

RESUME

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Ph.D. Crop Cultivation and Farming
System (**Soil Science**)
Rice Physiology and Ecology



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Curriculum Vitae

BSc (Hons) Agri: in Soil Science, Univ. Agri. Faisalabad, Pak. 2007-11. CGPA (3.02/4.00).

MSc (Hons) Agri: in Soil Science, Univ. Agri. Faisalabad, Pak. 2011-13. CGPA (3.22/4.00).

Supervisor: Dr. Muhammad Iqbal

Thesis Title: Tillage and Nitrogen Fertilization Impact on Irrigated Corn Yields and Soil Chemical and Physical Properties under Semi-arid Climate

Ph.D: in Crop Cultivation and Farming System (Soil Science), CAAS, Beijing, CN. 2015-18.

Supervisor: Prof. Dr. Qianyu Jin

Thesis Title: Effects of Salt Stress on Rice Growth, Spikelets Development and the Regulation by 1-MCP

Post-doc.: in Soil Science, CAAS, Beijing, CN. 2018-Present

Mentor: Prof. Dr. Qianyu Jin

Project Title: Involvement of ethylene in salt resistance for rice plants and the exogenous regulating mechanism (2 year project, 1 year soil culture and 1 year hydroponic)

Principal Investigator: Project Title: The driving mechanism of exogenous hormones in improving salt tolerance of rice plants under salt stress (**Soil Culture**)

Distinctions/Awards

1. Graduate School of Chinese Academy of Agricultural Sciences Scholarship (2015-16)
2. Beijing Government Scholarship (2016-18).
3. Best speaker award in an International Symposium on Modern Biotechnology and Crop Germplasm and National Crop Science Ph.D. Students' Forum, Southwest University, Chongqing, P.R.China, November, 11-13, 2016.
4. Punjab Educational Endowment Fund (PEEF) Scholarship, Pakistan.

Work Experience Record

Six Months	Library Manager Institute of Soil and Environmental Sciences UAF, Faisalabad, Pakistan
One Year	Principal (Head of Institute) THE HORIZON SCHOOL SYSTEM, Faisalabad, Pakistan
One Year	Science Teacher (Biology) ILM-UN-NOOR School and College, Faisalabad, Pakistan
One Year	Science Teacher (Biology) Dar-e-Arqam School, Abdalian Campus, Faisalabad, Pakistan
Three Months	Internee Soil and Water Testing Lab. in Fertility Section, AARI, Faisalabad, Pakistan
One Year	Principal (Head of Institute) THE HORIZON SCHOOL SYSTEM, Faisalabad, Pakistan.

Professional Trainings/Internships/Conferences/Workshops/Seminars

Two international conferences

1. Workshop of Genetic Basis and Breeding Application on Higher-yield Superior Quality Rice, 13-16 October

2016, New Century Hotel, Hangzhou, CHINA

2. International Symposium on Modern Biotechnology and Crop Germplasm and National Crop Science Ph.D. Students' Forum, Southwest University, Chongqing, P.R.China, November, 11-13, 2016

List of Research Papers Published in International Journals

1. **Sajid Hussain**, Jie Huang, Chunquan Zhu, Xiaochuang Cao, Lianfeng Zhu, Qianyu Jin, Junhua Zhang*. Effects of Ethephon and 1-Methylcyclopropene Seed Priming on Growth Mechanisms, Hormonal Homeostasis, and Salinity Adaptation in Rice with Reference to Ethylene Biosynthesis Under Hydroponic Condition (**Submitted**, Journal of Plant Physiology, 2019).
2. **Sajid Hussain**, Chu Zhong, Xiaochuang Cao, Lianfeng Zhu, Shengmiao Yu, Shah Fahad, Azhar Hussain, Allen Bohr James, Junhua Zhang, Qianyu Jin. Effects of 1-methylcyclopropene on rice growth characteristics and superior and inferior spikelets development under salt stress. Journal of Plant Growth Regulation. 2018, 37(4): 1368–1384. DOI: 10.1007/s00344-018-9800-4. **IF= 2.179**
3. **Sajid Hussain**, Chu Zhong, Xiaochuang Cao, Zhigang Bai, Jie Huang, Lianfeng Zhu, Maqsood Ahmed Khaskheli, Junhua Zhang, Qianyu Jin. 1-Methylcyclopropene modulates physiological, biochemical, and antioxidant responses of rice to different salt stress levels. Front. Plant Sci. 2019, 10:124, 1-18. doi: 10.3389/fpls.2019.00124 **IF= 4.106**
4. **Sajid Hussain**, Chunquan Zhu, Zhigang Bai, Jie Huang, Xiaochuang Cao, Lianfeng Zhu, Satyabrata Nanda, Saddam Hussain, Aamir Riaz, Qianyu Jin, Junhua Zhang. iTRAQ-Based Protein Profiling and Biochemical Analysis of Two Contrasting Rice Genotypes LYP9 and NPBA Revealed Their Differential Responses to Salt Stress. Int. J. Mol. Sci. 2019, 20, 547; doi:10.3390/ijms20030547. **IF= 4.183**
5. **Sajid Hussain**, Junhua Zhang, Chu Zhong, Xiaochuang Cao, Zhigang Bai, Lianfeng Zhu, Maqsood Ahmed Khaskheli, Sajid Fiaz, Qianyu Jin. Sodium chloride (NaCl) altered physiological and growth characteristics at different developmental stages of rice, Chilean Journal of Agricultural Research. 78(2): 2018, 1-15. doi:10.4067/S0718-58392018000100004 **IF= 0.991**
6. **Sajid Hussain**, Junhua Zhang, Chu Zhong, Lianfeng Zhu, Xiaochuang Cao, Shengmiao Yu, Allen Bohr James, Hu Jijie, Qianyu Jin. Effects of salt stress on rice growth, development characteristics, and the regulating ways: A Review. Journal of Integrative Agriculture 2017, 16(11): 60345-7 (doi:10.1016/S2095-3119(16)61608-8) **IF= 1.337**
7. **Sajid Hussain**, Satyabrata Nanda. Genome-wide identification and characterization of SPL gene family in *Dichanthelium oligosanthes*. Bioinformatics (published 15 March, 2019).
8. **Sajid Hussain**, Muhammad Iqbal , Muhammad Saleem, Muhammad Zahir Aziz , Ghulam Murtaza, Muhammad Naveed, Muhammad Usman Jamshaid, Azhar Hussain, Hina Javed , Muhammad Ahmed Akram , Hafiz Tanvir ahmad, Pia Muhammad Adnan Ramzani , Rehman Gul and Omar Aziz. Tillage and Nitrogen Fertilization Impact on Irrigated Corn Yields and soil Chemical and Physical Properties under Semi-arid climate. International Journal of Scientific & Engineering Research, 6 (3), March-2015 1225 ISSN 2229-5518
9. **Sajid hussain**, Mazhar iqbal, Ghulam Sarwar, Muhammad iqbal, Shahid mehmoood, tasaduq rasool and Omar aziz. Effect of different irrigation practices and plastic mulch on water use efficiency, growth and yield of spring maize. Basic Research Journal of Agricultural Science and Review ISSN 2315-6880 4(11): 314-320 November 2015
10. Junhua Zhang, **Sajid Hussain**, Futao Zhao, Lianfeng Zhu, Xiaochuang Cao, Shengmiao Yu, Qianyu Jin. Effects of Azospirillum brasilense and Pseudomonas fluorescens on nitrogen transformation and enzyme activity in the rice rhizosphere. Journal of Soils and Sediments, 2018, 1-13 **IF= 2.627**
11. Xiaochuang Cao, Chu Zhong, **Sajid Hussain**, Lianfeng Zhu, Junhua Zhang, Lianghuan, Qianyu Jin. Effects of watering regime and nitrogen application rate on the photosynthetic parameters, physiological characteristics, and agronomic traits of rice. Acta Physiologiae Plantarum. (2017) 39:135. DOI 10.1007/s11738-017-2432-7 **IF= 1.52**
12. Junhua Zhang, Zhigang Bai, Jie Huang, **Sajid Hussain**, Futao Zhao, Chunquan Zhu, Lianfeng Zhu, Xiaochuang Cao, Qianyu Jin. Biochar alleviated the salt stress of induced saline paddy soil and improved the biochemical characteristics of rice seedlings differing in salt tolerance. Soil & Tillage Research 195 (2019) 104372. **IF= 4.675**
13. Xiaochuang Cao, Chunquan Zhu, Chu Zhong, **Sajid Hussain**, Lianfeng Zhu, Lianghuan Wu, Qianyu Jin. Mixed-nitrogen nutrition-mediated enhancement of drought tolerance of rice seedlings associated with photosynthesis, hormone balance and carbohydrate partitioning. Plant Growth Regulation (2018) 84:451–465. <https://doi.org/10.1007/s10725-017-0352-6> **IF= 2.646**
14. Muhammad Shaukat, Jingtao Wu, Manman Fan, **Sajid Hussain**, Jingtao Yao, Milson Evaldo Serafime. Acclimation improves salinity tolerance capacity of pea by modulating potassium ions sequestration. Scientia Horticulturae 254 (2019) 193–198. **IF=1.961**

15. Cao Xiaochuang , Zhong Chu, Zhu Lianfeng, Zhang Junhua, **Sajid Hussain**, Wu Lianghuan, Jin Qianyu. Glycine increases cold tolerance in rice via the regulation of N uptake, physiological characteristics, and photosynthesis. *Plant Physiology and Biochemistry* 112 (2017) 251-260. **IF=2.724**
16. ChunQuan zhu, JunHua Zhang, LianFeng Zhu, Buhailiqem Abliz, Chu Zhoong, ZhiGang Bai, WenJun Hu, **Hussain Sajid**, Allen Bohr James, Xiaochuang Cao, and QianYu Jin. Hydrogen sulfide alleviates the aluminum toxicity-induced inhibition of root elongation in rice (*Oryza sativa*). *Front. Plant Sci.* 9:294. doi: 10.3389/fpls.2018.00294 **IF=4.298**
17. ChunQuan zhu, JunHua Zhang, LianFeng Zhu, Buhailiqem Abliz, Chu Zhong, ZhiGang Bai, **Hussain Sajid**, WenJun Hu, Allen Bohr James, Xiaochuang Cao, and QianYu Jin. NH_4^+ facilitates iron reutilization in the cell walls of rice (*Oryza sativa*) roots under iron-deficiency conditions. *Environmental and Experimental Botany*. DOI10.1016/j.envexpbot.2018.03.018 **IF= 4.369**
18. Chun Quan Zhu, Xiao Chuang Cao, Lian Feng Zhu, Wen Jun Hu, An Yong Hu, Buhailiqem Abliz, Zhi Gang Bai, Jie Huang, Qing Duo Liang, **Hussain Sajid**, Ye Feng Li, Li Ping Wang, Qian Yu Jin, and Jun Hua Zhang. Boron reduces cell wall aluminum content in rice (*Oryza sativa*) roots by decreasing H_2O_2 accumulation. *Plant Physiology and Biochemistry*. March 2019. DOI: 10.1016/j.plaphy.2019.02.022 **IF= 3.404**
19. Asad Amin Wajid Nasim Muhammad Mubeen Muhammad Nadeem, **Sajid Hussain**, Muhammad Razaq, Amin Fathi. Optimizing the phosphorus use in cotton by using CSM-CROPGRO-cotton model for semi-arid climate of Vehari-Punjab, Pakistan. *Environ Sci Pollut Res.* (2017) DOI 10.1007/s11356-016-8311-8. **IF= 2.92**
20. Haroon Shahzad, Muhammad Imran, Muhammad Iqbal, Atif Javed, Hafiz Muhammad Bilal, Sajid Hussain, Zahid Hussain, Bushra Huma, Shazia Iqbal, Muhammad Arslan Safdar. SOIL PHYSICAL HEALTH INDICES, WUE AND WHEAT YIELD UNDER DIFFERENT MULCHING AMENDMENTS. [SYLWAN., 160(10)]. ISI Indexed 367, 367-387. **IF=0.691**
21. Nafisa Khaskheli, Ghulam Mustafa Laghari, **Sajid Hussain**, Maqsood AhmedKhaskheli, Abdul Hafee Laghari, Mahmooda Buriro, Anab Khanzada, Fahad Ali Kalhoro. Effect of Temperature Regimes on Seed Germination and Agronomic Features at Early Growth stage of Wheat (*Triticum aestivum* L.) cultivars. *Journal of Chemical, Biological and Physical Sciences*. JCBPS; Section B; August 2019 –October 2019, Vol. 9, No. 4; 603-616, E- ISSN: 2249 –1929. DOI: 10.24214/jcbps.B.9.4.60316.
22. Zhang Junhua, Lin Yujiong, Huang Jie, Bai Zhigang, **Sajid Hussain**, Zhu Lianfeng, Cao Xiaochuang, Jin Qianyu. Effects of substrate types and uniconazole on mechanized transplanting qualities and grain yield for late rice with different seedling ages[J]. *Transactions of the Chinese Society of Agricultural Engineering* (Transactions of the CSAE), 2018, 34(1): 44-52. (In Chinese with English abstract) doi: 10.11975/j.issn.1002-6819.2018.01.007
23. Ishrat Fatima, Moazzam Jamil, Azhar Hussain, Muhammad Zahid Mumtaz, Muhammad Luqman, **Sajid Hussain**, Saif-Ur-Rehman Kashif, Maqsoof Ahmad. Zinc solubilizing *Bacillus* sp. ZM20 and *Bacillus aryabhattai* ZM31 promoted the productivity in okra (*Abelmoschus esculentus* L.). *BIOLOGIA (PAKISTAN)* December, 2018, 64 (II), 179-185.
24. Yasir Hamid , Tariq Aziz , Muhammad Saleem, Muhammad Naveed ,Muhammad Zahir Aziz, Shakeel Anjum, Muhammad Ahmed Akram, Pia Muhammad Adnan Ramzani, Hafiz Tanvir Ahmad, Muhammad Usman Jamshaid and **Sajid Hussain**. Effect of phosphorous application in combination with organic soil conditioner on growth of low land rice. *Journal name: International Journal of Scientific & Engineering Research*, Volume 6, Issue 3, March-2015 1201 ISSN 2229-5518
25. Muhammad Iqbal, Abdul Ghaffar Khan*, Rashid Mukhtar, and **Sajid Hussain**. Tillage and Nitrogen Fertilization Effect on Wheat Yield, and Soil Organic Carbon and Total Nitrogen. *Journal of Sustainable Watershed Science & Management* 2(1):108–117,2014doi: 10.5147/jswsm.2014.0185
26. Ghulam Murtaza, Ehsanullah, Ali Zohaib, **Sajid Hussain**, Tassadduq Rasool, Haroon Shehzad. The Influence Of Rhizobium Seed Inoculation And Different Levels Of Phosphorus Application On Growth, Yield And Quality Of Mashbean (*Vigna Mungo* L.). *International Journal of Modern Agriculture*, Volume 3, No.3, 2014 Copyright © Zohdi PublisherISSN: 2305-7246
27. Haroon Shahzad, Sana Ullah, Muhammad Iqbal, **Sajid Hussain**, Atif Javed, Ali Raza Siddiqui. Effect of various farm manure levels on root proliferation and maize growth under different textured soils. *International Journal of Modern Agriculture*, 3(4): 2014 Copyright © Zohdi Publisher ISSN: 2305-7246:106-115.

Conference Contributions

1. Inhibition of ethylene by 1-methylecyclopropene regulate plant physiology, inferior spikelets development, and yield of rice response to salt stress
Sajid Hussain, Chu Zhong, Maqsood Ahmad Khaskheli, Azhar Hussain, Junhua Zhang*, Qianyu Jina* page 279: 17Th Congress of Soil Science, March 13-15, 2018, Faisalabad Pakistan, Organized by: Soil Science Society of Pakistan.
2. Effects of Different Seedlings-raising Matrixes and a Plant Growth Retardant, Uniconazole, on Growth and Yield of Machine-transplanted Rice and Its Regulation Mechanism

- Sajid Hussain**, Zhang Junhua, Zhong Chu et al. 2016: International Symposium on Modern Biotechnology and Crop Germplasm and National Crop Science Ph.D. Students' Forum, Southwest University, Chongqing, P.R.China, November, 11-13, 2016:95.
- Effects of 1-MCP on plant growth characteristics and spikelets development under salt stress in rice. Qianyu Jin, Junhua Zhang, Jie Huang, **Sajid Hussain** and Zhigang Bai. 18th Biotechnology Congress. October 19-20, 2017 | New York, USA. J Biotechnol Biomater 2017, 7:4 (Suppl) DOI: 10.4172/2155-952X-C1-080
 - High nitrogen increased antioxidant capacity in adaptation of photosynthesis to water deficit in rice Chu Zhong, Xiaochuang Cao, **Sajid Hussain**, Jijie Hu, Allen Bohn James, Junhua Zhang, Lianfeng Zhu, Jianliang Huang, Qianyu Jin: International Symposium on Modern Biotechnology and Crop Germplasm and National Crop Science Ph.D. Students' Forum, Southwest University, Chongqing, P.R.China, November, 11-13, 2016:95.
 - Physiological and Biochemical response of Maize (*Zea mays* L.) genotypes to different levels of salinity Shazia Iqbal, **Sajid Hussain**, Haroon Shahzad et al. 2016: International Symposium on Modern Biotechnology and Crop Germplasm and National Crop Science Ph.D. Students' Forum, Southwest University, Chongqing, P.R.China, November, 11-13, 2016: 101.
 - Maize growth and tissue ion regulation under NaCl and Na₂SO₄ induced salinity Haroon Shazad, **Sajid Hussain**, Hafiz Muhammad Bilal et al. 2016: International Symposium on Modern Biotechnology and Crop Germplasm and National Crop Science Ph.D. Students' Forum, Southwest University, Chongqing, P.R.China, November, 11-13, 2016:34.

Book chapters:

- Sajid Hussain**, Muhammad Shaukat, Muhammad Ashraf, Chunquan Zhu, Qianyu Jin and Junhua Zhang (July 12th 2019). Salinity Stress in Arid and Semi-Arid Climates: Effects and Management in Field Crops [Online First], IntechOpen, DOI: 10.5772/intechopen.87982. Available from: <https://www.intechopen.com/online-first/salinity-stress-in-arid-and-semi-arid-climates-effects-and-management-in-field-crops>
- Sajid Hussain**, Shakeel Ahmad, Satyabrata Nanda, Sumera Anwar, Awais Shakoor, Xiaochuang Cao, Qianyu Jin, Junhua Zhang*, (2019). The Climate Change and Rice Production: Their Management Strategies, book title: Environment, Climate, Plant and Vegetation Growth, publisher Springer Nature (Submitted 14 July, 2019)

Reviewer of the Journals

- Frontier in Plant Sciences
- Asian Journal of Agriculture and Biology
- Pakistan Journal of Agricultural Research

Language(s)

Mother Language Urdu
Other Language(s) English (Fluent), and Chinese (Not Fluent)

Research related skills

- A good command on research design, planning, and interpretation of results.
- Expertise in Spectrophotometer for enzymes analysis, Chromatograph, ELISA, LI-COR, LI-6400XT, Portable Photosynthesis System version 6, SPAD meter, Flame Photometer (Na analysis from soil), LI-COR AREA METER, Fume hood etc.
- Hands-on expertise in molecular techniques such as DNA Extraction, RNA Extraction, and qRT-PCR.
- A wise use of statistics and SPSS along with MS Office package.
- A lot of experience in using Origin graphical software for research data presentation.

Extra-curricular Activities

- Shaukat Khanum Overseas Student Ambassadors for the year 2018-2019.

References

Dr. Prof. Qianyu Jin,

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