* accessional crosses. *Pakistan Journal of Botany* 45(SI): 409-414.
3. Madiha Sadiq, Rehana Asghar, Rahmatullah Qureshi and **Ahmad Ali**. 2013. Study of polypeptides induced by drought stress in some local varieties of barley from Pakistan. *Pakistan Journal of Botany* 45(4): 1251-1254.
4. Rabia Amir, Nasir M. Minhas, Alvina Gul Kazi, Sumaira Farrukh, **Ahmad Ali**, Hadi Bux and Abdul Mujeeb-Kazi. 2014. Phenotypic and genotypic characterization of wheat landraces of Pakistan. *Emirates Journal of Food and Agriculture* 26(2): 157-163.
5. Misbah Safdar, Hadi Bux, Alvina Gul Kazi, Abdul Wajid Channa, **Ahmad Ali**, Zahid Akram and Abdul Mujeeb-Kazi. 2013. Molecular evaluation of D-genome based double haploid mapping population of wheat using SSR Primers. *Pakistan Journal of Biotechnology* 10(2): 27–35.
6. **Ahmad Ali**, Muhammad Arshad, S. M. Saqlan Naqvi, Awais Rasheed, Manzoor Ahmad, Hassan Sher, Sammer Fatima, Alvina Gul Kazi and Abdul Mujeeb-Kazi. 2014. Exploitation of synthetic derived wheats through osmotic stress responses for drought tolerance improvement. *Acta Physiologiae Plantarum* 36(9): 2453-2465.
7. Sammer Fatima, Muhammad Arshad, Sumbal Khalil Chaudhari, **Ahmad Ali**, Muhammad Shoaib Amjad and Rehana Kausar. 2014. Utilization of synthetics for drought tolerance in bread wheat (*Triticum aestivum* L.). *International Journal of Biosciences* 5(1): 104-112.
8. Hassan Sher, Ali Aldosari, **Ahmad Ali** and Hugo J. de Boer. 2014. Economic benefits of high value medicinal plants to Pakistani communities: an analysis of current practice and potential. *Journal of Ethnobiology and Ethnomedicine* 10: 1-16.
9. Muhammad Ilyas, Tariq Mahmood, **Ahmad Ali**, Muhammad Babar, Awais Rashhed and Abdul Mujeeb-Kazi. 2015. Characterization of D genome diversity for tolerance to boron toxicity in synthetic hexaploid wheat and in silico analysis of candidate genes. *Acta Physiologiae Plantarum* 37(2):17. Doi 10.1007/s11738-014-1765-8
10. Alvina Gul Kazi, Awais Rasheed, Hadi Bux, Abdul Aziz Napar, **Ahad Ali** and Abdul Mujeeb-Kazi. 2015. Cytological, phenological and molecular characterization of B(S)-genome synthetic hexaploids (2n=6x=42; AABBSS). *Cereal Research Communication* 43(2): 179-188.
11. Hassan Sher, Ali Aldosari, **Ahmad Ali** and Hugo J. de Boer. 2015. Indigenous knowledge of folk medicines among tribal minorities in Khyber Pakhtunkhwa, northwestern Pakistan. *Journal of Ethnopharmacology*. 166: 157-167.
12. **Ahmad Ali**, Muhammad Arshad, S.M. Saqlan Naqvi, Awais Rasheed, Hassan Sher, Alvina Gul Kazi and Abdul Mujeeb-Kazi. 2015. Comparative assessment of synthetic derived and conventional bread wheat advanced lines under osmotic stress and implications for molecular analysis. *Plant Molecular Biology Reporter*, 33(6): 1907-1917.
13. Alvina Gul, Awais Rasheed, Fakiha Afzal, Abdul Aziz Napar, **Ahmad Ali**, Muhammad Jamil, Maria Khalid, Hadi Bux, and Abdul Mujeeb-Kazi. 2015. Characterization of synthetic hexaploids derived from same *Aegilops tauschii* accessions and different durum cultivars. *Cytologia* 80(4): 427–440.

14. Khola Rafique, Chaudhary Abdul Rauf, Alvina Gul, Hadi Bux, **Ahmad Ali**, Rabia Asma Memon, Sumaira Farrakh and Abdul Mujeeb-Kazi. 2017. Evaluation of D-genome synthetic hexaploid wheats and advanced derivatives for powdery mildew resistance. *Pakistan Journal of Botany* 49(2): 735-743.
15. Hidayat Ullah, Habib Ahmad, Armghan Shahzad, **Ahmad Ali**, Ghulam Muhammad Ali. 2016. Evaluation of allelic variation for HMW glutenin subunits through SDS-PAGE in diverse bread wheats *International Journal of Biosciences* 9(1): 203-214.
16. **Ahmad Ali**, Anna Maria Mastrangelo, Pasquale De Vita, Giovanni Laido, Daniale Marone, Muhammad Arshad M, S.M. Saqlan Naqvi, Hassan Sher, Awais Rasheed and Abdul Mujeeb-Kazi. 2017. Screening drought adaptive phenological traits in conventional and synthetic derived bread wheat germplasm and its implications for association mapping. *Cereal Research Communications* 45(S1): 1–112.
17. Fakiha Afzal, **Ahmad Ali**, Zahid Ullah, Hassan Sher, Alvina Gul, Abdul Mujeeb-Kazi and Muhammad Arshad. 2018. Terminal drought stress adaptability in synthetic-derived bread wheat is explained by alleles of major adaptability genes and superior phenology, *International Journal of Agriculture and Biology*. 20(7): 1623-1631. doi: 10.17957/IJAB/15.0680.
18. Tariq Alam, Raja Asad Ali Khan, **Ahmad Ali**, Hassan Sher, Zahid Ullah and Mohammad Ali. 2019. Biogenic synthesis of iron oxide nanoparticles via *Skimmia laureola* and their antibacterial efficacy against bacterial wilt pathogen *Ralstonia solanacearum*. *Materials Science & Engineering C*, 98: 101-108.
19. Fakiha Afzal, Huihui Li, Alvina Gul, Abid Subhani, **Ahmad Ali**, Abdul Mujeeb-Kazi, Francis Ogonnaya, Richard Trethowan, Xianchun Xia, Zhonghu He and Awais Rasheed. 2019. Genome-wide analyses reveal footprints of divergent selection and drought adaptive traits in synthetic-derived wheats. *G3: Genes, Genomes, Genetics*, 9; 1957-1973.
20. **Ahmad Ali**, Zahid Ullah, Naveed Alam, S.M. Saqlan Naqvi, Muhammad Jamil, Hadi Bux, and Hassan Sher. 2020. Genetic analysis of wheat grains using digital imaging and their relationship to enhance grain weight. *Scientia Agricola*, 77(6): 1-10. DOI: <http://dx.doi.org/10.1590/1678-992X-2019-0069>.
21. **Ahmad Ali**, Zeeshan Ali, Umar M. Quraishi, Alvina Gul Kazi, Riffat N. Malik, Hassan Sher and Abdul Mujeeb-Kazi. 2014. Integrating physiological and genetic approaches for improving drought tolerance in crops. In. *Emerging Technologies and Management of Crop Stress Tolerance: A Sustainable Approach*. Elsevier Inc. 2:315–345. doi.org/10.1016/B.978-0-12-800875-1.00014-4; ISBN: 9780128008751 (**Book chapter**).
22. Zeeshan Ali, Barkat Ali, Ashiq Mohammad, Mushtaq Ahmad, Ijaz Ahmad, Abdul Aziz Napar, Alvina Gul Kazi, **Ahmad Ali**, Shamim-ul-Sibtain Shah and Abdul Mujeeb-Kazi. 2013. Combating water scarcity for global food security. In: *Agriculture in 21st century*. (ed) Amir Raza. NOVA New York Press (ISBN: 978-1-62948-026-8) (**Book chapter**).

PUBLISHED ARTICLES IN ANNUAL WHEAT NEWSLETTER

Editor: J. Raupp, Kansas State University, Manhattan, Kansas, USA.

- **Ahmad Ali**, Muhammad Arshad, Abdul Aziz Napar, Alvina Gul Kazi and Abdul Mujeeb-Kazi. 2013. Comparative assessment of high-molecular-weight glutenin composition and their relationship with grain quality traits in bread wheat and synthetic derivatives. 59: 72-75.

- **Ahmad Ali**, Muhammad Arshad, Abdul Aziz Napar, Alvina Gul Kazi and Abdul Mujeeb-Kazi. 2013. Comparative assessment of low molecular weight glutenin composition and their relationship with grain quality traits in bread wheat and synthetic derivatives. 59: 76-79.
- Saqib Arif, Qurat ul in Afzal, Mubarik Ahmed, Abid Hasnain, Shazia Arif, **Ahmad Ali**, Nosheen Shafqat, Alvina Gul Kazi and Abdul Mujeeb-Kazi. 2013. The relationship among pasting parameters in the presence of water-unextractable pentosan. 59: 84-85.
- Saqib Arif, Qurat ul in Afzal, Mubarik Ahmed, Abid Hasnain, Shazia Arif, Hadi Bux, Abdul Aziz Napar, Nosheen Shafqat, **Ahmad Ali**, Alvina Gul Kazi and Abdul Mujeeb-Kazi. 2013. (rm) The effect of water-unextractable pentosans on peak viscosity and time to reach peak viscosity of hard wheat flours. 59: 97-98.
- Saqib Arif, Qurat ul in Afzal, Mubarik Ahmed, Abid Hasnain, Shazia Arif, **Ahmad Ali**, Nosheen Shafqat, Alvina Gul Kazi and Abdul Mujeeb-Kazi. 2013. Effects of water-unextractable pentosans on breakdown and setback viscosities of hard wheat flours. 59: 100-102.
- Arif S, Afzal Q, Iqbal M, Ahmad M, Hasnain A, Kazi AG, **Ali A**, Mujeeb-Kazi A. 2014. Dough properties of flours obtained from different wheat varieties. 2014. 60: 61-64.
- **Ahmad Ali**, Muhammad Arshad, Awais Rasheed, Abdul Aziz Napar, Hassan Sher, Roshan Ali, Alvina Gul Kazi and Abdul Mujeeb-Kazi. 2014. Association analysis of agronomic traits in diverse wheat germplasm grown under water deficit conditions. 60: 51-53.

ABSTRACTS / CONFERENCES:

- Participated in Social Work Program during the session 1998-1999 at Government Degree College Matta, Swat.
- Successfully completed the Participant Teacher's Course of the *Intel® Teach to the Future Program* from 27th April to 4th May, 2004.
- Participated in International Conference from 25th to 27th April, 2007.
- Attended HEC-Bahria Workshop from 7th to 8th Nov. 2007.
- Participated in 6th International Bhurban Conference on Applied Sciences and Technology (IBCAST), held during January 19-22, 2009.
- Participated in SLUBGH Symposium from 27th to 29th March, 2009.
- Participated in International conference on "Advances in Agriculture; Prospects and Potentials of Natural Resources in Food Security" at Rawalakot, University of Azad **Jammu and Kashmir**. 11-13th Aug. 2009.
- Participated in 2nd Workshop on Bioinformatics at Muhammad Ali Jinnah University, Islamabad held on July 25, 2011.
- Participated in COST Action FA 0905 titled "Mineral Improved Crop Production for Healthy Food and Feed" from November 23-26, 2011 at Venice Italy.
- Participated in 12th National and 3rd International conference of Botany" at Quaid-i-Azam University, Islamabad. 1-3 Sep. 2012.
- **Ali, A.**, M. Arshad, S.M.S. Naqvi, A. M. Mastrangelo, P. de Vita and A. Mujeeb-Kazi. Analysis of genetic structure in a collection of synthetic derived and conventional bread wheat germplasm and association mapping for drought related traits. In. Deutsche Botanikertagung 2013 at Tübingen University, Germany. Sep 30th-Oct 04th, 2013.

- **Member of the organizing committee for “International Day for Biological Diversity; May 22, 2014”** organized by Centre for Plant Sciences and Biodiversity, University of Swat.
- **Member of the organizing committee** in 2nd International Conference titled “Conservation of medicinal and aromatic plants for improving the livelihood of mountain communities through industrial linages” organized by CPS&B, University of Swat in Collaboration with HEC from September 03-05, 2018.
- Ahmad Zada, **Ahmad Ali**, Shahzada AzizUllah Khan, Zahid Ullah and Hassan Sher. Improvement of osmotic stress tolerance in wheat by seed priming. In. “15th National and 6th International conference of Botany” at Quetta Pakistan. During May 9-11, 2017.
- Participated and presented scientific talk in 4th Conference of Cereal Biotechnology and Breeding Conference (CBB4) from November 6 – 9, 2017 at Budapest, Hungary.
- **Member of the organizing committee for “International Day for Biological Diversity; May 24, 2017”** organized by Centre for Plant Sciences and Biodiversity, University of Swat.
- Participated in International Seminar titled “Crop wild relatives genetic resources of Pakistan and their utilization” at National Agriculture Research Center (NARC), Islamabad on November 14, 2018.
- Participated in three day workshop of master trainers titled “PhD Supervisors Capacity Building Program” held at HEC Regional Centre, Peshawar from November 28-30, 2018.

Professional & Research experience:

- Successfully completed 23rd Master Trainers-Faculty Professional Development Program (MT-FPDP) at HEC, Islamabad from November 10 to December 31, 2014.
- Proficient in basic techniques of Botany/Molecular Biology/Biotechnology like Stress Physiology, Chlorophyll fluorescence, DNA/RNA Extraction, PCR, cDNA cloning, RT-PCR, Gradient PCR, Protein Expression, SDS-PAGE, Agarose Gel Electrophoresis, QTL Mapping, Association Mapping, Marker Assisted Selection, Genomic Selection.
- Proficient in using different bioinformatics tools like Primer 3, Graphical Codon Usage Analysis, BLAST, CLUSTAL W, NEB CUTTER, and RESTRICTION MAPPER etc.

Students Supervised/Under Supervision

BS and M.Sc. Botany

S.No.	Name	Research Topic	Session	Status
01	Ahmad Zada	The effect of seed priming on germination characteristics of wheat	2011-15	Supervised
02	Akhtar Nawab	Leaf epidermal anatomy of Pooideae (<i>Poaceae</i>) from Marghazar Swat, Pakistan	2012-14	Supervised
03	Fazal E Haq	Bud development in six varieties of apple under agro climatic conditions of Swat	2012-14	Supervised
04	Nida Alam	Leaf epidermal anatomy of selected dicot	2012-14	Supervised

		flora of Marghazar, Swat, Pakistan		
05	Saba Gul	Study of leaf surface micromorphology of weeds associated with tomato crop	2012-14	Supervised
06	Zakir Ullah	Double sigmoidal growth in stony fruits focusing on peaches (<i>Prunus persica</i> L.)	2012-14	Supervised
07	Gulab Khan	Characterization of wheat seed germination behavior using bio priming with <i>Trichoderma</i> strains and Potassium	2013-17	Supervised
08	Mahboob Ali	Effect of seed bio-priming and Cu doses on germination characteristics of wheat (<i>Triticum aestivum</i> L.) under laboratory conditions	2013-17	Supervised
09	Saeed Anwar	Effect of Copper, Boron and <i>Trichoderma harzianum</i> on grain quality and yield characteristics of bread wheat (<i>Triticum aestivum</i> L.)	2013-17	Supervised
10	Ajab Khan	Combined effect of selected micronutrients and <i>Trichoderma harzianum</i> on grain quality and yield of wheat	2015-17	Supervised
11	Ali Shah	Characterization of high molecular weight glutenin subunits (HMW-GS) and evaluation of their diversity in diverse bread wheat germplasm	2014-18	Supervised
12	Aisha Ali	Comparative effects of Hydro and Iron priming on germination and seedling morpho physiological attributes of wheat (<i>Triticum aestivum</i> L.)	2016-18	Supervised
13	Sumbal	Comparative effects of Hydro and Iron priming on germination and seedling morpho physiological attributes of wheat (<i>Triticum aestivum</i> L.)	2016-18	Supervised
14	Syed Rahim	Morpho-Physiological and Biochemical evaluation of Avena wild relatives for salinity tolerance	2017-19	Supervised
15	Nisar Ahmad	Morpho-Physiological and Biochemical evaluation of Avena wild relatives for salinity tolerance	2017-19	Supervised

M.Phil and Ph.D Botany

S.No.	Name	Research Topic	Session	Status
01	Muhammad Ajmal	Quantitative ethnobotanical studies of Talang Valley, Swat Pakistan	2013-15	Supervised
02	Kashmala Syed	Biogenic synthesis of Silver nanoparticles and its inhibitory action against selected	2018-21	In progress

Phytopathogens				
03	Maaz Ahmad	Biogenic synthesis and characterization of Silver nanoparticles from <i>Polygonatum geminiflorum</i> , a high valued medicinal plant	2018-20	In progress
04	Ajab Khan	Morpho-Physiological and biochemical characterization of wheat wild relatives	2018-20	In progress
05	Abdul Wakeel	Enironmental impact assessment of invasive <i>Parthenium hysterophorus</i> and <i>Xanthium strumarium</i> using IUCN criteria	2018-20	In progress

Research Interest:

- Developing strategies to improve wheat production/yield in rainfed areas
- Genetic analysis of quantitative traits related to grain yield and quality of cereals, resistance to biotic and abiotic stress by means of linkage maps and association mapping.
- Functional analysis of abiotic stress regulated genes.