

DR. ASMAT ULLAH

Lead Climate Change Research Group, Agronomic Research Station, Khanewal South Punjab, Pakistan

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Domicile: Layyah (Punjab) Pakistan

Date of Birth: May 16, 1982

CNIC #: 32203-2032077-9

CAREER SUMMARY:

A Senior Researcher with experience of >15 years in Agriculture Extension & Research Wing, continuously involved in various research-oriented issues; Climate resilience in production systems, Climate Adaptations, Agroecology, Agro-Climatology, Climate Change Impact Assessment, Cropping systems feasibility and economic analysis, Resource use efficiency of major and alternate crops

EXPERTISE:

- Monitoring and prediction of climate changes indices and their impact analysis
- CC impact analysis using decision support system and artificial intelligence
- Use of crop models and simulation of agriculture production systems
- Disaster risk management through the identification of climate smart adaptations
- Statistical downscaling and generation of IPCC climate change scenarios
- Yield forecasting using crop modeling and remote sensing technique
- GHGs inventory preparation and measurement
- Optimization of crop management options through empirical modeling
- Testing feasibility of cropping systems for different land holdings and climates

TECHNICAL SKILLS:

- Use of Crop Models (DSSAT, APSIM, CQESTR, AquaCrop) in agriculture
- IPCC GHG measurement and Inventory tool
- CCAFS Regional Agricultural Forecasting Toolbox (CRAFT)
- Developing Genetic Algorithms for impact assessment
- QGIS and ArcGIS for Mapping and data interpolation
- Field experimentation and data curation
- Bioeconomic analysis of cropping system's competitive indices
- Statistical downscaling methods and data analysis using Statistic, SAS, M-Stat C and R

RECENT RESEARCH ACTIVITIES:

- Performance of Wheat, Sorghum, Pearl Millet, Maize, Cotton and legumes under different climate change scenarios using different RCPs for early, mid and late century employing different tools (*DSSAT & APSIM*).
- Climate change impact assessment using multimodel and artificial intelligence Technique
- Developing climate change adaptation strategies & introducing climate smart interventions to manage disaster risk
- Designing virtual cultivars of cereals, pulses and oilseed using digital techniques to cope up future climate in the Punjab Province, Pakistan

- Assessing ecological sustainability of Cotton through intercropping of mungbean and sunflower in different climates
- Exploring suitability of different cropping systems to small, medium and large farmers holdings
- Exploring economic optimal resource use efficiency and excessive use of resources in cotton through modeling approach
- Effect of mulching on seed cotton yield and salt accumulation in soil under arid dry climate

MANAGEMENT & ADMINISTRATIVE EXPERIENCE:

- **Agronomist/Principal Scientist**, Agronomic Research Station, Karor, Layyah-Pakistan. (2010-15)
- **Deputy Director (Subject Specialist) Agronomy**, Adaptive Research Farm, D. G. Khan- Pakistan. (2009-10)
- **Farm Manager**, Adaptive Research Farm, D. G. Khan-Pakistan (2007-2010)
- **Monitoring and Evaluation Specialist** Farmer Training Programs for Wheat and Cotton Crop, D. G. Khan, Rajanpur & Layyah- Pakistan (2007-2012)

EXPERIENCE IN RESEARCH:

- **Senior Scientist**, Agronomic Research Station, District Khanewal, Punjab, Pakistan (2018 to date)
- **Senior Scientist**, Agronomic Research Station, Karor, District Layyah-Pakistan (2010-2018)
- **Visiting Research Scientist**, Institute for Sustainable Food Systems (ISFS), University of Florida, USA (October 2016 to April 2017)
- **Assistant Research Officer (BS-17)**, Adaptive Research Farm, D. G. Khan-Pakistan (2007-2010)

EXPERIENCE IN TEACHING:

- Co-Supervised two (2) M. Sc. (Hons.) Agriculture-Agronomy students for their post-graduate research (2015 & 2016). The thesis research titles are;
 - (a) *Simulating the effect of planting dates on productivity of various Wheat cultivars in arid environment using APSIM-Wheat Model” (2015)*
 - (b) *Simulating the effect of planting dates on productivity of various Wheat cultivars in arid environment using CERES-Wheat Model” (2016)*
 - (c) Supervising PhD (Agronomy) Student of Gomal Agriculture University, D. I. Khan, KPK Province, Pakistan. His thesis research title is *“Innovative management strategies for enhancing mungbean productivity under variable temperature and moisture regimes”*
- **Teaching Assistant** in the Agro Climatology Lab. Department of Agronomy, University of Agriculture, Faisalabad-Pakistan (10.10.2015 to 18.01.2016)
- Supervised 35 graduate students (Internee) under Internship Program, each for six months at research station (2007-2010)
- **Lecturer / Instructor (Agronomy)**, Agricultural Training Institute, Karor, Layyah-Pakistan (2010-12)

RESEARCH PROJECTS/ CONSULTANCIES

- 1- Project: Establishment of Institute for Climate Smart Agriculture”**
Financial support: Government of the Punjab
Worth: 678 million (Submitted)
Duration: September 2021 to June-2026
Role As: Focal Person/Project Director
- 2- Project: Increasing water use efficiency through sensor based controlled systems**
Funding agency: Government of the Punjab, Punjab Agricultural Research Board
Worth: 29 million (Under review)
Duration: March-2021 to June-2025
Role As: PI
- 3- Project: Climate Smart Interventions of Small-Holder Farming Systems**
Financial support: Government of the Punjab
Duration: January-December 2019
Role As: PI
- 4- Project: Evaluation of management option to enhance climate resilience in pearl millet production systems using system analysis approach**
Funding agency: Government of the Punjab, Pakistan
Amount: 1.5 million (Salary & Research)
Duration: 2012-2017
Role As: PI
- 5- Project: Prediction of climate change indicators using statistical downscaling**
Financial support: Higher Education Commission of Pakistan
Worth: 2.0 million (IRSIP Grant)
Duration: October-2016 to April-2017
Role As: Research Scientist
- 6- Consultancy: Capacity building of Research Scientists in climate change adaptation using Decision Support System for Agro-technology Transfer (DSSAT)**
Financial support: Government of the Punjab
Duration: October 2017
Role As: Resource person/Trainer
- 7- Consultancy: Establishment of Agroecological Zones of Punjab Pakistan**
Financial support: The Food and Agriculture Organization (FAO)
Duration: 26 December 2017 to April 2018
Role As: Technical Consult

8- Project: Impact of climate change and development of adaptations in Cotton-Wheat cropping systems of Punjab, Pakistan under Agriculture Model Intercomparing Project (AgMIP), USA, Phase-II

Funding agency: UK Department for International Development's UKaid

Amount: 22 million

Duration: 21 September 2015 to 28 February 2017

Role As: Technical Expert

9- Project: Establishment of Biological Control Laboratory” at district Pakpattan

Funding agency: Government of the Punjab, Pakistan

Duration: 2005-2007

Role As: Agriculture Officer / Incharge

QUALIFICATIONS:

- PhD (Agronomy) 2012-2017
University of Agriculture, Faisalabad, Pakistan
PhD Thesis Research, University of Florida, USA
Title of dissertation: “Evaluation of management options to enhance climate resilience in pearl millet production system using system analysis approach”
- M.Sc. Hons. (Agronomy), University of Agriculture, Faisalabad-Pakistan (2003-2005).
Title of dissertation: “Studies on planting patterns of maize facilitating intercropping of legumes”
- B.Sc. Hons. (Agronomy), University of Agriculture, Faisalabad, Pakistan (1999-2003).

MEMBERSHIP OF PROFESSIONAL ORGANISATIONS:

- Pakistan Society of Agronomy-PSA
- American Society of Agronomy-ASA
- Crop Science Society of America-CSSA
- Soil Science Society of America-SSSA
- International Exchange Alumni-USA

ENGLISH LANGUAGE PROFICIENCY:

- Successfully completed English language course offered by the TESL Undergraduate Certificate Program, The Department of Linguistics, University of Florida, USA (Spring 2017)

FOREIGN TRAININGS:

- Six months training on “Assessing Crop Production, Nutrient Management, Climatic Risk, and Environmental Sustainability with Simulation Models and Data Analysis” under HEC-International Research Support Initiative Program at University of Florida, USA from October 2016 to April 2017
- In-service training on “New technology for commercial crop production” at 1308 Fifield Hall, University of Florida, Gainesville. USA February 22, 2017

- Training workshop on “Weather and Climate Decision Tools for Farmers, Ranchers and Land Managers” at University of Florida, Gainesville, USA; December 10, 2016
- Long distance training course on “Grain storage technology for Managers and supervisors from developing countries” sponsored by Henan University of Technology, China with effect from March 6, 2016 to July 30, 2016

COUNTRY-SITE TRAININGS:

- International training “Advanced Tools for Drought Monitoring and Adaptations” MNS-University of Agriculture, Multan, Punjab, Pakistan October 10, 2018
- Training on Decision Support System for Agro-technology Transfer (DSSAT) under AgMIP-Pakistan at University of Agriculture, Faisalabad Pakistan; November 28, 2015
- International hands-on training on “Agricultural Production Systems Simulator (APSIM) under DFAT-Indus Pakistan Project) at University of Agriculture, Faisalabad, Pakistan; November 17-20, 2015
- Training on “Assessing crop production, nutrient management, climate risk and environmental sustainability with APSIM model” at University of Agriculture, Faisalabad, Pakistan; October 9-11, 2015
- Training program on “Decision Support System for Agro-technology Transfer (DSSAT” at US-Pak Center for Advanced Studies in Agriculture and Food Security, University of Agriculture, Faisalabad, Pakistan; August 18-19, 2015
- EU-Asia link project short course training on “Livestock ecology, sustainable land use and live stock systems, University of Agriculture, Faisalabad Pakistan; January 12-24, 2004
- In-service on “Financial management”, Management & Professional Development Department, Lahore, Pakistan; April 7-11, 2014
- In-service training on “Office management” Regional Agricultural Economic Development Centre, Vehari Punjab Pakistan; December 2-4, 2019

PUBLICATIONS:

A. Published Articles

1. **Ullah, A., I. Ahmad, M. H. Rahman, M. Waseem, M. M. Waqas, M. A. Bhatti and A. Ahmad. 2020.** Evaluation of management options through empirical modeling to improve pearl millet production in semi-arid and arid regions of Punjab Pakistan. **Sustainability**, 12(18): 7715; <https://doi.org/10.3390.su12187715>
2. Hussain, J., T. Khaliq, S. Asseng, U. Saeed, A. Ahmad, B. Ahmad, I. Ahmad, M. Fahad, M. Awais, **A. Ullah**, G. Hoogenboom. **2020.** Climate Change Impacts and Adaptations for Wheat Employing Multiple Climate and Crop Models in Pakistan. **Climatic Change**. 2020: 2855-7; <https://doi.org/10.1007/s10584-020-02855-7>
3. Iqbal, S., M. Luqman, H.M. Nasrullah, **A. Ullah** and H.M. Akram. **2020.** Response of Cotton to Application of Organic and Inorganic Source of Nutrients in Semi-Arid Climate. **Sarhad Journal of Agriculture**. 36(3): 929-938; <http://dx.doi.org/10.17582/journal.sja/2020/36.3.929.938>
4. **Ullah, A., I. Ahmad, A. Ahmad, M. H. Rahman, T. Khaliq, U. Saeed and G. Hoogenboom. 2019.** Assessing climate change impacts on pearl millet under contrasting environments using system analysis approach. **Environmental Science and Pollution Research**. 26(7): 6745–6757; <https://doi.org/10.1007/s11356-018-3925-7>

5. **Ullah, A., A. Ahmad, T. Khaliq, J. Akhtar and G. Hoogenboom. 2019.** Path analysis approach to assess the compensatory impact of yield attributes on pearl millet grain yield in semi-arid and arid areas of Punjab, Pakistan. **Journal of Animal and Plant Sciences.** 29(3): 746-753 <http://www.thejaps.org.pk/docs/v-29-03/14.pdf>
6. Ahmed, I., M.H. Rahman, S. Ahmed, J. Hussain, **A. Ullah** and J. Judge. **2018.** Assessing the Impact of Climate Variability on Maize using Simulation Modeling under Semi-Arid Environment of Punjab-Pakistan. **Environmental Science and Pollution Research.** 25(28): 28413-28430, <https://doi.org/10.1007/s11356-018-2884-3>.
7. Ahmed, I., U. Saeed, M. Fahad, **A. Ullah**, M. H. Rahman, A. Ahmad and J. Judge. **2018.** Yield forecasting of Spring Maize using Remote Sensing and Crop Modeling in Faisalabad-Punjab Pakistan, **Journal of the Indian Society of Remote Sensing**, 46(10): 1701-1711 <https://doi.org/10.1007/s12524-018-0825-8>.
8. **Ullah, A., N. Salehnia, S. Kolsoumi, A. Ahmad and T. Khaliq. 2018.** Prediction of effective climate change indicators using statistical downscaling approach and impact assessment on pearl millet (*Pennisetum glaucum* L.) yield through Genetic Algorithm in Punjab, Pakistan. **Ecological Indicators**, 90C (2018): 569-576. **IF 3.898** <https://doi.org/10.1016/j.ecolind.2018.03.053>.
9. Rehman, M., A. Ahmad., A. Wajid, M. Hussain, F. Rasul, W. Ishaque, A. Islam, M. Awais, V. Shelia, **A. Ullah**, A. Wahid, S. R. Sultana, S. Saud, S. Khan, s. Fahad, S Hussain and W.N.Jatoi. **2017.** Application of CSM-CROPGRO-Cotton Model for Cultivars and Optimum Planting Dates: Evaluation in Changing Semi-Arid Climate. **Field Crops Research**, July 2017. <https://doi.org/10.1016/j.fcr.2017.07.007>.
10. **Ullah, A., Ashfaq, A., Tasneem, K. and Javaid. A. 2017.** Recognizing production options to enhance climate resilience in pearl millet under changing climate scenarios in Punjab Pakistan. **Journal of Integrative Agriculture**, 16(4):762-773. [https://doi.org/10.1016/S2095-3119\(16\)61450-8](https://doi.org/10.1016/S2095-3119(16)61450-8).
11. Khaliq, T., N. Hussain, A. Ali, **A. Ullah**, M. Ahmad and A. Ahmad. **2016.** Quantification of root-shoot development and water use efficiency in autumn maize (*Zea mays* L.) under different irrigation strategies. **Journal of Environmental & Agricultural Sciences**, 6: 16-22.
12. Maqbool, M. M., **A. U. Malik**, A. Ahmad, T. Khaliq, M. A. Bhatti, A. Ghaffar and F. Hussain. **2014.** Response of Wheat (*Triticum aestivum* L.) cultivars to salt stress. **Int. J. Agric. Appl. Sci.** 6(1):120-129.
13. Rahman, M. H., S. A. Wajid, A. Ahmad, T. Khaliq, **A. U. Malik**, M. Awais, M. Talha, F. Hussain, G. Abbas. **2013.** Performance of Lentil promising cultivars at different nitrogen rates under irrigated conditions. **Science International**; 25(4): 905-909. <http://www.sci-int.com/pdf/128139843344-905-909-Rehman%20-Agri-%20%20composed%2025-4-13.pdf>
14. Abbas, G., F. Hussain, Z. Anwar, J. Z. K. Khattak, M. Ishaque and **A. Ullah. 2012.** Effects of Iron on the Wheat Crop (*Triticum aestivum* L.) by Uptake of Nitrogen, Phosphorus and Potassium. **Asian Journal of Agricultural Sciences** 4(3): 229-235. <http://maxwellsci.com/print/ajas/v4-229-235.pdf>
15. Malghani, A. L., **A. U. Malik**, A. Sattar, F. Hussain, G. Abbas and J. Hussain. **2012.** Response of growth and yield of wheat to NPK fertilizers. **Science International.** 24(2):185-189. [http://www.sci-int.com/pdf/6786156921Final%20proof%20Malghani%20et%20al%20\(SI,%20Lahore\)\[2\]%20Ghulam%20Abbas%20185-189.pdf](http://www.sci-int.com/pdf/6786156921Final%20proof%20Malghani%20et%20al%20(SI,%20Lahore)[2]%20Ghulam%20Abbas%20185-189.pdf)
16. G. Abbas, J. Z. K. Khattak, A. Mir, M. Ishaque, M. Hussain, H. M. Wahedi, M. S. Ahmed and **A. Ullah. 2012.** Effect of organic manures with recommended dose of

- NPK on the performance of wheat (*Triticum aestivum* L.) *J. Anim. Plant Sci.* 22(3):683-687. <http://www.thejaps.org.pk/docs/v-22-3/28.pdf>
17. Ali, A., T. Khaliq, A. Ahmad, and S. Ahmad, **A.U. Malik**, and F. Rasul. **2012**. How wheat responses to nitrogen in the field? A review. *Crop Environ.*, 3: 71-76. <http://www.psa.net.pk/images1/15.pdf>
 18. **Malik, A. U.**, A. L. Malghani and F. Hussain. **2012**. Growth and yield response of wheat (*Triticum aestivum* L.) to Phosphobacterial Inoculation. *Russian Agricultural Sciences*. 38(1):11-13 <http://link.springer.com/article/10.3103/S106836741201003X>
 19. S. Nazeer, **A. U. Malik**, G. Nazir and J. Ahmad. **2012**. Effectiveness of Tillage Systems and Farm Manure Levels on Rice Productivity. *Journal of Animal and Plant Sciences*. 22(2): 334-338. <http://www.thejaps.org.pk/docs/v-22-2/16.pdf>
 20. Nazeer, S. and **A. U. Malik**. **2011**. Effect of Tillage Systems and Farm Manure on Physical properties and Nutrient's Concentration in Soil. *Russian Agricultural Sciences*. 37(3): 232-238. <http://link.springer.com/article/10.3103/S1068367411030153>
 21. Hussain, F., **A. U. Malik**, M. A. Haji and A. L. Malghani. **2011**. Growth and Yield Response of Two Cultivars of Mungbean (*Vigna radiata* L.) to different Potassium Levels. *Journal of Animal and Plant Sciences*. 21(3): 622-625. <http://www.thejaps.org.pk/docs/21-3/31.pdf>
 22. Abbas, G., J. Z. K. Khattak, Z. Abbas, M. Aslam, M. B. Khokhar and **A. U. Malik**. **2011**. Efficacy of Insecticides against Army Worm (*Spodoptera mauritia*) on Mung bean (*Vigna radiata* L.) under Arid Climate. *Science International (Lahore)* 23(4):327-330. <http://www.sci-int.com/pdf/88690822316-%20Ghulam%20Abbas%20327-330.pdf>
 23. Abbas, G., M. Aslam, **A. U. Malik**, Z. Abbas, M. Ali and F. Hussain. **2011**. Potassium Sulfate effects on growth and yield of mugbean (*Vigna radiata* L.) under arid climate. *Int. J. Agric. Appl. Sci.* 3(2):72-75. <http://uos.edu.pk/wp-content/uploads/2014/09/Paper51.pdf>
 24. Bukhash, M. A. A. H. A., Riaz Ahmad, **A. U. Malik**, S. Hussain and M. Ishaque. **2011**. Profitability of three maize hybrids as influenced by varying plant density and potassium application level. *J. Anim. Pl. Sci.* 21(1): 42-47. [http://www.thejaps.org.pk/docs/21\(1\)2011/PROFITABILITY-OF-THREE.pdf](http://www.thejaps.org.pk/docs/21(1)2011/PROFITABILITY-OF-THREE.pdf)
 25. Bodla, M. I., **A. U. Malik**, M. A. A. H. A. Bakhsh, Safdar Hussain and G. Abbas. **2011**. Impact of different planting techniques on growth and yield of maize. *Life. Sci. Int. J.* 5(2):2180-2187.
 26. Ghulam Abbas, Zafar Abbas, M. Aslam, **A. U. Malik**, M. Ishaque and F. Hussain. **2011**. Effects of organic and inorganic fertilizers on mungbean (*Vigna radiata* (L.) yield under arid climate. *Int. Res. J. Plant Sciences*. 2(4): 094-098. <http://www.interestjournals.org/irjps/april-2011-vol.2-issue-4>
 27. Bukhash, M. Ahmad Alias Haji A., Riaz Ahmad, M. Ishaque and **A. U. Malik**. **2011**. Why do maize hybrids respond differently to variations in plant density? *Crop and Environment*. 2:52-60. <http://www.psa.net.pk/images1/8917..pdf>
 28. Bukhash, M. A. A. H. A., Bukhash, R. Ahmad, **A. U. Malik**, S. Hussain and M. Ishaque. **2010**. Agro-Physiological traits of three maize hybrids as influenced by varying potassium application. *Life. Sci. Int. J.* 4(2):1487-1496.
 29. Bukhash, M. A. A. H. A., R. Ahmad, S. Hussain, **A. U. Malik** and M. Ishaque. **2010**. Comparative performance of two canola cultivars under different row spacing. *Life. Sci. Int. J.* 4(2):1487-1496.
 30. **Malik, A. U.**, I. Hussain, A. K. Chaudhry and M. A. alias Haji A. Bukhash. **2010**. Effect of different irrigation regimes on wheat yield under local conditions of D. G.

31. N. I. Khan, **A. U. Malik**, F. Umer, M. I. Bodla. **2010**. Effect of tillage and farm yard manure on physical properties of soil. *Int. Res. J. Plant Sciences*. 1(4): 75-82. <http://www.interestjournals.org/irjps/october-2010-vol-1-issue-4>
32. Qasim, G., **A. U. Malik**, M. Sarfraz, M. A. A. H. A. Bukhsh and M. Ishaque. **2010**. Relationship between laboratory seed quality tests, field emergence and yield of chickpea. *Crop & Environment*. 1: 31-34. <http://www.psa.net.pk/images1/7-CE-10-003.31-34.pdf>
33. Bukhash, M. A. A. H. A., R. Ahmad, **A. U. Malik**, S. Hussain and M. Ishaque. **2010**. Agro-Physiological traits of three maize hybrids as influenced by varying plant density. *J. Anim. Pl. Sci.* 20(1):34-39. http://www.thejaps.org.pk/docs/20-1-2010/Ahmad_et_al.pdf
34. **Malik, A. U.**, M. A. A. H. A. Bukhash, M. A. Athar and M. Ali. **2009**. Comparative performance of some new wheat cultivars in agro-ecological zone of D. G. Khan. *J. Anim. Pl. Sci.* 19(2): 78-81. <http://www.thejaps.org.pk/docs/19-2-%202009/09-908R.pdf>
35. Bukhash, M. A. alias Haji A., R. Ahmad, M. Ishaque and **A. U. Malik**. **2009**. Response of maize hybrids to varying potassium application in Pakistan. *Pak. J. Agri. Sci.* 46(3): 179-184. <http://www.pakjas.com.pk/papers/91.pdf>
36. **Malik, A. U.**, M. A. A. H. A. Bukhash and I. Hussain. **2009**. Effect of seed rates sown on different dates on wheat under agro ecological condition of Dera Ghazi Khan. *J. Anim. Pl. Sci.* 19(3): 126-129. <http://www.thejaps.org.pk/docs/19-no-3-2009/09-953.pdf>
37. Bukhash, M. A. A. H. A., **A. U. Malik**, M. Ishaque and S. H. Sadiq. **2009**. Performance of sunflower in response to exogenously applied salicylic acid under varying irrigation regimes. *J. Anim. Pl. Sci.* 19(3): 130-134. <http://www.thejaps.org.pk/docs/19-no-3-2009/09-942.pdf>
38. **Malik, A. U.**, I. Hussain, M. A. A. H. A. Bukhash, M. A. Haji and M. Ali. **2009**. Demonstration and evaluation of effect of weedcides on broad leaved weeds on wheat yield. *J. Anim. Pl. Sci.* 19(4): 193-196. <http://www.thejaps.org.pk/docs/19-no-4-2009/Malik.pdf>
39. **Ullah, A.**, M. A. Bhatti, Z. A. Gurmani and M. Imran. **2007**. Studies on planting pattern of maize facilitating intercropping of legumes. *J. Agric. Res.* 45(2):113-118. http://www.jar.com.pk/upload/1375090848_103_Microsoft_Word_-_113=119.pdf

B. Book Chapters

1. **Ullah A.**, I. Ahmad, Habib-ur-Rehman, U. Saeed, A. Ahmad, A. Mehmood and G. Hoogenboom. **2019**. Chapter; Climate Smart Interventions of Small-Holder Farming Systems; Climate Change and Agriculture, IntechOpen Publisher, UK. DOI: <http://dx.doi.org/10.5772/intechopen.82872>
2. Ahmed, I., M. H. Rahman, **A. Ullah**, B. Ahmad, G. Abbas, Z. Fatima, S. A. Wajid, A. Ahmad and S. Ahmed. **2019**. Climate change impact assessment and development of adaptation strategies for Agronomic crops; Book, Climate Change and Agriculture. IntechOpen Publishers, UK. DOI: <http://dx.doi.org/10.5772/intechopen.82697>

C. Conference Proceedings

- **Ullah, A.,** G. Hoogenboom, I. Ahmad, T. Khaliq, U. Saeed, Habib-ur-Rehman, S. Ullah, J. Hussain and A. Ahmad. Climate Smart Interventions of Small-Holder Farming Systems in Punjab, Pakistan. **Int. Conf. Climate Smart Agriculture: The Way of Farming for 21st Century, October 8-9, 2018**, MNS-University of Agriculture, Multan-Pakistan, Department of Agronomy, Old Shujja Abad road, Multan-Pakistan.
- Salehnia N., S. Kolsoumia, **A. Ullah**, A. Pezeshkia, B. Banezhada, J. Mirzadeha, M. H. Rahman. Developing a tool for MODIS product to monitor drought indices. **Int. Conf. Climate Smart Agriculture: The Way of Farming for 21st Century, October 8-9, 2018**, MNS-University of Agriculture, Multan-Pakistan, Department of Agronomy, Old Shujja Abad road, Multan-Pakistan.
- **Ullah, A.,** N. Salehnia, S. Kolsoumi, A. Ahmad and T. Khaliq. **2017.** Prediction of climate variability and its impact on grain yield of pearl millet (*Pennisetum glaucum* L.) through artificial intelligence approach. **Int. Conf. Climate Change Threats to Agriculture and Food Security; Think-Adapt**, November 22-24, 2017. Department of Agronomy, University of Agriculture, Peshawar, Pakistan.
- **Ullah, A.,** A. Ahmad, T. Khaliq, I. Ahmad and G. Hoogenboom. **2017.** Designing pearl millet virtual cultivar for future: Reducing risks of crop failure for arid and semi-arid climatic conditions of Punjab, Pakistan. **Int. Conf. Climate Change Threats to Agriculture and Food Security; Think-Adapt**, November 22-24, 2017. Department of Agronomy, University of Agriculture, Peshawar, Pakistan.
- **Ullah, A.,** A. Ahmad, F. Hussain, T. Khaliq, U. Saeed, M. Rehman, A. Ghaffar, I. Ahmad and G.M. Tahir. **2016.** Optimizing planting time to sustain productivity of pearl millet hybrids under arid climate. National Conference; Climate Change and Biodiversity; p10. April 1, 2016. BZU, Sub Campus, Sahiwal, Punjab Pakistan.
- Tahir, G.M. T. Khaliq, G. Shabir, **A. Ullah** and M. Rehman. **2016.** Growth and productivity of fine rice cultivars as affected by transplanting time in sub humid environment. National Conference; Climate Change and Biodiversity; p10. April 1, 2016. BZU, Sub Campus, Sahiwal, Punjab Pakistan.
- Ahmad, A. T. Khaliq, U. Seed and **A. Ullah.** **2016.** Climate change and food security in Pakistan; dilemma and policy interventions for mitigation and adaptation. National Conference; Climate Change and Biodiversity; p10. April 1, 2016. BZU, Sub Campus, Sahiwal, Punjab Pakistan.
- **Malik, A. U.,** A. Sattar, F. Hussain. **2014.** Assessment of Agronomic Interactions between sunflower and early sown Bt. Cotton intercropped at different planting pattern. **International Conference on Agriculture, Food Security and Climate Change**, The University of Poonch Rawalakot September 9-11, 2014 page 155.
- **Malik, A. U.,** A. Sattar, A. Ghaffar, F. Hussain. **2014.** Effects of sowing times on different wheat cultivars under thal irrigated conditions. **International Conference On Agriculture, Food Security And Climate Change**, The University of Poonch Rawalakot September 9-11, 2014 page 160
- **Malik, A. U.,** A. Ahmad, A. Sattar, T. Khaliq, U. Saeed, M.H. Rahman and J. Hussain. **2013.** Improving yield and reducing risks in pearl millet farming through crop modeling: A Review. **AgMIP-Pakistan Kickoff Workshop & International Seminar on Climate Change**, Climate Change Cell, University of Agriculture, Faisalabad-Pakistan, June 4-6, 2013 page 109.
- Rahman, M.H., A. Ahmad, S.A. Wajid, M.H. Manj, W. Ishaque, T. Khaliq, **A.U. Malik** and S. Tahir. **2013.** Assessing climate vulnerability in Lentil using CROPGRO-DSSAT model. **AgMIP-Pakistan Kickoff Workshop & International**

Seminar on Climate Change, Climate Change Cell, University of Agriculture, Faisalabad-Pakistan, June 4-6, 2013 page 111.

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D. Participation in Conferences / Seminars / Symposium

- Plant Science Symposium “**Harnessing Plant Diversity to cope with a changing climate**”, held at Cancer and Genetics Research Complex, **University of Florida, USA** (April 13-14, 2017)
- **Global Food Security Symposium 2017 “Stability in the 21th Century**”, held at Ronald Reagan Building and International Trade Centre, **Washington DC, USA** (March 29-30, 2017)
- Seminar on “**Precision Farming: How Intelligent Sensing Systems are Shaping Future Agriculture**”, held at **University of Florida, USA** (January 20, 2017)
- Seminar on “**How accurate must forecasts be to generate value for users? Reflections from a framed field experiment**”. **University of Florida, USA** (January 12, 2017)
- **2016 Weather and Climate Decision Tools Conference for Farmers, Ranchers and Land Managers**, held at the **University of Florida, USA** (December 5-7, 2016)
- Attended International Workshop on “**Climate Change Resilient Agriculture Systems**” organized by Climate Change Chair, US-Pakistan Centre for Advance Studies in Agriculture and Food Security, University of Agriculture, Faisalabad Pakistan, November 30 – December 4, 2015
- Participated in AgMIP-Pakistan Kickoff Mid-term Workshop & International Seminar on **Climate Change Adaptation and Strategies to Ensure Food Security**, Climate Change Cell, University of Agriculture, Faisalabad-Pakistan January 16-17, 2014.
- Participated International Seminar “**Climate change in Pakistan; Policy Issues**” organized by Climate Change Cell, Department of Agronomy, University of Agriculture, Faisalabad-Pakistan on October 25, 2013.

E. Popular Articles (English/Urdu)

- **Asmat Ullah. 2018.** موسمیاتی تغیرات کے تناظر میں باجرہ کی کاشت , Rehber-e-Kissan, Multan, July, 2018
- Saba Iqbal, **Asmat Ullah**, Hafiz M. Nasrullah and M. Luqman. **2018.** گندم کی کاشت میں پانی کی بچت , Rehber-e-Kissan, Multan, December 2018
- **Asmat Ullah Malik.2014**, Bt. Cotton Cultivation; An Overview. Kisan World. (Urdu)
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- **Asmat Ullah Malik.2012.** Impact of climate change on crop production and its management. PARB, Newsletter. July, 2012 p2(English)
- **Asmat Ullah Malik.2011.** Kitchen Gardening; Recommendations. *Zarat Nama.* July 1-15. p11-13 (Urdu)
- **Asmat Ullah Malik, Fiaz Hussain and M. Latif. 2011.** Crop Rotation; Planning and Importance. *Zarat Nama.* February 1-15. p21 (Urdu)
- **Asmat Ullah.2006.** Biological Control of weeds, pests and diseases. *The daily dawn.* April,16-20 (English)