



CURRICULUM VITAE

DR. MUHAMMAD ABUBAKKAR

Assistant Professor

Plant Breeding and Genetics

Postdoc (ICDD-Germany)

INTERNATIONAL RESEARCH PROJECTS/GRANTS

- Improvement in the socio-economic and health status of female cotton pickers under the changed scenario of *Bt* cotton adoption in the cotton belt. (Funded by IFPRI-USA)

RESEARCH EXPERIENCE (Dissertations)

- **PhD Thesis Research**
“*Inheritance of powdery mildew resistance and yield related traits in pea (Pisum sativum L.)*”
- **M.Sc. (Hons.) Thesis Research**
“*Comparison of RAPD, AFLP and SSR markers for diversity studies in Cotton.*”
- **B.sc. (Hons.) Research**
“*Somatic embryogenesis in sugarcane in suspension culture.*”

RESEARCH EXPERTISE

- ✦ DNA profiling
- ✦ Micropropagation
- ✦ PCR
- ✦ ELISA
- ✦ Spectrophotometer
- ✦ Luminometer
- ✦ Bioinformatics
- ✦ SDS-PAGE
- ✦ Gel documentation and analysis
- ✦ Production of somaclones in sugarcane
- ✦ Induction and exploitation of somaclonal variation in wheat
- ✦ Doubled haploid breeding in wheat
- ✦ Media preparation, sterilization and tissue culture.
- ✦ Cloning of Wheat *TaMlo* gene.
- ✦ DNA fingerprinting by using RAPD, SSR and AFLP markers.
- ✦ PIC analysis

- ✚ Enzyme isolation from plant materials.
- ✚ Chlorophyll and lycopene quantification in pea and tomato.
- ✚ Hybridization in peas, tomato and bitter melon
- ✚ Detach leaf assay for biotrophic fungi.
- ✚ Extraction and quantification of *Bt* endotoxin from cotton.
- ✚ Extraction and quantification of sugars and phenolic compounds in pea.

TRAINING/SEMINARS/PRESENTATIONS

- ➡ Presented in one day international seminar on “*Somatic embryogenesis of sugarcane in suspension culture*” held at the Centre of Agricultural Biochemistry and Biotechnology, University of Agriculture, Faisalabad-Pakistan. (September 23, 2007).
- ➡ Participation in the International training workshop on “*Recent advances in aetiology and management of mango sudden death syndrome*” held in the Dept. of Plant Pathology, University of Agriculture, Faisalabad-Pakistan. (October, 27-31, 2010).
- ➡ One month “*Intensive training course on Remote Sensing, and digital image processing*” held at University of Agriculture, Faisalabad, Pakistan. (November 29th to December 26, 2010).
- ➡ Afghan-Pakistan-USA trilateral commission’s training on “*Hygiene: Good manufacturing practices and sanitation standard operating procedures*” held at University of Agriculture, Faisalabad-Pakistan. (September 20-21, 2011)
- ➡ Afghan-Pakistan-USA trilateral commission’s training on “*HACCP and HACCP plans*” held at University of Agriculture, Faisalabad-Pakistan. (September 22-24, 2011).
- ➡ USDA’s workshop on “*GIS, GPS and mobile mapper*” arranged by Nova Scotia Agricultural College, Canada. (December 14-15, 2011)
- ➡ Workshop on “*Implementation of biosafety protocols*”, held at the Centre of Agricultural Biochemistry and Biotechnology, University of Agriculture, Faisalabad-Pakistan. (May 14, 2011).
- ➡ Training workshop for “*Testing transgenic crops*” held at the Centre of Agricultural Biochemistry and Biotechnology, University of Agriculture, Faisalabad-Pakistan. (September 5, 2012).
- ➡ Presented in one day international seminar on “*Challenges and new trends in vegetable production*” held at Vegetable Research Institute, AARI-Faisalabad. (December 18, 2012).
- ➡ Organized and participated the “*Wheat Seminar*” held on November 20, 2013 at Sub Campus UAF, Burewala, Vehari.
- ➡ Participated in the capacity building activity entitled “*Project Formulation Workshop*” being arranged by Pakistan Science Foundation at UAF (December 2013).
- ➡ Participated in a one day seminar entitled “*Profitable cotton cultivation*” being arranged at the SCUAFBV dated March 11, 2014.

- ➡ Participated in a one day seminar entitled “*Wheat cultivation in standing cotton crop*” being arranged at the Adaptive Research Farms, Vehari, dated March 12, 2014.
- ➡ Participated in 2nd national conference on “*Advancement in Science and Research*” being arranged by CIIT-Vehari Campus, dated March 17, 2014.
- ➡ Participated and presented in 4th CGP Conference being arranged by PSSP and IFPRI at Planning commission Pakistan, Islamabad on June 14-15, 2014.
- ➡ Participated in a workshop on sustainable development of modern urban universities being arranged by ORIC, University of Agriculture, Faisalabad on June 21, 2014.
- ➡ Organized and participated in different activities of the “**Mango Seminar**” dated, September 10, 2014)
- ➡ Participated in one day workshop on “*Grant writing*” being organized by ORIC in collaboration with UC Davis and Washington State University dated September 12, 2014.
- ➡ Delivered lectures on:
 - ❖ “Molecular basis of inheritance”
 - ❖ “Prospects of wheat transformation for herbicide resistance”
 - ❖ “Proteomic analysis of rice leaf sheath during drought stress”

PUBLICAIONS

i. Research Papers

1. **Azmat, M. A.** and A. A. Khan. **2010**. Assessment of genetic diversity among the varieties of *Gossypium arboreum* and *Gossypium hirsutum* through RAPD and SSR markers. Pak. J. Bot., 42(5): 3173-3181.
2. **Azmat, M. A.**, N. N. Nawab, S. Niaz, A. Rashid, K. Mahmood, A. A. Khan and S. H. Khan. **2010**. Single recessive gene controls powdery mildew resistance in pea. Intl. J. Veg. Sci., 16 (3): 278-286.
3. **Azmat, M. A.**, N. N. Nawab, A. A. Khan, S. Niaz and K. Mahmood, **2011**. Characterization of pea germplasm. Intl. J. Veg. Sci., 17: 246-258.
4. **Azmat, M. A.**, A. A. Khan, A. Saeed, M. Ashraf and S. Niaz. **2012**. Screening pea germplasm against *Erysiphe polygoni* for disease severity and latent Period. Intl. J. Veg. Sci., 18(2): 153-160.
5. **Azmat, M. A.**, I. A. Khan, H. M. N. Cheema, I. A. Rajwana, A. S. Khan and A. A. Khan. **2012**. DNA extraction from mature leaves of *Mangifera indica* L. suitable for PCR applications. Journal of Zhejiang University-SCIENCE B., 13(4): 239-243.
6. **Azmat, M. A.**, A. A. Khan, A. Saeed, M. Ashraf and S. Niaz. **2012**. Pathogenicity testing and characterization of geographically distributed isolates of *Erysiphe polygoni*. Intl. J. Veg. Sci., 18(3): 211-222.
7. Haq, I., A. A. Khan, I. A. Khan and **M. A. Azmat***. **2012**. Comprehensive screening and selection of okra (*Abelmoschus esculentus* L) germplasm for salinity

- tolerance at the seedling stage and during the ontogeny of whole plant. Journal of Zhejiang University-SCIENCE B., 13(7):533-544 (***Corresponding author**).
8. **Azmat, M. A.**, A. A. Khan, H. M. N. Cheema, M. Ashraf and S. Niaz. **2013**. Detached leaf assay coupled with microscopic conidial quantification: An efficient screening method for powdery mildew resistance in pea. Int. J. Agric. Biol., 15: 957-962
 9. **Azmat, M. A.** and A. A. Khan. **2013**. Inheritance of *er-1* based broad-spectrum powdery mildew resistance in pea (*Pisum sativum* L.). Not Bot Horti Agrobo, 41(2):485-490
 10. Haq, I., A. A. Khan and **M. A. Azmat***. **2013**. Assessment of genetic diversity in okra (*Abelmoschus esculentus* L) using RAPD markers. Pak. J. Agri. Sci., 50(4), 655-662. (***Corresponding author**)
 11. **Azmat, M. A.** and A. A. Khan. **2014**. Powdery mildew induced physiological and biochemical changes in pea (*Pisum sativum* L.). Pak. J. Agri. Sci. 51(4):893-899
 12. **Azmat, M. A.**, A. A. Khan and S. Niaz. **2016**. Stomatal density and chlorophyll concentration as an indicator of powdery mildew resistance in pea (*Pisum sativum* L.) Pak. J. Agri. Sci., 53(4): 871-877
 13. **Azmat, M. A.**, A. A. Khan. I. A. Khan, I. A. Rajwana and A. S. Khan. **2016**. SSR based DNA fingerprinting of elite commercial mango cultivars. Pak. J. Agri. Sci., 53(2):321-330.
 14. Khan, I. A., A. S. Khan, I. A. Rajwana, A. A. Khan, **M. A. Azmat** and S. A. Raza. **2016**. Premium quality mango genotypes for extended harvest season. Hortscience 51(12): 1609-1612. doi: 10.21273/HORTSCII11028-16
 15. Ahmad, H. G. M., M. Sajjad, M. Li, **M. A. Azmat**, M. Rizwan, R. H. Maqsood and S. H. Khan. 2019. Selection criteria for drought-tolerant bread wheat genotypes at seedling stage. Sustainability 11: 2584. doi:10.3390/su11092584
 16. **Azmat, M. A.**, A. A. Khan, I. A. Khan, A. Buerkert and M. Wiehle. 2020. Morphology, biochemistry, and management of Russian olive (*Elaeagnus angustifolia* L.) accessions in Gilgit-Baltistan, northern Pakistan. Journal of Agriculture and Rural Development in the Tropics and Subtropics 121(2):

ii. Proceedings:

1. Nazir, S., S. Nazir, I. A. Khan, S. Mehboob, **M. A. Azmat**. 2016. "Linkages, Sustainable Agricultural Development and Socio-economic Empowerment of Rural Women in Pakistan". 1st National Conference Emerging Trends and Challenges in Social Sciences (ETCSS-2016) 15th & 16th November, 2016 Department of Sociology Bahauddin Zakariya University Multan, Pakistan.
2. Nazir, S., **M. A. Azmat**, I.A. Khan, A. A. Maann, S. Mehboob, S. Nazir. 2016. "The Pros and Cons of Internal Migration on Female Domestic Workers in Special Reference to Socio-Economic Status in Metropolis, Pakistan". 1st National Conference Emerging Trends and Challenges in Social Sciences (ETCSS-2016) 15th & 16th November, 2016 Department of Sociology Bahauddin Zakariya University Multan, Pakistan.

3. Nazir, S., S. Mehboob, **M. A. Azmat** and S. Nazir. 2016. "Role of Electronic Media in Transformation of Socio-Cultural and Religious Value System in Pakistan". 1st National Conference Emerging Trends and Challenges in Social Sciences (ETCSS-2016) 15-16 November, 2016 Department of Sociology Bahauddin Zakariya University Multan, Pakistan.
4. **M. A. Azmat**, A. A. Maann, I. A. Khan, S. Nazir. 2016. Impact of **Socio-Economic** and Moral Characteristics of Farmers on Female Cotton Picker's Conducive Work Environment in Pakistan. 1st National Conference Emerging Trends and Challenges in Social Sciences (ETCSS-2016) 15-16 November, 2016 Department of Sociology Bahauddin Zakariya University Multan, Pakistan.
5. Nazir, S. S. Mehboob, **M. A. Azmat**. 2016. "Linkages Sustainable Agricultural Development along the Outreach Activities in Southern Punjab, Pakistan" International Conference on Sustainable Agriculture in Pakistan Jointly organized by UC Davis and UAF From November 17 19, 2016.
6. Nazir, S., I.A. Khan, A.A. Maann **M. A. Azmat**, S. Nazir, S. Mehboob. 2016. The Impact of Internal Migration on Socio Economic and Psychological Well Being of Female Domestic Workers in Pakistan". International Conference on Psychology of Gender in Perspective Issues and Challenges (November 3 - 4, 2016). National Institute of Psychology (NIP) Quaid-i-Azam University, (New Campus), Islamabad.
7. Nazir, S, S. Mehboob, A. A. Maan, **M. A Azmat**, I. A. Khan. 2016. Impact of Soil Salinity on Socio Economic Conditions of Rural Community in Southern Punjab, Pakistan. 1stInternational Salinity Confernce (ISC-2016) The Islamia University Bahwalpur, Pakistan.
8. Nazir, S., A.A. Maan, S. Nazir, I. Ah. Khan, **M. A. Azmat**, S. Mehboob. 2016. Integrated Pest Management Linkages, Health Hazards among Rural Agricultural Women iin Punjab, Pakistan. International Entomological Congress (One Exclusive Day on Current Scenario and Management of Pink Boll Worm). Organized by, Pakistan Entomological Society, Department of Entomolgy, University of Agriculture, Faisalabad, Pakistan.
9. Nazir, S., S. Mehboob, **M. A. Azmat**. 2016. International Conference On Asian History, Culture and Environment: Vernacular and Oriental Paradigms. Organized by NIHCR, Quaid-i-Azam University Islamabad, Pakistan.
10. **Azmat, M. A.** and S. Nazir. 2017. Improvement in the socio-economic and health status of female cotton pickers under the changed scenario of Bt cotton adoption in the cotton belt. Sino-Pak International Conference on Innovations in Cotton Breeding and Biotechnology (November 22-24, 2017). MNS-UAM-Pakistan.
11. Rana, U. S., **M. A. Azmat** and A. S. Khan. 2019. Genetic analysis of yield related traits in 5×5 diallel crosses of spring wheat (*Triticum aestivum* L.). 1st Aus-Pak

International Conference on Wheat for Food Security (March 24-25, 2019). MNS-UAM-Pakistan.

12. Ahmed, H. G. M., **M. A. Azmat**, M. Rizwan, R. H. Maqsood...and A. Sher. 2019. Screening of spring wheat genotypes through photosynthetic indices conferring drought tolerance at seedling stage. 1st Aus-Pak International Conference on Wheat for Food Security (March 24-25, 2019). MNS-UAM-Pakistan.