

## **DR. SAMI-UL-ALLAH**

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### **JOB EXPERIENCE**

**Associate Professor** 16-01-2021 to date  
*Bahauddin Zakariya University, Multan*

**Assistant Professor** 16-06-2016 to 15-01-2021  
*Bahauddin Zakariya University, Multan*

**Assistant Professor** 09-07-2014 to 15-06-2016  
*The Islamia University of Bahawalpur, Pakistan*

**Principal responsibilities were:**

- a. To plan and carry out breeding studies for development and improvement of crop plants
- b. To utilize principles of genetics and advance molecular marker techniques for genetic improvement of cereal crops
- c. To breed new varieties and select most desirable plants for crossing.
- d. To breed plants using methods such as inbreeding, crossbreeding, backcrossing, out-crossing, mutating, or inter-specific hybridization and selection.
- e. To select progeny having desired characteristics and continues breeding and selection process to reach desired objectives.
- f. To guide, direct and mentor research scholars in their research projects
- g. To assess, supervise and mentor the progress of research activities of students
- h. Publish the research works and findings in academic books or journals
- i. To undertake teaching classes of graduate as well as the undergraduate students

### **RESEARCH INTERESTS**

Adaptation of field crops to abiotic stresses especially drought, heat, salt and nutrient stress. Characterization (phenotypic and molecular) and breeding of germplasm for the traits adoptive to abiotic stresses.

### **ACADEMICS**

<b>PhD Agriculture (Plant Breeding &amp; Genetics)</b> <i>University of Kassel, Germany</i>  <i>Grade: Magna cum Laude (With great honor)</i>	2010 - 2013
<b>M.Sc (Hons) Agriculture (Plant Breeding &amp; Genetics)</b> <i>University of Agriculture, Faisalabad Pakistan</i> <i>CGPA 3.80/4.00</i>	2007-2009
<b>B.Sc (Hons) Agriculture (Plant Breeding &amp; Genetics)</b> <i>University of Agriculture, Faisalabad Pakistan</i> <i>CGPA 3.64/4.00</i>	2003-2007
<b>Higher Secondary school certificate (Pre-Medical)</b> <i>B.I.S.E. D.G. Khan (75.09%)</i>	2001-2003
<b>Secondary School Certificate</b> <i>B.I.S.E. D.G. Khan (80.47%)</i>	2000-2001

## Fellowship/SCHOLARSHIPS / DISTINCTIONS

Fulbright fellowship (Visiting Scholar) (2023-24) by the United States Education Foundation of Pakistan

HEC indigenous scholarship (batch IV) for master studies

PhD Scholarship from the International Center for Development and Decent Work (funded by the German Academic Exchange Service, DAAD)

Secured “Magna cum laude” (With great honor) in PhD degree

## NATIONAL AWARDS/UNIVERSITY AWARDS

- Research productivity award 2017 by Pakistan Council of Science and Technology
- HEC approved PhD Supervisor
- Performance based increment for the year 2018,2019 and 2020
- Performance based honorarium for the year 2018,2019 and 2020
- Appreciation award for research achievements by the ORIC BZU, Multan

## RESEARCH PROJECTS

Year of Award	Title	Sponsoring agency	PI/Co. PI/ Fellowship

2024	Characterization of cotton ( <i>Gossypium hirsutum</i> L.) genotypes for drought stress tolerance	BZU Multan	PI
2022	Agronomic and molecular characterization of shattering resistance in sesame ( <i>Sesamum indicum</i> L.) and its management	Higher Education Commission of Pakistan	Co-PI
2019	Physio-morphological characterization of wheat germplasm for drought stress tolerance in arid region	BZU Multan	PI
2018	Genotypic characterization of mutated cotton under water stress conditions	Higher education commission of Pakistan	Co. PI
2017	Genetic and Association studies of wheat ( <i>Triticum aestivum</i> ) for yield and yield related traits	BZU Multan	PI
2016	Genotypic response of corn to water stress as affected by potassium application	BZU Multan	PI
2016	Urbanization of agricultural land, fodder and dairy production, and resource use efficiency at the rural-urban interface in Pakistan and India	International Center for Development and Decent Work, Germany	PI - Collaborative project
2014	Phenotypic and Genotypic Characterization of Economic Traits in Mutated Cotton ( <i>Gossypium hirsutum</i> L.)	SRGP, HEC	PI

## DEVELOPMENT OF CROP VARIETY

Member of Breeding team for developed high yielding cotton variety MM-58 and IUB-13

## COURSES TAUGHT

Following courses are being taught since 2014

Sr. no.	Name of the course	Level	Credit hours
1	Advance methods in Plant Breeding	Master/PhD	3(2-1)
2	Principals of Plant Breeding	Master/PhD	3(2-1)
3	Genetic Engineering in Plants	Master/PhD	3(2-1)
4	Cytogenetics in Crop Plants	Master/PhD	3(2-1)
5	Morphology and Reproductive System of Crop Plants	Graduate	3(2-1)
6	Breeding Pulse Crops	Graduate	3(2-1)
7	Breeding Vegetable Crops	Graduate	3(2-1)
8	Breeding maize and millet	Graduate	3(2-1)
9	Biodiversity and Plant Genetic Resources	Graduate	3(3-0)
10	Breeding Fodder and Forage Crops	Graduate	3(2-1)
11	Elementary Genetics	Graduate	3(2-1)

12	Introductory Plant Breeding	Graduate	3(2-1)
13	Fundamentals of Plant Biometry	Graduate	3(3-0)
14	Vegetable and flower seed production	Graduate	3(2-1)
15	Statistics I	Graduate	2(2-0)
16	Statistics II	Graduate	2(2-0)
17	General Science	Graduate	3(3-0)
18	Breeding horticultural crops	Graduate	3(2-1)
18	Communication skills	Graduate	2(2-0)
20	Modern Techniques in Plant Breeding	Graduate	3(2-1)
21	Breeding cereal crops	Graduate	3(2-1)
22	Introduction to biometry	Graduate	3(3-0)
23	Preparation of research project and Scientific Writing	Graduate	2(1-1)

## SKILLS

- Field experimentation, experimental layout, Data analysis of large experiments
- Molecular plant breeding
- Development of transgenic plants
- Breeding of forages, cereals and cotton
- DNA extraction technique, PCR, Gel Documentation
- Basic orientation to tissue culture techniques
- Basic proficiency in German language (A-2 level)

## CONFERENCE/SEMINAR ORGANIZED

- Organizer of two days training workshop on “Leadership pursuit” on April 10-10 at College of Agriculture, BZU Bahadur Sub-campus Layyah on 26-28 March 2018
- Organizer of 1<sup>st</sup> International and 2<sup>nd</sup> National Conference “Challenges and Opportunities to Boost Agriculture in Changing Climate”, March 26-28, 2018, at the College of Agriculture, Bahauddin Zakariya University, Bahadur Sub Campus, Layyah, Pakistan.
- Organizer of Seminar “Weed Eradication”, March 15, 2018, at the College of Agriculture, Bahauddin Zakariya University, Bahadur Sub Campus, Layyah, Pakistan.
- Organizer of Seminar “Profitable Wheat Production in Arid Region”, November 22, 2017, organized by College of Agriculture, Bahauddin Zakariya University, Bahadur Sub Campus, Layyah, Pakistan.
- “Organizer/Secretary registration committee” of “National Conference on “Challenges and Opportunities to Boost Agriculture in Changing Climate”, March 29-30, 2017, at the College of Agriculture, Bahauddin Zakariya University, Bahadur Sub Campus, Layyah, Pakistan.

## CONFERENCE/ SEMINAR/P PARTICIPATION

1. Participated in **SDG DAAD Alumni workshop/seminar 2023** at University of Kassel, Witzenhausen, Germany held on 12-19 September 2023 (Oral Presentation)
2. Participated in international conference “**Tropentage 2023 - Explore opportunities... for managing natural resources and a better life for all**” organizes by The Leibniz Centre for Agricultural Landscape Research (ZALF), Germany in cooperation with Humboldt-Universität zu Berlin, Germany dated 20-22 September 2023 at Berlin Germany. (Poster presentation)
3. Participated in “**9th National Agri Tourism Conference**” on November 24, 2022, held at College of Agriculture, Bahauddin Zakariya University, Bahadur Sub Campus Layyah, Pakistan.
4. Participated in a webinar “**Translational genomics for achieving higher genetic gains in groundnut**” organized by bioingene.com on December, 04 2020.
5. Participated in **1<sup>st</sup> International conference on “AGRICULTURAL AND BIOLOGICAL SCIENCES” Focusing Food Security & Climate Change** at University of Haripur, KPK Dated: 27-30 March 2019 (Oral presentation)
6. An online mini course on “**CRISPR/Cas9 and Cre-lox Technologies Certificate Program**” on 25 April 2020
7. Participated in PhD and Alumni workshop from 12-18 September 2019 at University of Kassel, Germany (Oral presentation)
8. Participated in “**Tropentag - Filling Gaps and Removing Traps for Sustainable Resources Management**” (18-20 September 2019) at University of Kassel, Germany
9. Participated in a seminar on “One Day Training for Faculty on Professional Ethics” at Bahauddin Zakariya University, Bahadur Campus Layyah Dated: 31 January 2019
10. Participated in **2<sup>nd</sup> Sino-Pak international conference on “Innovations in Cotton Breeding and Biotechnology”** on November 26-27, 2018 at MNS University of Agriculture, Multan, Pakistan. (Oral Presentation)
11. Participated in **international conference on “Climate Smart Agriculture: The way of Farming of 21<sup>st</sup> Century”** on 08-09 October 2018 at MNS University of Agriculture, Multan, Pakistan
12. Participated in **Seminar “Weed Eradication”**, March 15, 2018, organized by College of Agriculture, Bahauddin Zakariya University, Bahadur Sub Campus, Layyah, Pakistan.
13. Participated in **1<sup>st</sup> International and 2<sup>nd</sup> National Conference “Challenges and Opportunities to Boost Agriculture in Changing Climate”**, March 26-28, 2018, organized by College of Agriculture, Bahauddin Zakariya University, Bahadur Sub Campus, Layyah, Pakistan. (oral presentation)
14. Participated in **Seminar “Profitable Wheat Production in Arid Region”**, November 22, 2017, organized by College of Agriculture, Bahauddin Zakariya University, Bahadur Sub Campus, Layyah, Pakistan.
15. Participated in **international DAAD Alumni seminar – Food security increased by precision agriculture**, 06-13 November 2017 at University of Goettingen, Germany. (Oral presentation)
16. Participated in **1<sup>st</sup> international conference on climate change and biodiversity (IC3B-2017)** on 02-04 May 2017 at The Islamia University of Bahawalpur, Pakistan (Oral presentation)
17. Participated in **National Conference on “Challenges and Opportunities to Boost Agriculture in Changing Climate”**, March 29-30, 2017, organized by College of Agriculture, Bahauddin Zakariya University, Bahadur Sub Campus, Layyah, Pakistan. (Oral presentation)
18. Participated in **3<sup>rd</sup> International Congress “Hidden Hunger”** on March 20-22, 2017 in Stuttgart, Germany organized by University of Hohenheim, Germany. (Poster presentation)

19. Participated in **international DAAD Alumni expert seminar “Hidden Hunger”** 12-19 March 2017 at JL University, Giessen, Germany (Oral presentation)
20. Participated in **3<sup>rd</sup> International Conference “Safe food for all and Food Expo”**, March 2-3, 2017, organized by Institute of Food Science & Nutrition, Bahauddin Zakariya University, Multan, Pakistan.
21. Participated in **national conference on “sustainable animal and crop production systems”** on 8-10 December 2016. Organized by Pakistan agriculturist Scientist and held at University of Haripur, Haripur, Pakistan (Oral Presentation)
22. Participated in **Seminar on “Sustainable Agriculture in Arid Climate”**, May 12, 2016, organized by College of Agriculture, Bahauddin Zakariya University Bahadur Sub Campus, Layyah, Pakistan.
23. Participated in international DAAD alumni seminar on **“Quality Management Along Organic Agri-value Chains in Developing Countries – Production, Post-harvest technology, Processing, Marketing and Trade”** Held at university of Kassel, Witzenhausen, Germany from 2-10 February 2015 (Oral presentation)

## WORKSHOPS/ TRAINING COURSE

- An online course “Assessment for Data Analysis and Visualization Foundations” September 2024
- An online course “Data Visualization and Dashboards with Excel and Cognos” September 2024
- An online course “Introduction to R Programming for Data Science” September 2024
- An online course “Excel Basics for Data Analysis” August 2024
- An online course “Introduction to Data Analytics” August 2024
- An online mini course on “CRISPR/Cas9 and Cre-lox Technologies Certificate Program” on 25 April 2020
- One Day Training for Faculty on Professional Ethics at Bahauddin Zakariya University, Bahadur Campus Layyah **Dated:** 31 January 2019
- Participated in PhD and Alumni workshop from 12-18 September 2019 at University of Kassel, Germany
- Participated in PhD workshop on “Exploring sustainable development(s)” from 1-8 March, 2014 at University of Kassel, Germany
- Participated in PhD workshop on “From research to reality: Prospects and potential of ICDD doctoral research” from 16-23 march, 2013 at UADY Mexico
- Participated in “Erst Hilf” (First Aid) training on 17 January, 2013 at University of Kassel, Germany
- Participated in PhD workshop on “Applying Concepts and Methods” from 18-24 March, 2012 at Egerton University Njoro, Kenya
- Participated in workshop on “Experimental Design and Data Analysis using SAS from 18-23 July, 2011 at University of Veterinary and Animal Sciences Lahore, Pakistan
- Participated in “Theory Workshop for PhDs” from 12- 15, May 2011 at the University of the Witwatersrand, Johannesburg, South Africa
- Participated in intensive training course on “Remote Sensing & Digital Image Processing” from 29 November to 26 December 2010 at University of Agriculture, Faisalabad, Pakistan
- Participated in “Methods Workshop for PhDs” from 27 September to 3 October 2010 at University of Kassel, Germany

- Participated in “PhD Introductory Workshop” from 8–15 April 2010 at University of Kassel, Germany
- 4-month internship at Cotton Research Station Multan from 13-02-2007 to 14-06-2007

## Journal Reviewed

1. Reviewer of *Journal of Animal and Plant Sciences*
2. Reviewer of *Pakistan Journal of Botany*
3. Reviewer of *Molecular Biology Reports*
4. Reviewer of *Plant biotechnology Journal*
5. *Journal of Horticulture and Plant research*
6. *Journal of Soil Science and Plant Nutrition*
7. *Phyton “journal of Experimental Botany”*
8. Agricultural Water Management
9. Plant Biotechnology Journal
10. Plants-MDPI
11. Agronomy-MDPI
12. IJMS-MDPI
13. Plant Breeding
14. Journal of Agronomy and Crop Science

## Journal Editor

- *International Journal of Agriculture and Biology*
- *Agriculture – MDPI (Guest editor)*

## PUBLICATIONS

### Impact Factor

1. **Ul-Allah, S.**, Azeem, F., Madani, A., Sher, A., Sattar, A., Ijaz, M., Hassanzadehdelouei, M., Azeem, A. and Malik, W., 2025. Interactive Effect of Genotype and Zinc Sulphate Improves Productivity and Grain Biofortification of Bread Wheat in Alkaline Soils. *Journal of Soil Science and Plant Nutrition*, pp.1-10.
2. Aswathi, K.P.R., **Ul-Allah, S.**, Puthur, J.T., Siddique, K.H., Frei, M. and Farooq, M., 2025. The Plant Mind: Unraveling Abiotic Stress Priming, Memory, and Adaptation. *Physiologia Plantarum*, 177(4), p.e70372.
3. Ahmad, M., Sajjad, M., Ullah, A., Zulfiqar, U., **Ul-Allah, S.**, Waraich, E.A., Din, K.U., Siddique, K.H. and Farooq, M., 2025. From Stress to Success: Strategies for Improving Heat Tolerance in Wheat. *Journal of Agronomy and Crop Science*, 211(3), p.e70048.
4. Sher, A., Nawaz, A., **Ul-Allah, S.**, Sattar, A., Ijaz, M., Qayyum, A. and Manaf, A., 2024. Foliar application of 5-aminolevulinic acid improves the salt tolerance in sunflower (*Helianthus annuus* L.) by enhancing the morphological attributes and

antioxidant defense mechanism. *Acta Physiologiae Plantarum*, 46(3), p.24. (Corresponding author)

5. Majeed, A., Bahram Khan, M., **Ul-Allah, S.**, Akram, M., Naveed, M. and Hussain, M., 2025. Combined application of different phosphorus sources and phosphorus-solubilizing bacteria improved grain yield, quality, and profitability of pearl millet. *Journal of Plant Nutrition*, pp.1-12.
6. Majeed, A., Khan, M.B., Dawood, A., **Ul-Allah, S.** and Hussain, M., 2023. Phosphorus application improved fodder yield, phosphorus use efficiency and economic returns of different pearl millet genotypes. *Soil & Environment*, 42(2).
7. Azeem, A., **Ul-Allah, S.**, Azeem, F., Naeem, M., Sattar, A., Ijaz, M. and Sher, A., 2023. Effect of foliar applied zinc sulphate on phenotypic variability, association and heritability of yield and zinc biofortification related traits of wheat genotypes. *Heliyon*, 9(9). (Corresponding and co-first author)
8. Nisar, M., Aqeel, M., Sattar, A., Sher, A., Ijaz, M., **Ul-Allah, S.**, Rasheed, U., Al-Qahtani, S.M., Al-Harbi, N.A., Alzuairi, F.M. and Ibrahim, M.F., 2023. Exogenous application of silicon and sulfate improved drought tolerance in sunflowers through modulation of morpho-physiological and antioxidant defense mechanisms. *Journal of Soil Science and Plant Nutrition*, 23(4), pp.5060-5069.
9. Sher, A., **Ul-Allah, S.**, Sattar, A., Barbanti, L. and Ijaz, M., 2023. Characterizing sorghum genotypes for forage yield, hydrocyanic acid and sugar contents under arid climate conditions. *Plant Genetic Resources*, 21(4), pp.377-383. (Corresponding author)
10. **Ul-Allah, S.**, Hussain, S., Mumtaz, R., Naeem, M., Sattar, A., Sher, A., Ijaz, M., Azeem, A., Hassan, Z., Ahmad, K. and Rehman, A.U., 2023. Phenotypic characterization of wheat germplasm for heritability and dissection of association among post anthesis traits under variable sowing dates. *Journal of King Saud University-Science*, 35(3), p.102578. (First & Corresponding author)
11. Hassan, Z., Hassan, A., Riaz, M., Khan, A.A., **Ul-Allah, S.**, Shehzad, U., Khurshid, M., Bakhsh, A., Shah, J.M. and Manzoor, Z., 2023. Increased health risk assessment in different vegetables grown under untreated sewerage irrigation regime due to higher heavy metals accumulation. *Environmental Science and Pollution Research*, 30(36), pp.86189-86201.
12. Abbas, A., Sattar, A., **Ul-Allah, S.**, Sher, A., Ijaz, M., Abbas, T., Irfan, M., Ullah, S., Butt, M., Javaid, M.M. and Kim, Y., 2023. Foliar application of silicon and boron improves boll retention, lint yield and fiber quality traits of transgenic cotton. *Journal of King Saud University-Science*, 35(8), p.102858.
13. Sher, A., Hassan, M.U., Sattar, A., **Ul-Allah, S.**, Ijaz, M., Hayyat, Z., Bibi, Y., Hussain, M. and Qayyum, A., 2023. Exogenous application of melatonin alleviates the drought stress by regulating the antioxidant systems and sugar contents in sorghum seedlings. *Biochemical Systematics and Ecology*, 107, p.104620.

14. Sattar, A., Sher, A., Ijaz, M., **Ul-Allah, S.**, Hussain, S., Rasheed, U., Hussain, J., Al-Qahtani, S.M., Al-Harbi, N.A., Mahmoud, S.F. and Ibrahim, M.F., 2023. Modulation of antioxidant defense mechanisms and Morpho-physiological attributes of wheat through exogenous application of silicon and melatonin under water deficit conditions. *Sustainability*, 15(9), p.7426.
15. Madani, A., Hassanzadehdelouei, M., Zrig, A. and **Ul-Allah, S.**, 2023. Comparison of different priming methods of pumpkin (*Cucurbita pepo*) seeds in the early stages of growth in saline and sodic soils under irrigation with different water qualities. *Scientia Horticulturae*, 320, p.112165.
16. Ashfaq, M., Rasheed, A., Sajjad, M., Ali, M., Rasool, B., Javed, M.A., **Ul-Allah, S.**, Shaheen, S., Anwar, A., Ahmad, M.S. and Mubashar, U., 2022. Genome wide association mapping of yield and various desirable agronomic traits in Rice. *Molecular biology reports*, 49(12), pp.11371-11383.
17. Hassanzadehdelouei, M., **Ul-Allah, S.** and Madani, A., 2022. Cotton fiber quality response to nitrogen depends on source-sink process, boll growth habit, and weather condition. *Industrial Crops and Products*, 186, p.115279. <https://doi.org/10.1016/j.indcrop.2022.115279>
18. Azeem, F., R. Zameer, M.A. Rehman Rashid, I. Rasul, **S. Ul-Allah**, M.H.Siddique, S. Fiaz, A. Raza, A. Younas, A. Rasool, M.A. Ali, S. Anwar, M.H. Siddiqui, 2022. Genome-wide analysis of potassium transport genes in *Gossypium raimondii* suggest a role of GrHAK/KUP/KT8, GrAKT2.1 and GrAKT1.1 in response to abiotic stress, *Plant Physiology et Biochemistry* 170, pp.110-122 <https://doi.org/10.1016/j.plaphy.2021.11.038>
19. Anwar, M., Saleem, M.A., Dan, M., Malik, W., **Ul-Allah, S.**, Ahmad, M.Q., Qayyum, A., Amjid,M.W., Zia, Z.U., Afzal, H. and Asif, M., 2022. Morphological, physiological and molecular assessment of cotton for drought tolerance under field conditions. *Saudi Journal of Biological Sciences*. 29(1), pp.444-452. <https://doi.org/10.1016/j.sjbs.2021.09.009>
20. Sattar, A., Sher, A., Abourehab, M.A., Ijaz, M., Nawaz, M., **Ul-Allah, S.**, Abbas, T., Shah, A.N., Imam, M.S., Abdelsalam, N.R. and Hasan, M.E., 2022. Application of silicon and biochar alleviates the adversities of arsenic stress in maize by triggering the morpho-physiological and antioxidant defense mechanisms. *Frontiers in Environmental Science*, 10, p.979049.
21. Naeem, M., Abbas, A., **Ul-Allah, S.**, Malik, W. and Baloch, F.S., 2022. Comparative genetic, biochemical and physiological analysis of sodium and chlorine in wheat. *Molecular Biology Reports*, 49(10), pp.9715-9724.
22. Sher, A., **Ul-Allah, S.**, Sattar, A., Ijaz, M., Ahmad, W., Bibi, Y. and Qayyum, A., 2022. The effect of selenium concentration on the quantitative and qualitative yield of four safflower (*Carthamus tinctorius* L.) genotypes. *Journal of Soil Science and Plant Nutrition*, 22(2), pp.2663-2669. **(Corresponding author)**

23. Ahmad, K., Aslam, M., Saleem, M.H., Ijaz, M., **Ul-Allah, S.**, and Ali, S., 2022. Genetic diversity and characterization of salt stress tolerance traits in maize (*Zea mays* L.) under normal and saline conditions. *Pak. J. Bot*, 54(3), pp.759-769.

24. Sher, A., Sarwar, B., Sattar, A., Ijaz, M., **Ul-Allah, S.**, Hayat, M.T., Manaf, A., Qayyum, A., Zaheer, A., Iqbal, J. and Askary, A.E., 2022. Exogenous application of zinc sulphate at heading stage of wheat improves the yield and grain zinc biofortification. *Agronomy*, 12(3), p.734.

25. Hussain, M., **Ul-Allah, S.**, Binyameen, M., Jabran, K. and Farooq, M., 2022. COVID-19 and Higher Education in Agriculture Sector of Developing Countries: Impacts and Prospects. *Pedagogical Research*, 7(1).

26. Sher, A., **Ul-Allah, S.**, Sattar, A., Ijaz, M., Qayyum, A., Manaf, A. and Suleman, M., 2022. Zinc sulfate application to grass forages (oat, barley, annual ryegrass and triticale) for increasing their yield, quality and profitability. *Crop and Pasture Science*, 73(5), pp.473-483. **(Corresponding author)**

27. Sher, A., Calone, R., **Ul-Allah, S.**, Sattar, A., Ijaz, M., Sarwar, B., Qayyum, A. and Barbanti, L., 2022. Growth, yield and quality attributes of guar (*Cyamopsis tetragonoloba* L.) genotypes grown under different planting dates in a semi-arid region of Pakistan. *Pakistan Journal of Agricultural Sciences*, 59(5), pp.757-763.

28. Sattar, A., Wang, X., **Ul-Allah, S.**, Sher, A., Ijaz, M., Irfan, M., Abbas, T., Hussain, S., Nawaz, F., Al-Hashimi, A. and Al Munqedhi, B.M., 2022. Foliar application of zinc improves morpho-physiological and antioxidant defense mechanisms, and agronomic grain biofortification of wheat (*Triticum aestivum* L.) under water stress. *Saudi Journal of Biological Sciences*, 29(3), pp.1699-1706.

29. Sher, A., Adnan, M., Sattar, A., **Ul-Allah, S.**, Ijaz, M., Hassan, M.U., Manaf, A., Qayyum, A., Elesawy, B.H., Ismail, K.A. and Gharib, A.F., 2022. Combined application of organic and inorganic amendments improved the yield and nutritional quality of forage sorghum. *Agronomy*, 12(4), p.896.

30. Ghouri, F., Ali, Z., Naeem, M., **Ul-Allah, S.**, Babar, M., Baloch, F.S., Chattah, W.S. and Shahid, M.Q., 2021. Effects of Silicon and Selenium in Alleviation of Drought Stress in Rice. *Silicon* (2021). <https://doi.org/10.1007/s12633-021-01277-z>

31. Mustafa, T., Sattar, A., Sher, A., **Ul-Allah, S.**, Ijaz, M., Irfan, M., Butt, M., Cheema, M. 2021. Exogenous application of silicon improves the performance of wheat under terminal heat stress by triggering physio-biochemical mechanisms. *Scientific Reports*. [www.nature.com/articles/s41598-021-02594-4](http://www.nature.com/articles/s41598-021-02594-4)

32. Naeem, M., Iqbal, M., **Ul-Allah, S.**, Chaudhary, H.J., Nazeer, W., Ashraf, J. and Baloch, F.S., 2021. Expression studies of stress responsive genes in cotton *Gossypium hirsutum* L. *Molecular Biology Reports*, pp.1-9. <https://doi.org/10.1007/s11033-021-06696-0>

33. Ulfat, A., Mehmood, A., Ahmad, K.S. and **Ul-Allah, S.**, 2021. Elevated carbon dioxide offers promise for wheat adaptation to heat stress by adjusting carbohydrate

34. Naeem, M., Farooq, M., Farooq, S., **Ul-Allah, S.**, Alfarraj, S. and Hussain, M., 2021. The impact of different crop sequences on weed infestation and productivity of barley (*Hordeum vulgare L.*) under different tillage systems. *Crop Protection*, 149, p.105759.
35. Sher, A., Wang, X., Sattar, A., Ijaz, M., **Ul-Allah, S.**, Nasrullah, M., Bibi, Y., Manaf, A., Fiaz, S. and Qayyum, A., 2021. Exogenous Application of Thiourea for Improving the Productivity and Nutritional Quality of Bread Wheat (*Triticum aestivum L.*). *Agronomy*, 11(7), p.1432.
36. Ijaz, M., Sattar, A., Sher, A., Ul-Allah, S., Mansha, M.Z., Khan, K.A., Shahzad, M.A., Al-Sadi, A.M., Arif, M., Aljuaid, B.S. and El-Shehawi, A.M., 2021. Sulfur Application Combined with Planomicrobium sp. Strain MSSA-10 and Farmyard Manure Biochar Helps in the Management of Charcoal Rot Disease in Sunflower (*Helianthus annuus L.*). *Sustainability*, 13(15), p.8535.
37. **Ul-Allah, S.**, Azeem, A., Sher, A., Ijaz, M., Sattar, A., Saleem, M.A., Bibi, M., Abbas, N. and Hussain, M., 2021. Assessment of Genetic Variability and Direct-Indirect Contribution of Post-Anthesis Traits to the Grain Yield in Bread Wheat (*Triticum aestivum*) at Different Sowing Dates. *International Journal of Agriculture & Biology*, 26: 193-200 (**First & Corresponding author**)
38. **Ul-Allah, S.**, Rehman, A., Hussain, M. and Farooq, M., 2021. Fiber yield and quality in cotton under drought: Effects and management. *Agricultural Water Management*, 255, p.106994. (**First & Corresponding author**)
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42. Saleem, M.A., Malik, W., Qayyum, A., **Ul-Allah, S.**, Ahmad, M.Q., Afzal, H., Amjid, M.W., Ateeq, M.F. and Zia, Z.U., 2021. Impact of heat stress responsive factors on growth and physiology of cotton (*Gossypium hirsutum L.*). *Molecular Biology Reports*, 48(2), pp.1069-1079.

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66. Ijaz, M., Tahir, M., Shahid, M., **Ul-Allah, S.**, Sattar, A. Sher, A., Mahmood, K., Hussain, M. 2019. Combined application of biochar and PGPR consortia for sustainable production of wheat under semiarid conditions with a reduced dose of synthetic fertilizer. *Braz. J. Microb.* 50: 449-458 (**Corresponding author**)

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75. Sher, A., Fayyaz-ul-hassan, H.A., Ijaz, M., Sattar, A., Yasir, T., **Ul-allah**, S. Qayyum, A., 2017. Climatic variation effects on canola (*Brassica napus*) genotypes. *Pakistan Journal of Botany*. 49(SI): 111-117
76. Shakeel, A., M. Naeem, I. Ali, **Ul-allah**, S., I. Afzal, A. Saeed, M. Iqbal. 2017. Genetic mechanism controlling selected within boll yield components and physiological traits of *Gossypium hirsutum* L. Under salinity stress. *Turk J Field Crops* 22:89-95.
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78. **Ul-allah**, S., A.A. Khan, T. Fricke, A. Buerkert, and M. Wachendorf. (2015). Effect of fertiliser and irrigation on forage yield and irrigation water use efficiency in semi-arid regions of pakistan." *Experimental Agriculture*: 5, 485-500 **(First and Corresponding author)**
79. **Ul-Allah**, S., Khan, A. A., Burkert, A., & Wachendorf, M. (2014). Socio-economic aspects of fodder production in urban and peri-urban areas of Faisalabad. *Pak. J. Agri. Sci*, 51, 483-490. **(First and Corresponding author)**
80. **Ul-Allah**, S., Khan, A. A., Fricke, T., Buerkert, A., & Wachendorf, M. (2014). Fertilizer and irrigation effects on forage protein and energy production under semi-arid conditions of Pakistan. *Field Crops Research*, 159, 62-69. **(First and Corresponding author)**

#### Conference Proceedings/Presentations

1. Participated in **SDG DAAD Alumni workshop/seminar 2023** at University of Kassel, Witzenhausen, Germany held on 12-19 September 2023 (Oral Presentation)
2. Participated in international conference "**Tropentage 2023 - Explore opportunities... for managing natural resources and a better life for all**" organizes by The Leibniz Centre for Agricultural Landscape Research (ZALF), Germany in cooperation with Humboldt-Universität zu Berlin, Germany dated 20-22 September 2023 at Berlin Germany. (Poster presentation)
3. Participated in "**9th National Agri Tourism Conference**" on November 24, 2022, held at College of Agriculture, Bahauddin Zakariya University, Bahadur Sub Campus Layyah, Pakistan.
4. Participated in a webinar "**Translational genomics for achieving higher genetic gains in groundnut**" organized by bioingene.com on December, 04 2020.
5. Participated in **1<sup>st</sup> International conference on "AGRICULTURAL AND BIOLOGICAL SCIENCES" Focusing Food Security & Climate Change** at University of Haripur, KPK Dated: 27-30 March 2019 (Oral presentation)

6. An online mini course on “**CRISPR/Cas9 and Cre-lox Technologies Certificate Program**” on 25 April 2020
7. Participated in PhD and Alumni workshop from 12-18 September 2019 at University of Kassel, Germany (Oral presentation)
8. Participated in “**Tropentag - Filling Gaps and Removing Traps for Sustainable Resources Management**” (18-20 September 2019) at University of Kassel, Germany
9. Participated in a seminar on “One Day Training for Faculty on Professional Ethics” at Bahauddin Zakariya University, Bahadur Campus Layyah Dated: 31 January 2019
10. Participated in **2<sup>nd</sup> Sino-Pak international conference on “Innovations in Cotton Breeding and Biotechnology”** on November 26-27, 2018 at MNS University of Agriculture, Multan, Pakistan. (Oral Presentation)
11. Participated in **international conference on “Climate Smart Agriculture: The way of Farming of 21<sup>st</sup> Century”** on 08-09 October 2018 at MNS University of Agriculture, Multan, Pakistan
12. Participated in **Seminar “Weed Eradication”**, March 15, 2018, organized by College of Agriculture, Bahauddin Zakariya University, Bahadur Sub Campus, Layyah, Pakistan.
13. Participated in **1<sup>st</sup> International and 2<sup>nd</sup> National Conference “Challenges and Opportunities to Boost Agriculture in Changing Climate”**, March 26-28, 2018, organized by College of Agriculture, Bahauddin Zakariya University, Bahadur Sub Campus, Layyah, Pakistan. (oral presentation)
14. Participated in **Seminar “Profitable Wheat Production in Arid Region”**, November 22, 2017, organized by College of Agriculture, Bahauddin Zakariya University, Bahadur Sub Campus, Layyah, Pakistan.
15. Participated in **international DAAD Alumni seminar – Food security increased by precision agriculture**, 06-13 November 2017 at University of Goettingen, Germany. (Oral presentation)
16. Participated in **1<sup>st</sup> international conference on climate change and biodiversity (IC3B-2017)** on 02-04 May 2017 at The Islamia University of Bahawalpur, Pakistan (Oral presentation)
17. Participated in **National Conference on “Challenges and Opportunities to Boost Agriculture in Changing Climate”**, March 29-30, 2017, organized by College of Agriculture, Bahauddin Zakariya University, Bahadur Sub Campus, Layyah, Pakistan. (Oral presentation)
18. Participated in **3<sup>rd</sup> International Congress “Hidden Hunger”** on March 20-22, 2017 in Stuttgart, Germany organized by University of Hohenheim, Germany. (Poster presentation)
19. Participated in **international DAAD Alumni expert seminar “Hidden Hunger”** 12-19 March 2017 at JL University, Giessen, Germany (Oral presentation)
20. Participated in **3<sup>rd</sup> International Conference “Safe food for all and Food Expo”**, March 2-3, 2017, organized by Institute of Food Science & Nutrition, Bahauddin Zakariya University, Multan, Pakistan.
21. Participated in **national conference on “sustainable animal and crop production systems”** on 8-10 December 2016. Organized by Pakistan agriculturist Scientist and held at University of Haripur, Haripur, Pakistan (Oral Presentation)
22. Participated in **Seminar on “Sustainable Agriculture in Arid Climate”**, May 12, 2016, organized by College of Agriculture, Bahauddin Zakariya University Bahadur Sub Campus, Layyah, Pakistan.
23. Participated in international DAAD alumni seminar on “**Quality Management Along Organic Agri-value Chains in Developing Countries – Production, Post-harvest technology, Processing, Marketing and Trade**” Held at university of Kassel, Witzenhausen, Germany from 2-10 February 2015 (Oral presentation)

## PUBLICATIONS (Book Chapters)

1. **Ul-Allah, S.** and Farooq, M., 2023. Drought management of crop farming. In *Encyclopedia of smart agriculture technologies* (pp. 1-9). Cham: Springer International Publishing.
2. Farooq, S., **Ul-Allah, S.** and Hussain, M., 2023. Drought Stress in Crop Plants and Its Management. In *Disaster Risk Reduction in Agriculture* (pp. 169-190). Singapore: Springer Nature Singapore.
3. **Ul-Allah, S.**, Azeem, A., Sher, A., Ijaz, M., Sattar, A., Naeem, M. and Ullah, I., 2023. Plant Breeding Approaches in Developing Stress Tolerance. In *Biology and Biotechnology of Environmental Stress Tolerance in Plants* (pp. 167-186). Apple Academic Press.
4. Hussain, M., **Ul-Allah, S.** and Farooq, S., 2023. Sesame (*Sesamum indicum* L.). In *Neglected and Underutilized Crops* (pp. 733-755). Academic Press.
5. Iqbal, Z., Azeem, A., **Ul-Allah, S.**, Sher, A., Ahmad, M.Q., Haider, B. and Asghar, M., 2023. Advances in Biotechnological Tools and Their Impact on Global Climate Change and Food Security. In *Climate-Resilient Agriculture, Vol 2: Agro-Biotechnological Advancement for Crop Production* (pp. 667-676). Cham: Springer International Publishing.
6. Aslam, U., Azeem, A., Mumtaz, A. and **Ul-Allah, S.**, 2023. Crop Responses to Climate Change. In *Climate-Resilient Agriculture, Vol 1: Crop Responses and Agroecological Perspectives* (pp. 57-75). Cham: Springer International Publishing.
7. Azeem, A., **Ul-Allah, S.**, Sher, A., Ijaz, M., Sattar, A., Ahmad, W. and Qayyum, A., 2023. Biosafety and Biosecurity in Genetically Modified Crops. In *Sustainable Agriculture in the Era of the OMICs Revolution* (pp. 501-510). Cham: Springer International Publishing.
8. Manzoor, Z., Hassan, Z., **Ul-Allah, S.**, Khan, A.A., Sattar, A., Shahzad, U., Amin, H. and Hussain, M., 2022. Transcription factors involved in plant responses to heavy metal stress adaptation. In *Plant perspectives to global climate changes* (pp. 221-231). Academic Press.
9. Sallam, A. and **Ul-Allah, S.**, 2019. Genomics-Aided Breeding for Climate-Smart Traits in Faba Bean. In *Genomic Designing of Climate-Smart Pulse Crops* (pp. 359-395). Springer, Cham.
10. Jabran, K., **Ul-Allah, S.**, Chauhan, B.S. and Bakhsh, A., 2019. An Introduction to Global Production trends and uses, History and Evolution, and Genetic and Biotechnological Improvements in cotton. In *Cotton Production* (pp. 1-22). John Wiley & Sons Ltd.
11. Ijaz, M., Rehman, A., Mazhar, K., Fatima, A., **Ul-Allah, S.**, Ali, Q. and Ahmad, S., 2019. Crop Production Under Changing Climate: Past, Present, and Future. In *Agronomic Crops Vol. 1* (pp. 149-173). Springer, Singapore.
12. Ijaz, M., Nawaz, A., **Ul-Allah, S.**, Rizwan, M.S., Ullah, A., Hussain, M., Sher, A. and Ahmad, S., 2019. Crop Diversification and Food Security. In *Agronomic Crops Vol. 1* (pp. 607-621). Springer, Singapore.

13. Khan, M.N., Ijaz, M., Ali, Q., **Ul-Allah, S.**, Sattar, A. and Ahmad, S., 2019. Biological Nitrogen Fixation in Nutrient Management. In *Agronomic Crops Vol. 2* (pp. 127-147). Springer, Singapore.
14. **Ul-Allah, S.** 2018. Combating Hidden Hunger in Agriculture Perspective. Biesalski HK, Birner R (eds): *Hidden Hunger: Strategies to Improve Nutrition Quality*. World Rev Nutr Diet. Basel, Karger, 2018, vol 118, pp 161-166
15. Hussain, M., Ahmad, S., Hussain, S., Lal, R., **Ul-Allah, S.** and Nawaz, A., 2018. Rice in saline soils: physiology, biochemistry, genetics, and management. In *Advances in Agronomy* (Vol. 148, pp. 231-287). Academic Press.