

# DR. SIDRA IQBAL

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Constituent College Depalpur, Okara

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**SPECIALIZATION**                      **AGRICULTURE (Plant Breeding & Genetics)**

## WORK EXPERIENCE

Serving Department of Plant Breeding & Genetics **University of Agriculture, Faisalabad** Sub campus Depalpur, Okara as **Assistant Professor** since March 2022

Served Department of Agriculture, **University of Swabi** as **Lecturer** from December, 2014 to February 2022

Served **Pakistan Tobacco Board** as "**Assistant Development Officer**" from January 2013 to December 2014

One year of experience teaching undergraduate courses at The University of Agriculture, Peshawar, as part of the National Internship Program (May 2010 – April 2011).

**Research officer** in HEC funded project "Collection and characterization of indigenous Brassica germplasm" at **The University of Agriculture, Peshawar** from July 2008 to June 2012

## EDUCATION

<b>Ph.D</b> , Crop Genetics and Breeding, Huazhong Agricultural University, Wuhan, P. R. China	<b>2019</b>
<b>M.Sc (Hons)</b> , Plant Breeding and Genetics, The University of Agriculture, Peshawar, Pakistan	<b>2012</b>
<b>B.Sc (Hons)</b> , Plant Breeding and Genetics, The University of Agriculture, Peshawar, Pakistan	<b>2008</b>
<b>HSSC</b> (Pre- Medical), BISE, Kohat	<b>2003</b>
<b>SSC</b> (Science), FBISE, Islamabad	<b>2001</b>

## PUBLICATIONS (IF=61.87)

1. Latif, A., Khan, T., Ahad, A., **Iqbal, S.**, Karim, M., Rahman, M. S. u., Haq, I.-u., & Raza, A. 2025. Quantitative analysis of biochemical traits in cucurbits and their association with field resistance to insect pests. *Plant Protection*, 9(1), 31–42.
2. Aatif, H. M., Saeed, S., Ali, Y., **Iqbal, S.**, Hanif, C. M. S., Ullah, M. I., & Raza, A. 2024. Superior genotypic selection, epidemiological variables and fungicides application analysis associated with wheat leaf rust development and grain yield. *Heliyon*, 10(6), e32564. <https://doi.org/10.1016/j.heliyon.2024.e32564>
3. Ali, Y., **Iqbal, S.**, Aatif, H. M., Naveed, K., Khan, A. A., Ijaz, M., Magsi, M. M., Ahmad, S., Syed, A. U. A., Magsi, M. A., Iqbal, R. K., Bukhari, N. A., Hatamleh, A. A., & Raza, A. 2023. Predicting stripe rust severity in wheat using meteorological data with environmental response modeling. *Journal of King Saud University - Science*, 35(4), 102591. <https://doi.org/10.1016/j.jksus.2023.102591>
4. Aon, M., Aslam, Z., Hussain, S., Bashir, M. A., Shaaban, M., Masood, **S.**, **Iqbal, S.**, Khalid, M., Rehim, A., Mosa, W. F. A., Sas-Paszt, L., Marey, S. A., & Hatamleh, A. A. 2023. Wheat Straw Biochar Produced at a Low Temperature Enhanced Maize Growth and Yield by Influencing Soil Properties of *Typic calciargid*. *Sustainability*, 15(12), 9488. <https://doi.org/10.3390/su15129488>
5. Ali, Y., Raza, A., **Iqbal, S.**, Khan, A.A., Aatif, H. M., Hassan, Z., Hanif, C.M.S., Ali H.M., Mosa, W.F.A, Mubeen, I., Sas-Paszt, L. 2022. Stepwise Regression Models-Based Prediction for Leaf Rust Severity and Yield Loss in Wheat. *Sustainability*. 14(21):13893. <https://doi.org/10.3390/su142113893>
6. Yu, L., Dai, Z., Zhang, Y., **Iqbal, S.**, Lu, S., Guo, L., Yao, X. 2022. Proteome-wide identification of S-sulfenylated cysteines reveals metabolic response to freezing stress after cold acclimation in *Brassica napus*. *Front Plant Sci*. 13: 1014295. doi: 10.3389/fpls.2022.1014295. PMID: 36275609; PMCID: PMC9580371.
7. Ali, U., Lu, S., Fadlalla, T., **Iqbal, S.**, Yue, H., Yang, B., Hong, Y., Wang, X., Liang G. 2022. The functions of phospholipases and their products in plant growth, development and stress responses. *Progress in Lipid Research*. 86 (2022) 101158. <https://doi.org/10.1016/j.plipres.2022.101158>.
8. Yu, L., **Iqbal, S.**, Zhang, Y., Zhang, G., Ali, U., Lu, S., Yao, X., Guo, L. 2021. Proteome-wide identification of S-sulphenylated cysteines in *Brassica napus*. *Plant Cell Environ*. 44(11):3571-3582. doi: 10.1111/pce.14160. Epub 2021 Aug 15. PMID: 34347306. co first author)
9. Li, J., **Iqbal, S.**, Zhang, Y., Chen, Y., Tan, Z., Ali, U., Guo, L. 2021. Transcriptome Analysis Reveals Genes of Flooding-Tolerant and Flooding-Sensitive Rapeseeds Differentially Respond to Flooding at the Germination Stage. *Plants*, 10, 693.
10. **Iqbal, S.**, U, Ali., T. Fadlalla., Q, Li., H, Liu., S, Lu., L. Guo. 2020. Genome wide characterization ohospholipase A & C families and pattern of lysolipids and diacylglycerol changes under abiotic stresses in *Brassica napus* L. *Plant Physiol. and Biochem*. 147 (2020): 101-112.
11. Y, Zhang., U, Ali., G, Zhang., L, Yu., S, Fang., **S. Iqbal.**, H, Li., S, Lu & L. Guo. 2019. Transcriptome analysis reveals genes commonly responding to multiple abiotic stresses in rapeseed. *Mol. Breeding*. Vol (19):158
12. **Iqbal, S.**, Farhatullah, M. A. Rabbani, M. Kanwal, N. Yousaf and S. Begum. 2017. Investigation and confirmation of introgression in *Brassica* species using microsatellite markers. *Pak. J. Bot.*, 49(6): 2213-2220

13. **Iqbal, S.**, Farhatullah, S. Shah, M. Kanwal, L. Fayyaz And M. Afzal. 2014. Genetic Variability And Heritability Studies In Indigenous Brassica Rapa Accessions. *Pak. J. Bot.*, 46(2): 609-612.
  14. **Iqbal, S.**, Farhatullah, A. Nasim, M. Kanwal And L. Fayyaz. 2014. Heritability studies for seed quality traits in introgressed Segregating populations of brassica. *Pak. J. Bot.*, 46(1): 239-243.
  15. Fayyaz, L., Farhatullah, S. Shah, **S. Iqbal**, M. Kanwal and S. Ali. 2014. Genetic variability studies in brassica F<sub>2</sub> populations developed through inter and intra-specific hybridization. *Pak. J. Bot.*, 46(1): 265-269.
  16. Kanwal, M., Farhatullah, M. Ashiq Rabbani, **S. Iqbal**, L. Fayyaz and M. Afzal. 2014. Genetic diversity in Brassica species and Eruca sativa for yield associated parameters- *Genetika*, vol., No.46, No.2, 537-54
  17. Fayyaz, L., Farhatullah, M.A. Rabbani, **S. Iqbal**, M. Kanwal And I. Nawaz. 2014. genetic diversity analysis of brassica napus/brassica campestris progenies using microsatellite markers. *Pak. J. Bot.*, 46(3): 779-787.
  18. Kanwal, M., Farhatullah, M. A. Rabbani, **S. Iqbal**, L. Fayyaz And I. Nawaz. 2014. the assessment of genetic diversity between and within brassica species and their wild relative (eruca sativa) using SSR markers. *Pak. J. Bot.*, 46(4): 1515-1520.
  19. Azam, S.M., Farhatullah, A. Nasim, S. Shah and **S. Iqbal**. 2013. Correlation studies for some agronomic and quality traits in *Brassica napus* L. *Sarhad J. Agric.* 29(4): 547-550.
  20. Nasim, A., Farhatullah, **S. Iqbal**, S. Shah And S.M. Azam. 2013. Genetic variability and correlation studies for morphophysiological traits in Brassica napus. *Pak. J. Bot.*, 45(4): 1229-1234.
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## ACADEMIC SUPERVISION

### 1. M. Sc. (Hons) theses (Supervisor)

#### (i) **Tayyaba Sajid** (Session: 2022–2024)

*Thesis Title: "Genetic diversity estimation in soybean (Glycine max L.) accessions for yield and its attributing traits."*

#### (ii) **Ramin Munir** (Session: 2022–2024)

*Thesis Title: "Morphological profiling, variability analysis and character association studies of soybean (Glycine max L.) genotypes."*

### 2. M. Phil. Theses (Co-Supervisor)

#### (i) **Rabia Mubeen Akhtar** (Session: 2020–2022)

*Thesis Title: "Exogenous application of organic acid amended nitrogen fertilizer to enhance nitrogen uptake and biomass production of fodder maize under lead stress"*

### 3. M. Sc. ( Hons) /M. Phil theses (Committee member)

#### (i) **Muhammad Saddam Mustafa** (Session: 2022–2024)

*Thesis Title: "Genetic variability and character association studies for grain yield and yield related parameters in maize (Zea mays L.)."*

#### (ii) **Saad Tahir** (Session: 2022–2024)

*Thesis Title: "Estimation of genetic components among tomato accessions for yield and its related attributes."*

## PROJECTS AS PRINCIPAL INVESTIGATOR

1. Title: **Marker Assisted Selection for Low Erucic Acid and High Oil Content in Progeny Derived from Indigenous Oilseed Brassica Germplasm Assessed Under Rainfed Conditions**  
Status: Ongoing (First year completed; hybridization has been performed)  
Duration: 15 February 2024 – 14 February 2027  
Funding Agency: **Endowment Fund Secretariat, University of Agriculture, Faisalabad (UAF-US Collaboration for Strengthening of Agri. Academia)**  
Total Funding: PKR 3.153 million
2. Title: **Molecular Characterization of Drought Resilient Soybean Genotypes Using DNA Based Markers**  
Status: Under final processing; passed assessment by Technical Review Committee  
Duration: 36 months  
Funding Agency: **Pakistan Agricultural Research Council (PARC) – Agricultural Linkages Programme (ALP)** Total Funding: PKR 8.697 million

## POSTER AND ORAL PRESENTATIONS

1. Efficiency Of Microsatellite Markers in the Investigation and Confirmation of Introgression in Brassica Species at ICABBBE 2012 :**International Conference on Agricultural, Biotechnology, Biological and Biosystems Engineering** held on September 26-27, 2012 in Rome, Italy
2. Efficiency of Microsatellite Markers in The Investigation and Confirmation of Introgression in Brassica Species by Sidra Iqbal, Farhatullah, Malik Ashiq Rabbani, in **International Plant Breeding congress** held on November 10-14, 2013 in Turkey.
3. Abstract entitled “Proteomics- based screening of redox sensitive proteins in rapeseed under salt stress” by Liangqian Yu, Sidra Iqbal and Liang Guo submitted in conference “**Plant Genomics in China**” Held on August 19-22, 2017 at Lanzhou, P.R China organized by subcommittee of Plant Genetics and Genomics of The Genetics Society of China
4. Presented in one day seminar as Keynote speaker on “**Sustainable Food Systems- Need of the Hour**” at University of Okara held on December 1<sup>st</sup>, 2022
5. Participated as invited speaker at University of Okara for Two days international Conference on “**New Trends in Biological Sciences**” held on January 16-17, 2023
6. Guest speaker in One Day Seminar on “**Professional Writing Skills &Skill Enhancement**” at Department of Biotechnology, University of Okara, Punjab, Pakistan held on May 16<sup>th</sup> , 2024
7. Presented in one day seminar as Keynote speaker on “**Innovative Approaches to Enhance Crop Resilience in Pakistan’s Changing Climate**” at Department of Biology, University of Okara, Punjab, Pakistan held on May 17<sup>th</sup>, 2024
8. Poster presentation at 8th International Conference on “**Sustaining Livelihoods: Climate Smart Agriculture for Food Security**” July 3-4, 2024 at University of Poonch, Rawalakot, Pakistan.
9. Poster presentation at 3rd International conference “**REVAMPED SCIENTIFIC OUTLOOK OF 21st Century**” held on November 14<sup>th</sup>, 2024 at Rawalpindi Women University, Pakistan
10. Poster presentation at 3rd International conference “**REVAMPED SCIENTIFIC OUTLOOK OF 21st Century**” held on November 14<sup>th</sup>, 2024 at Rawalpindi Women University, Pakistan

## WEBINAR ORGANIZER

1. Webinar on “Nutrients & Pesticide Pollution: A Potential Threat to Biodiversity” organized on International Biodiversity Day: 22<sup>nd</sup> May 2023.
2. International Webinar on “Modern Crop Breeding for Future Food Security” held on 22<sup>nd</sup> December 2022 at UAF Sub-Campus Depalpur, Okara

## WORKSHOPS AND CONFERENCES

1. Participated in Workshop on **“Advance Research Techniques and Research Management in Life Sciences”** held on March 11-12, 2009 at Deptt. of Agronomy, The University of Agriculture, Peshawar, **Pakistan**
2. Participated in Workshop on **“Introduction to CRL (Centralized Resources Lab) Equipment”** held on June 15-22, 2009 at Deptt. of Physics, University of Peshawar, Peshawar, **Pakistan**
3. Participated in **“Training Course on Tissue Culture and Biotechnology”** held on March 1-4, 2010 at National Agricultural Research Center, Islamabad, **Pakistan**.
4. Participated in workshop **“Edible Oils and Oilseeds Quality Assessment Techniques”** held on September 8-11, 2011 at Nuclear Institute of Food and Agriculture, Peshawar, **Pakistan**.
5. Participated in International Conference on **“Climate change: Challenge for Agriculturists”** held on May 28-30, 2012 organized under HEC sponsored Project “International Linkages of Pakistani Universities with Foreign Universities” at Khyber Pakhtunkhwa Agricultural University, Peshawar, **Pakistan**
6. Participated in two-day workshop on the **“Application of Tissue Culture and Molecular Techniques in Crop Improvement”** held on May 13-14, 2014 at Nuclear Institute of Food and Agriculture, Peshawar, **Pakistan**.
7. Attended three days symposium of **“Sustainability of Tobacco Crop in Pakistan”** organized by Pakistan Tobacco Board, Pakistan on November 17-19, 2014 at Margalla hotel, Islamabad, **Pakistan**
8. Participated in two-day workshop on **“Women Leadership in Higher Education”** held from February 21-22, 2015 at COMSATS Institute of Information Technology, Abbottabad, **Pakistan**
9. Attended 4<sup>th</sup> **International Symposium of Crop Genomics and Genetic Improvement** & Nanhu Forum of Plant Sciences held on August 8<sup>th</sup>, 2016 at Huazhong Agricultural University, Wuhan, **P.R China**
10. Attended 7<sup>th</sup> **International Crop Science Congress** held on August 14-19, 2016 in Beijing, **P.R. China**
11. Attended symposium entitled **“Innovations in Crop Improvement to Meet the Global Grand Challenges of the 21<sup>st</sup> century”** held on September 13<sup>th</sup>, 2016 jointly organized by HZAU-UNL at Huazhong Agricultural University, Wuhan, **P.R China**
12. Attended 2<sup>nd</sup> **South Lake Innovation Forum for International Young Talent** held on May 18<sup>th</sup>, 2017 at Huazhong Agricultural University, Wuhan, **P.R China**
13. Attended Agricultural Genomics conference entitled **“Functional Genomics towards Green Crops for Sustainable Agriculture”** Held on 25-27 October, 2017 at National Key Laboratory of Crop Genetic Improvement, Huazhong Agricultural University, Wuhan, **P.R China**

14. Participated in **First Annual Academic Symposium for International Students** held on January 6<sup>th</sup>, 2018 organized by International College, Huazhong Agricultural University, Wuhan, **P.R China**
15. Participated in 5<sup>th</sup> international symposium on “**Genomics and Crop Genetic Improvement-Heterosis**” held on October 22-25, 2018 at National Key Laboratory of Crop Genetic Improvement, Huazhong Agricultural University, Wuhan, **P.R China**
16. Participated in **Second Annual Academic Symposium for International students** held on April 21<sup>st</sup>, 2019 organized by International College, Huazhong Agricultural University, Wuhan, **P.R China**
17. Completed science communication training entitled “**Communicating Your Research to the Public**” organized by Nature Research Academics on May 23<sup>rd</sup> 2019, at Huazhong Agricultural University, Wuhan, **P.R China**
18. Participated in “**The 1<sup>st</sup> International Forum on Crop Science Green Crops for Sustainable Agriculture**” held on June 2-5, 2019 at National Key Laboratory of Crop Genetic Improvement, Huazhong Agricultural University, Wuhan, **P.R China**
19. Participated in 6<sup>th</sup> international symposium on “**Genomics and Crop Genetic Improvement-Molecular Breeding**” held on October 20-23, 2019 at National Key Laboratory of Crop Genetic Improvement, Huazhong Agricultural University, Wuhan, **P.R China**
20. Attended world environment day- 2021: June 4<sup>th</sup>, 2021 webinar on “**Sustainable Nitrogen Management for Ecosystem Restoration**”
21. Attended “**Training Course on Cultivation of Oil Crops for Pakistan (Rapeseed, Peanut, etc.)**” sponsored by the Ministry of Commerce and organized by Hunan Agricultural Group Co., Ltd, from August 10-30, 2021.
22. Participated in International Webinar on “**Mentoring: How Does It Connect to Research Ethics**” jointly organized by University of Agriculture, Faisalabad and Pakistan Phytopathological Society held on September 7<sup>th</sup>, 2021
23. Attended the “**International Conference on Plant Molecular Biology**”, organized by the Center of Excellence in Molecular Biology, Lahore, Pakistan, on December 14–15, 2022.
24. Organized an International Webinar on “**Modern Plant Breeding for Future Food Security**” at University of Agriculture, Faisalabad Sub Campus Depalpur Okara held on December 22<sup>nd</sup>, 2022
25. Participated in two days Training on “**Gender Equality and Social Inclusion (GESI) In Integrated Water Resources Management (IWRM)**” organized by International Water Management Institute, in Okara on February 15-16, 2023.
26. Focal person of training on awareness session on “**Inclusive Voter Participation**” held at University of Agriculture, Faisalabad Sub Campus Depalpur Okara on February 21<sup>st</sup>, 2023
27. Organized webinar on International Biodiversity Day entitled: “**Nutrients and Pesticide Pollution; A potential threat to Biodiversity**” at University of Agriculture, Faisalabad Sub Campus Depalpur Okara on May 22<sup>nd</sup>, 2023

28. Participated in workshop on “**Maximizing chances of Publication: Data Handling, Manuscript write up and Graphs/ Figures Preparation**” held at University of Agriculture, Faisalabad Sub Campus Depalpur Okara on July 13<sup>th</sup>, 2023
29. Participation in training course on “**Project Proposal Writing**” held on August 5-9, 2024 at AHK-NCRD, Islamabad
30. Attended the International Seminar on “**Global View of Soybean Commercialization and Innovation,**” organized by CABB, University of Agriculture, Faisalabad, on May 9<sup>th</sup>, 2024.
31. Attended the seminar on “**Application of Fourth Generation Sequencing and Optical Mapping for Crop Improvement,**” organized by CABB, University of Agriculture, Faisalabad, on May 10<sup>th</sup>, 2024.
32. Attended Elsevier Author Workshop: “**How to Find High Impact Journals to Read and Publish In,**” held on September 27<sup>th</sup>, 2024.
33. Attended Elsevier Author Workshop: “**Essentials of Writing a Research Article for High Impact Journals,**” held on October 22<sup>nd</sup>, 2024.
34. Attended Wiley Research Training “ Understanding the Open Access Publishing and the Open Future” held on July 22, 2025.

## RESEARCH EXPERIENCE

Internship Report on “**Morphological characterization of indigenous Soybean**”

M.Sc (Hons) Thesis on “**Introgression in heterospecific hybrids of Brassica**”

Ph.D dissertation on “**Proteomic identification of redox sensitive proteins and Functional characterization of redox protein Fumarase in *BRASSICA napus* L.**”

## PROFESSIONAL EXPERIENCE

Hostel Superintendent,

Focal Person-Sports

Associate Senior Tutor (Responsible for managing Extra- Curricular activities by students)

Chairperson, Ethics Committee

Incharge, Female Student matters

Convener, Scholar and Career Development centre

Member of various committees including Admission, Seminar, Glass House, Student Affairs, Career Development Centre and Student Financial Assistance,

## PROFILE ON SCIENTIFIC FORUMS

1. <https://web.uaf.edu.pk/FacultyProfile/Profile/524#team>
2. [https://scholar.google.com/citations?user=w2tgK\\_gAAAAJ&hl=en&oi=ao](https://scholar.google.com/citations?user=w2tgK_gAAAAJ&hl=en&oi=ao)

**Citation: 503 h-index: 13**

## REVIEWER

International Journal of fruit sciences

Scientific reports  
BMC Plant Biology  
BMC genomics

## ACHIEVEMENTS

**Bronze medalist** in B.Sc (Hons) in Faculty of Crop Production

**Silver medalist** in M.Sc (Hons) at Faculty Level

Secured **Cultural exchange scholarship** announced by Ministry of Interprovincial Coordination, Pakistan in 2015 for Ph.D in P.R. China

## ADDITIONAL SKILLS

Microsoft Office package, gene computational validation, designing cellular and molecular pathways using bioinformatics tools, molecular biology (expertise in oil and lipid analysis, transgenic breeding, Tissue culture and micro propagation)

## REFERENCES

Available on request