

Sajjad Hussain  
Citrus Center, Texas A&M Kingsville

## **CURRICULUM VITAE**

### **Dr. Sajjad Hussain**

Associate Professor, Texas A&M University Kingsville, Citrus Center, Weslaco, TX 78599, USA

**Email:** [Sajjad.hussain@tamuk.edu](mailto:Sajjad.hussain@tamuk.edu) **Mobile #:** +1-956-4723359

Google Scholar Profile: <https://scholar.google.com/citations?user=1LbQI6MAAAJ&hl=en>

Research Gate Profile: [Sajjad Hussain](#)

ORCID Profile: <https://orcid.org/0000-0002-7143-2754>

### **EDUCATION:**

**2011 Ph.D.** University of Corsica Pascale Paoli, Corte, France

Ph.D. Dissertation Title: *Physiological characterization of citrus genotypes: salt stress tolerance studies and impact of the presence of zygotic and autotetraploid rootstocks.*

**2005 M.Sc. (Hons.) Agriculture (Horticulture)**, Bahauddin Zakariya University Multan Pakistan

M.Sc. (Hons.) Dissertation Title: *In vitro regeneration in different rootstocks of citrus.*

**2003 B.Sc. (Hons.) Agriculture (Horticulture)**, Bahauddin Zakariya University Multan Pakistan

### **RESEARCH AND PROFESSIONAL EXPERIENCE:**

**01-06-2024-to date**

**Associate Professor (TTS)**, Texas A&M University Kingsville, Citrus Center Weslaco, Texas, USA

**15-10-2022-to 31-05-2024**

**Professor (Tenured)** Department of Horticulture, Faculty of Agricultural Sciences and Technology, Bahauddin Zakariya University, Multan, Pakistan.

**13-07-2018- 14-10-2022**

**Associate Professor (Tenured)** Department of Horticulture, Faculty of Agricultural Sciences and Technology, Bahauddin Zakariya University, Multan, Pakistan.

**12-02-2013- 12-07-2018**

**Assistant Professor (TTS)** Department of Horticulture, Faculty of Agricultural Sciences

Sajjad Hussain  
Citrus Center, Texas A&M Kingsville  
and Technology, Bahauddin Zakariya University, Multan, Pakistan.

**26-04-2011- 25-04-2012**

**Assistant Professor (IPFP)** Department of Horticulture, Faculty of Agricultural Sciences and Technology, Bahauddin Zakariya University, Multan, Pakistan.

**2006-2011**

Doctoral Research, UR GEQA –INRA CIRAD Corsica, France

## **RESEARCH AREAS OF INTEREST:**

1. Adapting to climate change and managing risks
2. Citrus stress tolerance mechanisms
3. Citrus Germplasm's evaluation for biotic and abiotic stresses
4. Citrus Polyploidy rootstocks (tetraploid and triploid) breeding for fruit quality and stress tolerance/adaptation
5. Citrus nutritional imbalance and its effect on fruit yield and quality

## **AUTHORED BOOKS:**

1. Cropping Systems Modeling Under Changing Climate (Mukhtar Ahmed, Shakeel Ahmad, Ghulam Abbas, **Sajjad Hussain**, Gerrit Hoogenboom) <https://doi.org/10.1007/978-981-97-0331-9> Springer Singapore, **2024**.

## **EDITED BOOKS:**

2. Citrus Production: Technological Advancements and Adaptation to Climate Change (Editors: **Sajjad Hussain**, Muhammad Fasih Khalid, Muhammad Arif Ali, Niaz Ahmed, Mirza Hasanuzzaman, Shakeel Ahmad) Taylor & Francis, CRC Press **2022**.
3. Handbook of Research on Mango Fruit Postharvest Science, Production, Nutrition, and Processing Technology (Editors: **Sajjad Hussain**, Kamrun Nahar, Ishtiaq A. Rajwana, Sezai Ercisli, Shakeel Ahmad) Apple Academic Press, (In production May, 2025). [Apple Academic Press](#)

## LIST OF PUBLICATIONS:

### ***Peer-Reviewed Publications***

**Best Research Article Award JPLPH** (Journal of Plant Physiology) 2022. [Awards - Journal of Plant Physiology | ScienceDirect.com by Elsevier](#)

One of the two Best Research Articles published in JPLPH in the year 2020

*Better salinity tolerance in tetraploid vs diploid volkamer lemon seedlings is associated with robust antioxidant and osmotic adjustment mechanisms*

1. Sajjad Hussain, Mehwish Jan, Muhammad Fasih Khalid, Sakeena Tul-Ain Haider, Muhammad Arif Ali, Shakeel Ahmad, Samreen Sabir, Mamoudou Sétamou and Raphael Morillon (2025) Rooting for Resilience: Arbuscular Mycorrhizal Fungi (AMF) Boost Citrus Tolerance to Water Scarcity in Rangpur Lime and Carrizo Citrange Rootstocks. Horticulturae. 11 (1): <https://www.mdpi.com/2311-7524/11/1/24#>
2. Khalid, Muhammad Fasih; Shafqat, Waqar; Khan, Rashid Iqbal; Jawaaid, Muhammad Zaid; Hussain, Sajjad; Saqib, Muhammad; Rizwan, Muhammad; Ahmed, Talaat; (2024) Unveiling the resilience mechanism: Strigolactones as master regulators of plant responses to abiotic stresses. Plant Stress., 100490.
3. Sohail, Muhammad; EL-Beltagi, Hossam S; Hussain, Sajjad; Hussain, Altaf; Ehsan, Ali; Ahmad, Shakeel; Arbona, Vicent; Khalid, Muhammad F; (2024) Deciphering the drought tolerance mechanisms in citrus rootstocks. Notulae Botanicae Horti Agrobotanici Cluj-Napoca. 52, 14124-14124.
4. Naz, Sahrish; Ahmed, Mukhtar; Abbas, Ghulam; Fatima, Zartash; Hussain, Sajjad; Iqbal, Pakeeza; Ghani, Abdul; Ali, Muhammad; Awan, Tahir Hussain; Samad, Noreen; (2024) Assessment of climate change impact on potato-potato cropping system under semi-arid environment and designing of adaptation strategies. Potato Research. , 45322.
5. Haider, Sakeena Tul-Ain; Azam, Muhammad; Naz, Safina; Hussain, Sajjad; Ali, Sajid; Liaquat, Mehwish; Umer, Muhammad Ali; Asif, Muhammad; Nasir, Maryam; Mustafa, Zaid; (2023) Postharvest application of gamma irradiation affects fruit quality and antioxidant enzymes activities of 'kinnow' mandarin fruits during cold storage. Food Science and Technology. 43,

6. Ahmad, Shakeel; Raza, Muhammad Ali; Hussain, Sajjad; Abbas, Ghulam; Fatima, Zartash; Ahmed, Mukhtar; Goheer, Muhammad Arif; Wilkerson, Carol Jo; y Garcia, Axel Garcia; Hoogenboom, Gerrit; (2023) Identification of weak links in production technology for bridging the canola yield-gap in Punjab, Pakistan. *The Journal of Agricultural Science*. 161, 241-253.
7. Raza, Qurat-Ul-Ain; Bashir, Muhammad Amjad; Rehim, Abdur; Geng, Yucong; Raza, Hafiz Muhammad Ali; Hussain, Sajjad; Ahmad, Ijaz; Wasif, Muhammad; (2023) Identifying the Role of Biostimulants in Turnip (*Brassica rapa* L.) Production Compared with Chemical Fertilization. *Sustainability*. 15, 11851.
8. Kausar, Rukhsana; Jabeen, Nyla; Zubair, Muhammad; Haq, Ahsan Ul; Hussain, Sajjad; Rizwan, Muhammad; Khalid, Muhammad Fasih; (2023) Influence of bio fabricated manganese oxide nanoparticles for effective callogenesis of *Moringa oleifera* Lam. *Plant Physiology and Biochemistry*. 198, 107671.
9. Haider, Idrees; Ali, Muhammad Arif; Sanaullah, Muhammad; Ahmed, Niaz; Hussain, Sajjad; Shakeel, Muhammad Taimoor; Naqvi, Syed Atif Hasan; Dar, Javeed Shabbir; Moustafa, Mahmoud; Alshaharni, Mohammed O; (2023) Unlocking the secrets of soil microbes: How decades-long contamination and heavy metals accumulation from sewage water and industrial effluents shape soil biological health. *Chemosphere*. 342, 140193.
10. Zakir, Iqra; Wahab, Ahmad Abdul; Abbas, Tahira; Haider, Sakeena Tul-Ain; Irum, Sobia; Sabir, Samreen; Hussain, Sajjad; Ahmad, Shakeel; (2023) Cereal–vegetable intercropping: hindrances and strategies to increase intercropping. *Turkish Journal of Agriculture and Forestry*. 47, 1115-1129.
11. Ahmed, Mukhtar; Rehman, Atique; Sarwar, Naeem; Doğan, HÜlya; Abbas, Ghulam; Khan, Muhammad Azam; Kan, Mustafa; Raza, Muhammad Ali; Hussain, Sajjad; Ahmad, Shakeel; (2023) Deciding sowing-window for maize-based cropping system in arid and semiarid environments in Punjab, Pakistan. *Turkish Journal of Agriculture and Forestry*. 47, 1078-1098.
12. Hussain, Sajjad; Sohail, Hamza; Noor, Iqra; Ahmad, Shakeel; Ejaz, Shaghef; Ali, Muhammad Arif; Haider, Sakeen Tul-Ain; Sohail, Muhammad; Jaffer, Hayat; Ercisli, Sezai; (2023) Physiological and biochemical determinants of drought tolerance in tetraploid vs diploid sour

orange citrus rootstock. *The Journal of Horticultural Science and Biotechnology*. 98, 772-785.

- 13.** Rao, Muhammad Junaid; Feng, Bihong; Ahmad, Muhammad Husnain; Tahir ul Qamar, Muhammad; Aslam, Muhammad Zeshan; Khalid, Muhammad Fasih; Hussain, Sajjad; Zhong, Ruimin; Ali, Qurban; Xu, Qiang; (2023) LC-MS/MS-based metabolomics approach identified novel antioxidant flavonoids associated with drought tolerance in citrus species. *Frontiers in Plant Science*. 14, 1150854.
- 14.** Abbas, Ghulam; Ahmed, Mukhtar; Fatima, Zartash; Hussain, Sajjad; Kheir, Ahmed MS; Ercişli, Sezai; Ahmad, Shakeel; (2023) Modeling the potential impact of climate change on maize-maize cropping system in semi-arid environment and designing of adaptation options. *Agricultural and Forest Meteorology*. 341, 109674.
- 15.** Khalid, Muhammad Fasih; Morillon, Raphael; Anjum, Muhammad Akbar; Ejaz, Shaghef; Rao, Muhammad Junaid; Ahmad, Shakeel; Hussain, Sajjad; (2022) Volkamer lemon tetraploid rootstock transmits the salt tolerance when grafted with diploid kinnow mandarin by strong antioxidant defense mechanism and efficient osmotic adjustment. *Journal of Plant Growth Regulation*. 41, 1125-1137.
- 16.** Noor, Iqra; Sohail, Hamza; Hasanuzzaman, Mirza; Hussain, Sajjad; Li, Guohuai; Liu, Junwei; (2022) Phosphorus confers tolerance against manganese toxicity in *Prunus persica* by reducing oxidative stress and improving chloroplast ultrastructure. *Chemosphere*. 291, 132999.
- 17.** Abbas, Tahira; Fan, Rong; Hussain, Sajjad; Sattar, Abdul; Khalid, Samina; Butt, Madiha; Shahzad, Umbreen; Atif, Hafiz Muhammad; Batool, Momal; Ullah, Sami; (2022) Protective effect of jasmonic acid and potassium against cadmium stress in peas (*Pisum sativum* L.). *Saudi Journal of Biological Sciences*. 29, 2626-2633.
- 18.** Sardar, Hasan; Anjum, Muhammad Akbar; Hussain, Sajjad; Ali, Sajid; Shaheen, Muhammad Rashid; Ahsan, Muhammad; Ejaz, Shaghef; Ahmad, Khawaja Shafique; Naz, Safina; Shafique, Muhammad; (2022) Deciphering the role of moringa leaf powder as a supplement in the cotton waste substrate for the growth and nutrition of king oyster mushroom. *Scientia Horticulturae*. 293, 110694.
- 19.** Naz, Sahrish; Ahmad, Shakeel; Abbas, Ghulam; Fatima, Zartash; Hussain, Sajjad; Ahmed, Mukhtar; Khan, Muhammad Azam; Khan, Ahmad; Fahad, Shah; Nasim, Wajid; (2022)

- Modeling the impact of climate warming on potato phenology. *European Journal of Agronomy*. 132, 126404.
- 20.** Ahmad, Niaz; Hussain, Sajjad; Ali, Muhammad Arif; Minhas, Asif; Waheed, Waqar; Danish, Subhan; Fahad, Shah; Ghafoor, Umber; Baig, Khurram Shehzad; Sultan, Haider; (2022) Correlation of soil characteristics and citrus leaf nutrients contents in current scenario of Layyah District. *Horticulturae*. 8, 61.
- 21.** Walli, Sammen; Hafiz, Ishfaq Ahmed; Khan, Rashid Iqbal; Bashir, Muhammad Ajmal; Uddin, Sareer; Khan, Shakir Ullah; Ajmal, Usman; Hussain, Sajjad; Khalid, Muhammad Fasih; (2022) Zinc and Boron Application at Different Phenological Stages Alleviates Tree Growth, Fruit Yield and Quality of Sweet Orange Cv. 'Blood Red'. *Gesunde Pflanzen*. 74, 385-396.
- 22.** Ali, Sajid; Anjum, Muhammad Akbar; Nawaz, Aamir; Ejaz, Shaghef; Anwar, Raheel; Khaliq, Ghulam; Hussain, Sajjad; Ullah, Sami; Hussain, Rizwan; Saleem, Muhammad Shahzad; (2022) Postharvest  $\gamma$ -aminobutyric acid application mitigates chilling injury of aonla (*Emblica officinalis* Gaertn.) fruit during low temperature storage. *Postharvest Biology and Technology*. 185, 111803.
- 23.** Hussain, Sajjad; Hassan, Ahmad; Arshad, Pakiza; Anjum, Muhammad Akbar; (2022) Different sources of irrigation water affect heavy metal accumulation in soils and some properties of guava fruits. *Environmental Science and Pollution Research*. 29, 35986-35995.
- 24.** Ilyas, Fariha; Ali, Muhammad Arif; Modhish, Abdulaah; Ahmed, Niaz; Hussain, Sajjad; Bilal, Muhammad; Arshad, Muhammad; Danish, Subhan; Ghoneim, Adel M; Ilyas, Ayesha; (2022) Synchronisation of zinc application rates with arbuscular mycorrhizal fungi and phosphorus to maximise wheat growth and yield in zinc-deficient soil. *Crop and Pasture Science*. 74, 157-172.
- 25.** Saleem, Muhammad Shahzad; Ejaz, Shaghef; Anjum, Muhammad Akbar; Ali, Sajid; Hussain, Sajjad; Nawaz, Aamir; Naz, Safina; Maqbool, Mehdi; Abbas, Abdul Manan; (2022) Aloe vera gel coating delays softening and maintains quality of stored persimmon (*Diospyros kaki* Thunb.) Fruits. *Journal of Food Science and Technology*. 59, 3296-3306.
- 26.** Hussain, Sajjad; Asif, Hafiza Muzzamil; Ahmad, Shakeel; Ali, Muhammad Arif; Ejaz, Shaghef; Abbas, Tahira; Haider, Sakeena Tul Ain; Ercisli, Sezai; Ahmed, Talaat; Sohail, Muhammad; (2022) Seed priming alleviates salt stress in two fenugreek (*Trigonella foenum-graecum* L.)

- 27.** Saleem, Muhammad Shahzad; Ejaz, Shaghef; Anjum, Muhammad Akbar; Ali, Sajid; Hussain, Sajjad; Ercisli, Sezai; Ilhan, Gulce; Marc, Romina Alina; Skrovankova, Sona; Mlcek, Jiri; (2022) Improvement of Postharvest Quality and Bioactive Compounds Content of Persimmon Fruits after Hydrocolloid-Based Edible Coating Application. *Horticulturae*. 8, 1045.
- 28.** Fadli, Anas; Benyahia, Hamid; Hussain, Sajjad; Khan, Rashid Iqbal; Rao, Muhammad Junaid; Ahmed, Talaat; Ancona, Veronica; Khalid, Muhammad Fasih; (2022) Phytophthora-citrus interactions and management strategies: a review. *Turkish Journal of Agriculture and Forestry*. 46, 730-742.
- 29.** Khalid, Muhammad Fasih; Iqbal Khan, Rashid; Jawaaid, Muhammad Zaid; Shafqat, Waqar; Hussain, Sajjad; Ahmed, Talaat; Rizwan, Muhammad; Ercisli, Sezai; Pop, Oana Lelia; Alina Marc, Romina; (2022) Nanoparticles: The Plant Saviour under Abiotic Stresses. *Nanomaterials*. 12, 3915.
- 30.** Shakir, Muhammad Saleem; Ejaz, Shaghef; Hussain, Sajjad; Ali, Sajid; Sardar, Hasan; Azam, Muhammad; Ullah, Sami; Khaliq, Ghulam; Saleem, Muhammad Shahzad; Nawaz, Aamir; (2022) Synergistic effect of gum Arabic and carboxymethyl cellulose as biocomposite coating delays senescence in stored tomatoes by regulating antioxidants and cell wall degradation. *International Journal of Biological Macromolecules*. 201, 641-652.
- 31.** Sardar, Hasan; Irshad, Mujahid; Anjum, Muhammad Akbar; Hussain, Sajjad; Ali, Sajid; Ahmad, Riaz; Ejaz, Shaghef; (2022) Foliar application of micronutrients improves the growth, yield, mineral contents, and nutritional quality of broccoli (*Brassica oleracea* L.). *Turkish Journal of Agriculture and Forestry*. 46, 791-801.
- 32.** Ali, Sajid; Anjum, Muhammad Akbar; Ejaz, Shaghef; Hussain, Sajjad; Ercisli, Sezai; Saleem, Muhammad Shahzad; Sardar, Hasan; (2021) Carboxymethyl cellulose coating delays chilling injury development and maintains eating quality of 'Kinnow' mandarin fruits during low temperature storage. *International Journal of Biological Macromolecules*. , .
- 33.** Ahmed, Mukhtar; Fahad, Shah; Ali, Muhammad Arif; Hussain, Sajjad; Tariq, Muhammad; Ilyas, Fariha; Ahmad, Shakeel; Saud, Shah; Hammad, Hafiz Mohkum; Nasim, Wajid; (2021) Hydrogen Sulfide: A Novel Gaseous Molecule for Plant Adaptation to Stress. *Journal of Plant Growth Regulation*. , 45308.

- 34.** Anjum, Muhammad Akbar; Hussain, Sajjad; Arshad, Pakiza; Hassan, Ahmad; (2021) Irrigation water of different sources affects fruit quality attributes and heavy metals contents of un-grafted and commercial mango cultivars. *Journal of Environmental Management*. 281, 111895.
- 35.** Saleem, Muhammad Shahzad; Anjum, Muhammad Akbar; Naz, Safina; Ali, Sajid; Hussain, Sajjad; Azam, Muhammad; Sardar, Hasan; Khaliq, Ghulam; Canan, İhsan; Ejaz, Shaghef; (2021) Incorporation of ascorbic acid in chitosan-based edible coating improves postharvest quality and storability of strawberry fruits. *International Journal of Biological Macromolecules*. 189, 160-169.
- 36.** Khalid, Muhammad Fasih; Vincent, Christopher; Morillon, Raphael; Anjum, Muhammad Akbar; Ahmad, Shakeel; Hussain, Sajjad; (2021) Different strategies lead to a common outcome: different water-deficit scenarios highlight physiological and biochemical strategies of water-deficit tolerance in diploid versus tetraploid Volkamer lemon. *Tree Physiology*. 41, 2359-2374.
- 37.** Mustafa, Ghulam; Ali, Muhammad Arif; Smith, Donald L; Masood, Sajid; Qayyum, Muhammad Farooq; Ahmed, Niaz; Rehman, Ateeq Ur; Ahmad, Shakeel; Hussain, Sajjad; Arshad, Muhammad; (2021) Formalin fumigation and steaming of various composts differentially influence the nutrient release, growth and yield of muskmelon (*Cucumis melo* L.). *Scientific reports*. 11, 21057.
- 38.** Saboor, Abdul; Ali, Muhammad Arif; Hussain, Shabir; El Enshasy, Hesham A; Hussain, Sajjad; Ahmed, Niaz; Gafur, Abdul; Sayyed, RZ; Fahad, Shah; Danish, Subhan; (2021) Zinc nutrition and arbuscular mycorrhizal symbiosis effects on maize (*Zea mays* L.) growth and productivity. *Saudi Journal of Biological Sciences*. 28, 6339-6351.
- 39.** Azam, Muhammad; Ilahy, Riadh; Shen, Jiyuan; Qadri, Rashad; Iqbal, Muhammad Azhar; Yasmin, Zarina; Khan, Muhammad Arslan; Jaskani, Muhammad Jafar; Malik, Aman Ullaha; Hussain, Sajjad; (2021) Exogenous calcium nitrate application delays senescence, enhance nutraceutical properties and antioxidant defense system during storage. *Emirates Journal of Food and Agriculture*. 33, 852-862.
- 40.** Khalid, Muhammad Fasih; Hussain, Sajjad; Anjum, Muhammad Akbar; Ahmad, Shakeel; Ali, Muhammad Arif; Ejaz, Shaghef; Morillon, Raphael; (2020) Better salinity tolerance in

tetraploid vs diploid volkamer lemon seedlings is associated with robust antioxidant and osmotic adjustment mechanisms. *Journal of plant physiology*. 244, 153071.

41. Ali, Sajid; Khan, Ahmad Sattar; Anjum, Muhammad Akbar; Nawaz, Aamir; Naz, Safina; Ejaz, Shaghef; Hussain, Sajjad; (2020) Effect of postharvest oxalic acid application on enzymatic browning and quality of lotus (*Nelumbo nucifera* Gaertn.) root slices. *Food chemistry*. 312, 126051.
42. Abbas, Ghulam; Fatima, Zartash; Hussain, Mubshar; Hussain, Sajjad; Sarwar, Naeem; Ahmed, Mukhtar; Ahmad, Shakeel; (2020) Nitrogen rate and hybrid selection matters productivity of maize–maize cropping system under irrigated arid environment of Southern Punjab, Pakistan. *International Journal of Plant Production*. 14, 309-320.
43. Ali, Sajid; Anjum, Muhammad Akbar; Nawaz, Aamir; Naz, Safina; Hussain, Sajjad; Ejaz, Shaghef; Sardar, Hasan; (2020) Effect of pre-storage ascorbic acid and Aloe vera gel coating application on enzymatic browning and quality of lotus root slices. *Journal of food biochemistry*. 44, e13136.
44. Saleem, Muhammad Shahzad; Ejaz, Shaghef; Anjum, Muhammad Akbar; Nawaz, Aamir; Naz, Safina; Hussain, Sajjad; Ali, Sajid; Canan, İhsan; (2020) Postharvest application of gum arabic edible coating delays ripening and maintains quality of persimmon fruits during storage. *Journal of Food Processing and Preservation*. 44, e14583.
45. Khalid, Muhammad Fasih; Hussain, Sajjad; Anjum, Muhammad Akbar; Ali, Muhammad Arif; Ahmad, Shakeel; Ejaz, Shaghef; Ali, Sajid; Usman, Muhammad; Haque, Ehsan Ul; Morillon, R; (2020) Efficient compartmentalization and translocation of toxic minerals lead tolerance in volkamer lemon tetraploids more than diploids under moderate and high salt stress. *Fruits*. 75, 204-215.
46. Nafees, Muhammad; Jafar Jaskani, Muhammad; Ahmad, Ishtiaq; Maryam; Ashraf, Irfan; Maqsood, Ambreen; Ahmar, Sunny; Azam, Muhammad; Hussain, Sajjad; Hanif, Asma; (2020) Biochemical analysis of organic acids and soluble sugars in wild and cultivated pomegranate germplasm based in Pakistan. *Plants*. 9, 493.
47. Abbas, Ghulam; Ahmad, Shakeel; Hussain, Mubshar; Fatima, Zartash; Hussain, Sajjad; Iqbal, Pakeeza; Ahmed, Mukhtar; Farooq, Muhammad; (2020) Sowing date and hybrid choice matters production of maize–maize system. *International Journal of Plant Production*. 14,

48. Ali, Muhammad Arif; Ajaz, Muhammad Mustansar; Rizwan, Muhammad; Qayyum, Muhammad Farooq; Arshad, Muhammad; Hussain, Sajjad; Ahmad, Niaz; Qureshi, Muhammad Amjad; (2020) Effect of biochar and phosphate solubilizing bacteria on growth and phosphorus uptake by maize in an Aridisol. *Arabian Journal of Geosciences*. 13, 45300.
49. Fatima, Zartash; Ahmed, Mukhtar; Hussain, Mubshar; Abbas, Ghulam; Ul-Allah, Sami; Ahmad, Shakeel; Ahmed, Niaz; Ali, Muhammad Arif; Sarwar, Ghulam; Haque, Ehsan ul; (2020) The fingerprints of climate warming on cereal crops phenology and adaptation options. *Scientific Reports*. 10, 18013.
50. Abbas, Qaiser; Sarwar, Naeem; Hussain, Sajjad; Abbas, Ghulam; Khan, Muhammad Nazer; Fatima, Zartash; Naz, Sahrish; Younis, Haseeb; Ahmed, Mukhtar; Ullah, Haseeb; (2020) Effect of Different Sowing Times and Cultivars on Wheat Grain Quality under Cotton-Wheat Cropping System in Southern Punjab, Pakistan. *Pakistan Journal of Life & Social Sciences*. 18, .
51. Haque, Ehsan Ul; Hayat, Akbar; Asim, Muhammad; Hussain, Sajjad; Hanif, Muhammad Shakeel; Zubair, Muhammad; Jamil, Muhammad Abdullah; Khadija, Faheem; (2020) Comparative nutritional and storage study of two mandarin varieties by application of various salts incorporated in wax. *Journal of Innovative Sciences*. 6, 66-76.
52. Khalid, Muhammad Fasih; Hussain, Sajjad; Anjum, Muhammad Akbar; Vincent, Christopher; Ahmad, Shakeel; Ali, Muhammad Arif; Morillon, Raphael; (2020) Water Use Pattern and Intrinsic Antioxidant Machinery Confer Tetraploid Volkamer Lemon Tolerance to Various Water-deficit Scenarios. *AMER SOC HORTICULTURAL SCIENCE*. 55, S386-S386.
53. Ejaz, Shaghef; Hussain, Sajjad; Anjum, Muhammad Akbar; Ahmad, Shakeel; (2019) Application of osmolytes in improving abiotic stress tolerance in plant. *Plant Tolerance to Environmental Stress*. , 47-58.
54. Ali, Sajid; Khan, Ahmad Sattar; Anjum, Muhammad Akbar; Nawaz, Aamir; Naz, Safina; Ejaz, Shaghef; Hussain, Sajjad; (2019) Aloe vera gel coating delays post-cut surface browning and maintains quality of cold stored lotus (*Nelumbo nucifera* Gaertn.) root slices. *Scientia Horticulturae*. 256, 108612.
55. Ali, Sajid; Khan, Ahmad Sattar; Nawaz, Aamir; Anjum, Muhammad Akbar; Naz, Safina; Ejaz,

- Shaghef; Hussain, Sajjad; (2019) Aloe vera gel coating delays postharvest browning and maintains quality of harvested litchi fruit. *Postharvest Biology and Technology*. 157, 110960.
- 56.** Hussain, Sajjad; Rao, Muhammad Junaid; Anjum, Muhammd Akbar; Ejaz, Shaghef; Umar, Ummad-ud-Din; Ali, Muhammad Arif; Khalid, Muhammad Fasih; Sohail, Muhammad; Ercisli, Sezai; Zia-Ul-Haq, Muhammad; (2019) Effect of different combinations of antibiotics on fruit quality and antioxidant defense system in Huanglongbing infected Kinnow orchards. *AMB Express*. 9, 45299.
- 57.** Ali, Sajid; Anjum, Muhammad Akbar; Nawaz, Aamir; Naz, Safina; Hussain, Sajjad; Ejaz, Shaghef; (2019) Effects of Brassinosteroids on Postharvest Physiology of Horticultural Crops: A Concise Review. *Journal of Horticultural Science and Technology*. 2, 62-68.
- 58.** Hussain, Mubshar; Latif, Adnan; Hassan, Waseem; Farooq, Shahid; Hussain, Sajjad; Ahmad, Shakeel; Nawaz, Ahmad; (2019) Maize hybrids with well-developed root system perform better under deficit supplemental irrigation.. *Soil & Environment*. 38, .
- 59.** Tahir, Muhammad T; Anjum, Muhammad A; Saqib, Muhammad; Khalid, Muhammad F; Hussain, Sajjad; (2019) Seed priming and foliar application of plant growth regulators affect the growth and yield of okra under calcareous soils. *Acta Scientiarum Polonorum. Hortorum Cultus*. 18, .
- 60.** Saqib, Muhammad; Khalid, Muhammad Fasih; Ahmad, Riaz; Anjum, Muhammad Akbar; Hussain, Sajjad; (2019) Evaluation of genetic diversity through morphological characteristics of olive (*Olea europea* L.) germplasm in Pakistan. *Science, Technology and Development*. 38, 45485.
- 61.** Abbas, Ghulam; Fatima, Zartash; Riaz, Farah; Iqbal, Pakeeza; Hussain, Sajjad; Zakir, Iqra; Iqbal, Muhammad; Ahmad, Shakeel; (2019) Study of Sowing dates and Hybrids Effect in Maize-based Cropping System under Arid Conditions of Southern Punjab, Pakistan.. *Pakistan Journal of Life & Social Sciences*. 17, .
- 62.** Tariq, Muhammad; Ahmad, Shakeel; Fahad, Shah; Abbas, Ghulam; Hussain, Sajjad; Fatima, Zartash; Nasim, Wajid; Mubeen, Muhammad; ur Rehman, Muhammad Habib; Khan, Muhammad Azam; (2018) The impact of climate warming and crop management on phenology of sunflower-based cropping systems in Punjab, Pakistan. *Agricultural and Forest Meteorology*. 256, 270-282.

- 63.** Nasim, Wajid; Amin, Asad; Fahad, Shah; Awais, Muhammad; Khan, Naeem; Mubeen, Muhammad; Wahid, Abdul; Rehman, Muhammad Habibur; Ihsan, Muhammad Zahid; Ahmad, Shakeel; (2018) Future risk assessment by estimating historical heat wave trends with projected heat accumulation using SimCLIM climate model in Pakistan. *Atmospheric research*. 205, 118-133.
- 64.** Hussain, Mubshar; Ahmad, Shakeel; Hussain, Sajjad; Lal, Rattan; Ul-Allah, Sami; Nawaz, Ahmad; (2018) Rice in saline soils: physiology, biochemistry, genetics, and management. *Advances in agronomy*. 148, 231-287.
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Sajjad Hussain

Citrus Center, Texas A&M Kingsville

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## **CHAPTERS IN EDITED BOOKS INTERNATIONAL:**

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5. Khalid, Muhammad Fasih; Shafqat, Waqar; Khan, Rashid Iqbal; Abbas, Mazhar; Ahmed, Talaat; Ahmad, Shakeel; Hussain, Sajjad; (2022) Citrus Responses and Tolerance against Temperature Stress. Citrus Production: Technological Advancements and Adaptation to Changing Climate. CRC Press. 149-155.
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  10. Ilyas, Fariha; Ali, Muhammad Arif; Ahmed, Niaz; Arshad, Muhammad; Hussain, Sajjad; Ahmad, Shakeel; Riaz, Muhammad; Haider, Idrees; Ullah, Hafiz Hayat; Bilal, Muhammad; (2022) Importance of Soil Microbes in Improving Citrus Production: Excellence of Mycorrhizal Fungi. Citrus Production: Technological Advancements and Adaptation to Changing Climate. . 227-237.
  11. Ali, Sajid; Nawaz, Aamir; Naz, Safina; Ejaz, Shaghef; Hussain, Sajjad; Anwar, Raheel; (2022) Decontamination of Microgreens. Microbial Decontamination of Food. Springer. 125-143.
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  16. Gul, Iram; Iqrar, Irum; Manzoor, Maria; Ali, Muhammad Arif; Arshad, Muhammad; Ahmad,

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- 17.** Khalid, Muhammad Fasih; Hussain, Sajjad; Fadli, Anas; Shahzad, Faisal; Anjum, Muhammad Akbar; Zakir, Iqra; Ahmad, Shakeel; (2021) Hydrogen sulfide and lateral root development in plants under stress. *Hydrogen Sulfide in Plant Biology*. Elsevier. 103-111.
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- 19.** Ahmed, Niaz; Chaudhry, Usman Khalid; Ali, Muhammad Arif; Ahmad, Fiaz; Sarfraz, Muhammad; Hussain, Sajjad; (2020) Salinity tolerance in cotton. *Cotton Production and Uses: Agronomy, Crop Protection, and Postharvest Technologies*. Springer Singapore. 367-391.
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- 22.** Ahmed, Niaz; Ali, Muhammad Arif; Hussain, Sajjad; Hassan, Waseem; Ahmad, Fiaz; Danish, Subhan; (2020) Essential Micronutrients for Cotton Production. *Cotton Production and Uses: Agronomy, Crop Protection, and Postharvest Technologies*. Springer Singapore. 105-117.
- 23.** Hussain, Sajjad; Rao, Muhammad Junaid; Anjum, Muhammad Akbar; Ejaz, Shaghef; Zakir, Iqra; Ali, Muhammad Arif; Ahmad, Niaz; Ahmad, Shakeel; (2019) Oxidative stress and antioxidant defense in plants under drought conditions. *Plant Abiotic Stress Tolerance: Agronomic, Molecular and Biotechnological Approaches*. Springer International Publishing. 207-219.
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- 28.** Saboor, Abdul; Mustafa, Ghulam; Arshad, Muhammad; Ahmad, Muhammad; Hussain, Sajjad; Ahmed, Niaz; Ahmad, Shakeel; Shahid, Muhammad; Ali, Muhammad Arif; (2019) Seed priming and metal/metalloid stress tolerance in plants. Priming and Pretreatment of Seeds and Seedlings: Implication in Plant Stress Tolerance and Enhancing Productivity in Crop Plants. Springer Singapore. 287-311.
- 29.** Rao, Muhammad Junaid; Hussain, Sajjad; Anjum, Muhammad Akbar; Saqib, Muhammad; Ahmad, Riaz; Khalid, Muhammad Fasih; Sohail, Muhammad; Nafees, Muhammad; Ali, Muhammad Arif; Ahmad, Niaz; (2019) Effect of seed priming on seed dormancy and vigor. Priming and Pretreatment of Seeds and Seedlings: Implication in Plant Stress Tolerance and Enhancing Productivity in Crop Plants. Springer Singapore. 135-145.
- 30.** Abbas, Ghulam; Younis, Haseeb; Naz, Sahrish; Fatima, Zartash; Hussain, Sajjad; Ahmed, Mukhtar; Ahmad, Shakeel; (2019) Effect of planting dates on agronomic crop production. Agronomic Crops: Volume 1: Production Technologies. Springer Singapore. 131-147.
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- 33.** Haider, Idrees; Akmal, Muhammad; Shakeel, Muhammad Taimoor; Ahmad, Shakeel; Ahmad, Niaz; Hussain, Sajjad; Bilal, Muhammad; Ali, Muhammad Arif; (2019) Improving Antioxidant Defense in Plants Through Seed Priming and Seedling Pretreatment. Priming and Pretreatment of Seeds and Seedlings: Implication in Plant Stress Tolerance and Enhancing Productivity in Crop Plants. Springer Singapore. 595-604.
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- 38.** Nafees, Muhammad; Fahad, Shah; Shah, Adnan Noor; Bukhari, Muhammad Adnan; Maryam; Ahmed, Ishtiaq; Ahmad, Shakeel; Hussain, Sajjad; (2019) Reactive oxygen species signaling in

Sajjad Hussain

Citrus Center, Texas A&M Kingsville

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- 39.** Ali, Muhammad Arif; Ilyas, Fariha; Arshad, Muhammad; Hussain, Sajjad; Iqbal, Mazhar; Ahmad, Shakeel; Saboor, Abdul; Mustafa, Ghulam; Ahmed, Niaz; (2019) Microbial inoculation of seeds for better plant growth and productivity. Priming and Pretreatment of Seeds and Seedlings: Implication in Plant Stress Tolerance and Enhancing Productivity in Crop Plants. Springer Singapore. 523-550.
- 40.** Ali, Muhammad Arif; Fahad, Shah; Haider, Idrees; Ahmed, Niaz; Ahmad, Shakeel; Hussain, Sajjad; Arshad, Muhammad; (2019) Oxidative stress and antioxidant defense in plants exposed to metal/metalloid toxicity. Reactive Oxygen, Nitrogen and Sulfur Species in Plants: Production, Metabolism, Signaling and Defense Mechanisms. John Wiley & Sons, Ltd Chichester, UK. 353-370.
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## RESEARCH PROJECTS:

### Projects awarded as Principal Investigator

Date of award	Title	Sponsoring Agency/Organization	Amount in Rupees
2023	Role of mycorrhiza in mitigation of water-logged induced hypoxia in diploid and tetraploid citrus rootstocks	Bahauddin Zakariya University Multan Pakistan	300000
2022	Vegetable and microgreen biofortification to alleviate hidden hunger”	Higher Education Commission (HEC)	

		Pakistan	
2018	Physiological and molecular determinants of salt and water deficit stress in citrus: Study on diploid and corresponding autotetraploid volkameriana lemon and sour orange rootstocks and their compatibility with Kinnow	Higher Education Commission (HEC) Pakistan	3.463 (millions)
2017	Performance of diploid and autotetraploid sour orange rootstocks under water deficit conditions	Bahauddin Zakariya University Multan Pakistan	0.200 (millions)
2016	Physiological and biochemical responses of different citrus rootstocks under drought stress	Bahauddin Zakariya University Multan Pakistan	0.150 (millions)
2015	Effect of different antibodies to control/suppress the HLB in kinnow orchard	Bahauddin Zakariya University Multan Pakistan	0.148 (millions)
2014	Assessment of diversity in physico-chemical composition of fruits of different litchi ( <i>Litchi chinensis</i> Sonn.) cultivars grown under agro-climatic conditions of Multan	Bahauddin Zakariya University Multan Pakistan	0.099 (millions)
2013	Molecular & physiological determinants of salt tolerance in citrus	Higher Education Commission (HEC) Pakistan	0.485 (millions)

### Projects awarded as Co-Principal Investigator

Date of award	Title	Sponsoring Agency/Organization	Amount in Rs
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2018	Improving Mango Productivity and Fruit Quality by Integrated Plant Nutrition, including Micronutrients, in Mango Growing Areas of Multan, Muzafargarh, Rahim Yar Khan and Mirpur Khas districts	PARC-ALP	5.08 (million)
2018	Improving citrus productivity and fruit quality by integrated plant nutrition, including micronutrients	Higher Education Commission of Pakistan	3.67 (millions)
2018	Up and down regulation of zinc uptake in plants by arbuscular mycorrhizal fungi for improving crop productivity	Higher Education Commission of Pakistan	2.82 (millions)
2016	Toxicological and biochemical studies on selected fruits grown in peri-urban areas of Multan	Higher Education Commission of Pakistan	6.53 (millions)

**ACADEMIC PERFORMANCE:****Teaching**

University/ Department	Course No.	Course Title
<b>B.Sc. (Hons.) Agriculture</b>		
Faculty of Agricultural Sciences & Technology	HORT-201	Introductory Horticulture
Faculty of Agricultural Sciences & Technology	HORT-202	Principal Horticultural Crops
Horticulture	HORT-301	Principles of Fruit Production
Horticulture	HORT-302	Tropical and Subtropical Fruit Production
<b>M.Sc. (Hons.) Agriculture (Horticulture)</b>		
Horticulture	HORT-508	Citriculture

Horticulture	HORT-505	Plant Growth Regulators
Horticulture	HORT-515	Rootstocks of Fruit Crops
<b>Ph.D. Horticulture</b>		
Horticulture	HORT-706	Advance Fruit Science
Horticulture	HORT-710	Horticultural crop production under abiotic stresses
Horticulture	HORT-704	Physiology of Horticultural Crops
Horticulture	HORT-702	Plant Molecular Techniques

## STUDENT SUPERVISION:

Ph.D. student's supervised:

Total Number: Three

Sr. #	Name of students	Approved Thesis Title	Status
1	Muhammad Fasih Khalid	<i>Physiological and biochemical determinants of salt and drought tolerance in dioploid and autotetraploid volkameriana citrus rootstock</i>	Completed 2021
2	Muhammad Sohail	<i>Transcriptomic, biochemical and physiological profiling of sensitive and tolerant citrus rootstocks under water deficit condition</i>	Completed 2024
3	Hafiz Hayatullah	<i>Role mycorrhiza in mitigation of water logged induced hypoxia in Diploid and tetraploid citrus rootstocks</i>	Completed 2024

Ph.D. students currently under supervision:

Total Number: Two

Sr. #	Name of students	Approved Thesis Title	Status
1	Muhammad Awais Fareed	<i>Deciphering the role of Pre and Postharvest application of salicylic acid in Citrus</i>	In progress

2	Khadija Altaf	<i>Macro and Micronutrient Bio Fortification of Vegetables to Alleviate Hidden Hunger</i>	In progress
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M.Sc. (Hons.) student's supervised:

Total Number: 27

Sr. #	Name of students	Thesis title	Year of passing
1	Imran Zahid	Mitigation of drought by application of aloe vera gel in kinnow plants	2024
2	Amna Ramzan	Effect of different polyhalite fertilizer levels on growth, yield and quality of onion ( <i>Allium Cepa</i> L.)	2024
3	Muhammad Arsalan Akbar	Mitigation of drought stress through foliar application of melatonin in citrus rootstock (Jatti khatti)	2022
4	Sikandar Hayat	Role of melatonin in salt stress tolerance of citrus rootstock Jatti khatti ( <i>Citrus jambhiri</i> Lush)	2022
5	Israr Ullah	Role of Ascorbic acid in recovery after drought stress in diploid and tetraploid volkamer lemon rootstocks	2022
6	Muhammad Usman haider	Role of H <sub>2</sub> O <sub>2</sub> in mitigation of drought stress in Volkamer lemon rootstock.	2021
7	Ans Waseem	Postharvest quality management of tomato with prestorage application of calcium chloride, sodium bicarbonate and salicylic acid	2021
8	Fazeel Ahmad	Physiological and biochemical responses of sensitive and tolerant citrus rootstocks under individual and combine stress of drought and salinity	2021
9	Mudassir Ahmad	Physiological and biochemical determinants of Cadmium (Cd) stress in citrus rootstocks	2021
10	Rana Afzaal Ahmad	Effect of different irrigation regimes on fruit yield and quality of Kinnow	2021
11	Hamza Rabbani	Alleviation of drought stress of citrus rootstocks	2021

		through foliar application of <i>Trapa natans</i> L.	
12	Usman Irshad	Arbuscular mycorrhizal symbiosis enhances the tolerance in citrus rootstocks against salt stress	2020
13	Mehwish jan	The impact of Arbuscular Mycorrhizal Fungi (AMF) in mitigation of drought stress effect in citrus rootstocks	2019
14	Sumaira Zafar	Increased tolerance of citrus rootstocks to waterlogging after inoculation with Arbuscular Mycorrhizal Fungi (AMF)	2019
15	Momal Batool	Protective effect of Jasmonic acid and potassium against cadmium stress in Peas ( <i>Pisum sativum</i> L.)	2019
16	Ahmad Hassan	Effect of different sources of irrigation water on quality and heavy metals content of Guava	2019
17	Maryam Tahira	Response of grafted and ungrafted citrus rootstocks under excess water condition	2018
18	Hafiza Muzamil Asif	Alleviation of salt stress in <i>Trigonella foenumgraecum</i> L. through different seed priming techniques	2018
19	Madiha Latif	Effect of photooxidative stress to leaves on Kinnow fruit quality and antioxidant enzymes	2018
20	Hamza Sohail	Effect of drought on performance of diploid and tetraploid sour orange ( <i>Citrus aurantium</i> L.) rootstocks	2017
21	Iqra Noor	Response of diploid and tetraploid sour orange ( <i>Citrus aurantium</i> L.) rootstocks to salt stress	2017
22	Muhammad Waseem Zafar	Effect of drought stress on antioxidant mechanism of different citrus rootstocks	2016
23	Muhammad Junaid Rao	Effect of antibiotics to control the Huanglongbing (HLB) in infected kinnow orchards	2016
24	Wajeeha Amin	Physico-chemical properties of Ber under different agroclimatic conditions of Pakistan	2016
25	Muhammad Fasih	Assessment of diversity in physico-chemical	2015

	Khalid	composition of fruits of different litchi ( <i>Litchi chinensis</i> Sonn.) cultivars grown under agro-climatic conditions of Multan	
26	Hafiz Muhammad Kamran	Growth & yield response of onion ( <i>Allium cepa</i> L.) cultivars to different seed priming treatments	2014
27	Hafiz Muhammad Junaid	Effect of manganese (Mn) on fruit yield and quality of mango cv. Samar Bahisht Chaunsa	2014

Master students currently under supervision:

Total Number: Four

Sr. #	Name of students	Approved Thesis Title	Expected completion date
1	Seth Colton Kuby	Assessing Pitaya's Potential as a Water-Use Efficient Crop in South Texas"	December 2025
2	Julianna Leal	Not yet approved	Spring, 2026
3	Aroosha Sadiq	Alleviation of drought stress through mycorrhizae inoculation in citrus rootstock	March, 2025
4	Anam Manzoor	Alleviation of Salt stress stress through Mycorrhizae inoculation in citrus rootstock	March, 2025

B.Sc. (Hons.) student's supervised:

Total Number: 24

Sr. #	Name of students	Thesis title	Year of passing
1	Aroosha Sadiq	Effect of ascorbic acid on growth of rough lemon ( <i>Citrus jambhiri</i> ) under saline condition	2022
2	Maryam Yasin	Effect of different doses of iron on vegetative growth of citrus ( <i>Citrus jambhiri</i> L.)	2021
3	Sharmeen Mahmood	Effect of different doses of salicylic acid on vegetative growth of citrus ( <i>Citrus jambhiri</i> L.)	2021

4	Hassaan Rauf	Effect of foliar application of Boron on vegetative growth of Rough lemon rootstock	2021
5	Junaid Ashraf	Effect of different field capacity levels on different Okra cultivars	2021
6	Areej Zahra Jameel	Response of rough lemon ( <i>Citrus jambhiri</i> L.) rootstocks under light stress	2021
7	Muhammad Abdul Hadi	Recovery of Rangpur lime rootstock from drought and salt stress	2020
8	Muhammad Fazeel	Recovery of Rangpur lime rootstock after exposing to drought and then salt stress	2020
9	Memoona Khalid	Recovery of Rangpur lime rootstock effected with salt and then drought stress	2020
10	Rida Mahmood	Recovery of Trifoliate orange ( <i>Poncirus trifoliata</i> ) rootstock after exposing to salt and drought stress	2020
11	Azhar Iqbal	Performance of Rough lemon as affected by different potting media	2019
12	Habib Ullah	Evaluation of different growing media on the growth of citrus rootstock Rangpur lime ( <i>Citrus limonia</i> Osbeck) seedling	2019
13	Muhammad Arslan	Effect of growing media on the growth of Volkamariana citrus seedling	2019
14	Muhammad Abrar	Performance of Sour orange on different growing media	2019
15	Fazeel Ahmad	Performance of kinnow on tetraploid volkameriana rootstock	2018
16	Farwa Irshad	Performance of kinnow on diploid volkameriana rootstock	2018
17	Hamza Sajid	Performance of kinnow on diploid sour orange rootstock	2018

18	Uma tul Zahra	Performance of kinnow on tetraploid sour orange rootstock	2018
19	Muhammad Rehan	The effect of different rooting media on stem cuttings of diploid and autotetraploid volkameriana lemon rootstock	2017
20	Humayun Rehan		
21	Rashid Hussain		
22	Maryem Zaidi	Effect of different seed priming treatments and salinity on germination and growth of okra	2016
23	Laraib Ahmad		
24	Asia Rafique		

## PROFESSIONAL TRAININGS AND FORMATIONS

1. Certificate in Professional Development in Distance education course (**Fall 2024**). Texas A&M University Kingsville. USA
2. Summer school on remote sensing and GISc June 19-23 **2023**, Islamabad
3. Research capacity Building program for Principal Investigators by Pak-UK Education Gateway. **2022**.
4. Formation of statistics; January 9<sup>th</sup> and 11<sup>th</sup> 2008. UFR Sciences et Techniques, campus Grossetti. University of Corsica Pascal Paoli, Corsica, **France**.
5. Formation of bioinformatics; B module «Structural and functional Annotation »; January 14<sup>th</sup> to 18<sup>th</sup> 2008. GENOSCOPE, Paris, **France**.
6. Formation of Excel software (data bases); February 8<sup>th</sup> 2008; SRA INRA CIRAD of San Giuliano, **France**.
7. Formation of Scientific writing in English 6-10 July 2009; INRA de Corte. **France**.
8. Formation of Mister; 17-19 June 2009; SRA INRA CIRAD of San Giuliano, **France**.
9. French course: FLE (330 h): DELF B2: Level C1

## TRAININGS/WORKSHOPS/SEMINARS CONFERENCES AND OTHER EVENTS ORGANIZED:

1. Organized three days International Horticulture Conference February 26-28, **2019** in

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Bahauddin Zakariya University Multan, Pakistan in collaboration with Higher Education Commission, Islamabad.

2. Organized two days “Mango workshop and Exhibition” 13-14 July, **2017**, in Bahauddin Zakariya University Multan.
3. Organized three days International Conference on Citriculture: Challenges and Management, February 11-13, **2015** in Bahauddin Zakariya University Multan, Pakistan in collaboration with Higher Education Commission, Islamabad.

### **ABSTRACTS PUBLISHED:**

1. **Hussain S**, Curk F, Tison G, Jacquemond C (2008). New rootstock evaluation for common clementine in corsica. 11<sup>th</sup> International Citrus Congress. Wuhan, China, October 26-30, 2008.
2. **Hussain S**, Francois Luro, Gille Costantino, Patrick Ollitrault, Raphael Morillon (2012). Physiological analysis of salt stress behavior of citrus species and genera: low chloride accumulation is an indicator of salt tolerance. 12<sup>th</sup> International Citrus Congress. Valencia, Spain, November 26-30, 2012.
3. **Hussain S**, International Science Conference on “Prospects & Challenges to Sustainable Agriculture” Faculty of Agriculture, Rawalakot, The University of Azad Jammu and Kashmir. 14-16 July 2011
4. **Hussain S**, Muhammad Akbar Anjum, Franck Curk, François Luro, Gilles Tison “Performance evaluation of common clementine on various rootstocks” 12<sup>th</sup> National and 3<sup>rd</sup> International Conference of Botany. 1–3 September 2012 Quaid-i-Azam University Islamabad, Pakistan.
5. **Hussain, S.**, Anjum, M.A. and Morillon, R. 2014. Citrus diversity investigated by physiological behavior of plants under salt stress growth conditions. Abstract Book International Conference on “Stress Biology and Biotechnology: Challenges & Management”, May 21-23, 2014. Institute of Agricultural Sciences, University of the Punjab, Lahore, p. 31.
6. Anjum, M.A., Masroor, H.M., **Hussain, S.** and Ejaz, S. 2014. Zinc application influences flowering, fruit yield and quality of mango. Abstracts World Mango Conference, June 24-25, 2014. College of Agriculture and Environmental Sciences, The Islamia University of Bahawalpur, p. 43.

7. **Hussain**, S., Junaid, H.M., Ejaz, S. and Anjum, M.A. 2014. Effect of manganese and its methods of application on fruit yield and quality of mango cv. Samar Bahisht Chaunsa. Abstracts World Mango Conference, June 24-25, 2014. College of Agriculture and Environmental Sciences, The Islamia University of Bahawalpur, p. 17.
8. **Hussain**, S.B., Anjum, M.A., **Hussain**, S., Ejaz, S. and Kamran, H.M. 2015. Physico-Chemical Profiling of Promising Sweet Orange Cultivars Grown under Different Agro-Climatic Conditions of Punjab. International Conference on Citriculture: Challenges and Management, February 11-13, 2015. Bahauddin Zakariya University, Multan, p. 52.
9. **Hussain**, S.B., Anjum, M.A., **Hussain**, S., Ejaz, S. and Kamran, H.M. 2015. Agro-Climatic Conditions Affect Fruit Quality of Mandarins (*Citrus reticulata* Blanco) Cultivars. International Conference on Citriculture: Challenges and Management, February 11-13, 2015. Bahauddin Zakariya University, Multan, p. 123.
10. Azam, M., Ahamd, W., Anjum, M.A., **Hussain**, S.B., Khalid, M.S., Saeed, K. and Raza, A. 2015. Implementation of GlobalGAP Standards for High Yield, Safe and Better Quality of Citrus cv. Kinnow. International Conference on Citriculture: Challenges and Management, February 11-13, 2015. Bahauddin Zakariya University, Multan, p. 13.
11. Azam, M., Anjum, M.A., **Hussain**, S.B., Khalid, M.S., Saeed, K. and Raza, A. 2015. Evaluation of Nutritional Status of Soil and Leaf from Citrus Orchard. International Conference on Citriculture: Challenges and Management, February 11-13, 2015. Bahauddin Zakariya University, Multan, p. 113.
12. Tahir, M.T., Anjum, M.A., **Hussain**, S.B., **Hussain**, S. and Ejaz, S. 2016. Effect of seed priming and foliar application of plant growth regulators on growth and yield of three okra (*Abelmoschus esculentus* L. Moench) cultivars. 2<sup>nd</sup> International Conference on Horticultural Sciences "Production Challenges and Food security" Organized by Institute of Horticultural Science and Horticultural Research Institute, held on February 18 – 20, 2016 at University of Agriculture, Faisalabad, Pakistan, p. 119.
13. Khalid, M.F., **Hussain**, S., Anjum, M.A., Ejaz, S. and Naveed, F. 2016. Physico-chemical profiling of promising litchi (*Litchi chinensis* Sonn.) fruit grown under agro-climatic conditions of Multan. 2<sup>nd</sup> International Conference on Horticultural Sciences "Production Challenges and Food security" Organized by Institute of Horticultural Science and Horticultural Research Institute,

14. Anjum, M.A., **Hussain**, S., Arshad, P. and Hassan, A. 2018. Irrigation water quality affects physico-chemical attributes and heavy metals contents in guava fruits. Abstract Book National Symposium on Soil Plant Water Interactions for Orchards Management under Changing Climate, held on May 9-11, 2018 at The University of Haripur, p. 22.
15. **Hussain**, S., Sohail, H., Noor, I., Khalid, M.F., Tahira, M., Nawaz, A. and Anjum, M.A. 2018. Response of diploid and autotetraploid sour orange (*Citrus aurantium*) rootstocks to drought conditions. Abstract Book National Symposium on Soil Plant Water Interactions for Orchards Management under Changing Climate, held on May 9-11, 2018 at The University of Haripur, p. 7.
16. Khalid, M.F., **Hussain**, S., Saqib, M., Ahmad, R., Ejaz, S., Naveed, F., Nawaz, A., Ahmad, S. and Anjum, M.A. 2018. Response of diploid and autotetraploid volkameriana lemon rootstocks under salt stress conditions. Abstracts International Horticulture Conference, Pakistan 2018, held on April 25-27, 2018 at PMAS-Arid Agriculture University, Rawalpindi, Pakistan, p. 30.
17. Ahmad, R., Malik, W., Anjum, M.A., **Hussain**, S., Saqib, M. and Khalid, F. 2018. Morphological characterization of Indian jujube (*Zizyphus mauritiana* L.) germplasm through digital imaging and biplot analysis. Abstracts International Horticulture Conference, Pakistan 2018, held on April 25-27, 2018 at PMAS-Arid Agriculture University, Rawalpindi, Pakistan, p. 48.
18. Ahmad, R., Anjum, M.A., Malik, W., **Hussain**, S., Sardar, H., Saqib, M. and Khalid, F. 2018. Biodiversity in physico-chemical attributes of Indian jujube (*Zizyphus mauritiana* L.) germplasm revealed through principal component analysis. Abstracts International Horticulture Conference, Pakistan 2018, held on April 25-27, 2018 at PMAS-Arid Agriculture University, Rawalpindi, Pakistan, p. 49.
19. Anjum, M.A., **Hussain**, S., Arshad, P. and Hassan, A. 2018. Effect of different sources of irrigation water on fruit quality and heavy metals contamination in mango. Abstracts International Horticulture Conference, Pakistan 2018, held on April 25-27, 2018 at PMAS-Arid Agriculture University, Rawalpindi, Pakistan, p. 72.
20. Saqib, M., Anjum, M.A., Ahmad, R., **Hussain**, S., Naz, S. and Khalid, F. 2018. Leguminous cluster bean affects the performance and economics of intercropped non-leguminous okra and chilies. Abstracts International Horticulture Conference, Pakistan 2018, held on April 25-27, 2018 at

21. Saleem, S., Ejaz, S., Anjum, M.A., Nawaz, A., Naz, S. and **Hussain**, S. 2018. Fortification of chitosan based coating with calcium and ascorbic acid increases cold storage life of low-chilling strawberry cultivar fruits. Abstracts International Horticulture Conference, Pakistan 2018, held on April 25-27, 2018 at PMAS-Arid Agriculture University, Rawalpindi, Pakistan, p. 119.
22. Munawar, S., Ejaz, S., Anjum, M.A., Nawaz, A., Naz, S., **Hussain**, S. and Saleem, S. 2018. Sodium alginate coatings fortified with ascorbic acid and calcium improves the storage life and postharvest quality of strawberry fruits. Abstracts International Horticulture Conference, Pakistan 2018, held on April 25-27, 2018 at PMAS-Arid Agriculture University, Rawalpindi, Pakistan, p. 129.
23. Anjum, M.A., **Hussain**, S., Hassan, A. and Arshad, P. 2018. Irrigation water quality affects fruit physico-chemical attributes and heavy metals contents in jaman and falsa. Abstracts International Horticulture Conference, Pakistan 2018, held on April 25-27, 2018 at PMAS-Arid Agriculture University, Rawalpindi, Pakistan, p. 145.
24. Ahmad, R., Anjum, M.A., Malik, W., Haider, S.A., Saqib, M., **Hussain**, S., and Khalid, M.F. 2018. Physico-chemical attributes of dried Indian jujube fruits as affected by different drying methods. Abstracts International Horticulture Conference, Pakistan 2018, held on April 25-27, 2018 at PMAS-Arid Agriculture University, Rawalpindi, Pakistan, p. 161.
25. Ali, S., Khan, A.S., Nawaz, A., Anjum, M.A., Naz, S., **Hussain**, S., Ejaz, S. and Sardar, H. 2019. Modified atmosphere packaging delays enzymatic browning and maintains quality of harvested litchi fruits during low temperature storage. Abstract Book International Horticulture Conference Pakistan 2019, held on February 26-28, 2019 at Bahauddin Zakariya University, Multan, Pakistan, p. 138.
26. Nazir, M.M., Ejaz, S., Saeed, Q., Anjum, M.A., Nawaz, A., Naz, S., **Hussain**, S., Zaka, S.M. and Ali, S. 2019. Use of garlic extract as a botanical to reduce post-harvest losses due to *Tribolium castaneum* pests in stored almond. Abstract Book International Horticulture Conference Pakistan 2019, held on February 26-28, 2019 at Bahauddin Zakariya University, Multan, Pakistan, p. 200.
27. Tahira, M., **Hussain**, S., Anjum, M.A., Nawaz, A., Naveed, F., Naz, S., Masood, K., Ejaz, S., Sardar, H., Haider, S.T.A., Ali, S., Sohail, M. and Khalid, M.F. 2019. Water logging induced

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changes in oxidative stress and antioxidant enzymes activities in grafted and non-grafted citrus rootstocks. Abstract Book International Horticulture Conference Pakistan 2019, held on February 26-28, 2019 at Bahauddin Zakariya University, Multan, Pakistan, p. 204.

28. **Hussain**, S., Asif, H.M., Anjum, M.A., Naveed, F., Nawaz, A., Naz, S., Ahmad, K.M., Ejaz, S., Haider, S.T.A., Sardar, H. and Ali, S. 2020. Alleviation of salt stress in *Trigonella (foenum-graecum L.)* through different seed priming techniques. Abstract Book International Horticulture Conference 2020, held on February 26-28, 2020 at the Institute of Agricultural Sciences, University of the Punjab, Lahore, Pakistan, p. 64.
29. Khalid, M.F., Anjum, M.A. and **Hussain**, S. 2020. Kinnow mandarin grafted on tetraploid (4x) volkamer lemon rootstock tolerates more under moderate and high salinity. The Ohio State University's 2020 Plant Sciences Symposium (PSS), Columbus, Ohio. (*Virtual-Poster presentation*).
30. Khalid, M.F., **Hussain**, S., Anjum, M.A., Vincent, C., Ahmad, S., Ali, M.A. and Morillon, R. 2020. Water use pattern and intrinsic antioxidant machinery confer tetraploid volkamer lemon tolerance to various water-deficit scenarios. Southern Region American Society Horticultural Science, Louisville, Kentucky, 2020. (*Oral Presentation*).
31. M.S. Saleem, S. Ejaz, M.A. Anjum, **S. Hussain**, S. Ali, S. Gul and S. Sabir. 2021. Application of Hydrocolloid Gum as an Edible Coating for Maintaining the Persimmon Fruit Quality Aspects Under Storage Conditions. International Horticultural e-Conference 2021 from 22-23 February 2021.

## INTERNATIONAL CONFERENCES (POSTER PRESENTATION)

1. **Sajjad Hussain**, Raphael Morillon, Gille Costantino, Patrick Ollitrault and Francois Luro. Strategy for studying the genetic and physiological behaviors of citrus genetic resources for salt stress tolerance. Université de corse. July 2010. **Corte, France**.
2. **Sajjad Hussain**, R. Morillon, A. Palazzo, G. Costantino, A. Dubois, F. Curk, P. Ollitrault, F. Luro. Genetic and physiological behavior of citrus genetic resources to salt stress tolerance. 8<sup>th</sup> international conference Eco-physiological aspects of plant responses to stress factors. **Cracow, Poland**, September 16-19, 2009.

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3. Morillon R., Allario T., Wafa Mouhaya, **Sajjad Hussain.**, Jaffuel S., Colmenero J. M, Iglesias D, Juarez J, Pina JA, Talon M, Navarro L, Ollitrault P. Tetraploidy and tolerance to environmental stresses in citrus. International conference on plant abiotic stress tolerance. February 8-11, 2009 **Vienna, Austria.**
4. Morillon R., Allario T., Mouhaya W., **Sajjad Hussain.**, Dhuique-Mayer C., Talon M., Navarro L., and P. Ollitrault. 2008- Tetraploidy and tolerance to environmental stresses in citrus. 11<sup>th</sup> International Citrus Congress. October 26-30, 2008. Wuhan, China.
5. **Sajjad Hussain**, Mouhaya W, Costantino G, Urban L, Froelicher Y, Ollitrault P, Morillon R, Luro F (2008). Genetic strategy for identification of genes involved in citrus salt stress tolerance: Status of an intergeneric genetic mapping program. EUCARPIA 18th General Congress Modern Variety Breeding for Present and Future Needs. **Valencia, Spain**, September 9-12, 2008.
6. Euro Med dissemination Conference 11-07-2008 **Catania Italy.**

#### **CONFERENCE/WORKSHOPS/SEMINARS ATTENDED:**

1. First international conference on climate resilience agriculture for sustainable development & food security International September 05-07, 2022
2. International Conference on date Palm & pomegranate International August, 22-23, 2022
3. Two days “Hands on Training Workshop on CRISPR/Cas Genome Editing Technology” from 29-30 April, 2019 at Centre of Excellence in Molecular Biology, University of Punjab, Lahore, Pakistan
4. Three Days National Symposium on “Soil Plant Water Interaction for Orchards Management under Changing Climate and Agri-Tech Exhibition” from 9-11 May, 2018 at The University of Haripur, Haripur, Pakistan.
5. Two Day “International Workshop on Phytotechnologies for Environmental Cleanup” from 8-9 May, 2018 Organized by Institute of Environmental Sciences & Engineering, NUST, Pakistan
6. One day Seminar on “Technology Development Fund” on 15<sup>th</sup> May, 2018 at Bahauddin Zakariya University Multan Pakistan.
7. Three days International Horticulture Conference 25-27 April, 2018, at Department of Horticulture, Pir Maher Ali Shah Arid Agriculture University Rawalpindi, Pakistan.

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8. International Seminar on “Current issues in food safety- the way forward” on 4<sup>th</sup> March, 2018, Bahauddin Zakariya University and Muhammad Nawaz Sharif university of Agriculture Multan, Pakistan.
9. One day workshop on “Fruit tree value assessment” April 18, 2018, Institute of Horticultural Sciences, University of Agriculture Faisalabad.
10. International Conference on “Climate Change Threat to Agriculture and Food Security” THINK-ADAPT, from 22-24 November, 2017 at Department of Agronomy and Climate Change Centre, The University of Agriculture, Peshawar, Pakistan.
11. 6<sup>th</sup> International Conference of Pakistan Phytopathological Society “Plant Health for Sustainable Agriculture” A focused approach for food security under changing climate, from 20-22 November, 2017 at Department of Plant Pathology, Bahauddin Zakariya University Multan, Pakistan.
12. Awareness Seminar on EU Research & Innovation Programme, Horizon-2020, 24 August, 2017 at Bahauddin Zakariya University Multan, Pakistan.
13. One day workshop on “Partial Least Square Structural Equation Modelling (PLS-SEM) using smart PLS”, on 21<sup>st</sup> April, 2017 at Department of Agronomy, Bahauddin Zakariya University Multan, Pakistan.
14. One day Seminar “Wheat Production Challenges in Pakistan under Changing Climate”, on 07<sup>th</sup> of March, **2017** at Department of Agronomy, Bahauddin Zakariya University Multan, Pakistan.
15. National Conference “Challenges and Opportunities to Boost Agriculture in Changing Climate” from 29-30, March **2017** at College of Agriculture, Bahauddin Zakariya University, Bahadur Sub-Campus Layyah, Pakistan
16. Fifteen days International training on fruits production techniques for Asia organized by Research Institute of Pomology, Chinese Academy of Agricultural Sciences from 22-08-2016 to 05-09-2016 at Xingcheng City of Liaoning Province, PR China
17. One day workshop on 6<sup>th</sup> May , 2016 “Discovering yourself & others” organized by Directorate of Quality Enhancement & Department of Agronomy, Bahauddin Zakariya University Multan, Pakistan.
18. Three days workshop on Basic Bioinformatics from 19-21 April 2016 at Institute of Molecular Biology and Biotechnology, Bahauddin Zakariya University Multan, Pakistan.

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- 19.** Three days 2<sup>nd</sup> International Conference on Horticultural Sciences: Production Challenges and Food Security, from 18-20, February 2016, at Institute of Horticultural Sciences, University of Agriculture Faisalabad, Pakistan.
- 20.** E-Learning Course on Nonchemical Pest Management in Agriculture organized by Asian Productivity Organization in Collaboration with Bahauddin Zakariya University Multan. 7-9 December 2015.
- 21.** Two days International Conference on Malnutrition in South Asia: The Peril Persists & Food Expo, 23-24, February, 2015, at Bahauddin Zakariya University Multan, Pakistan.
- 22.** One day seminar on Mango Diseases and their Management at Bahauddin Zakariya University Multan, Pakistan on 14-05-2015.
- 23.** Two days AgMIP Pakistan Mid Term Workshop and International Seminar on climate change Adaptation Strategies to Ensure Food Security at University of Agriculture Faisalabad Pakistan from 16-17 January, 2014.
- 24.** One day Workshop on “Irrigation Management Training Workshop” at Bahauddin Zakariya University Multan on 09-04-2014.
- 25.** International Conference on “Stress Biology and Biotechnology: Challenges & Management”, May 21-23, 2014. Institute of Agricultural Sciences, University of the Punjab, Lahore.
- 26.** World Mango Conference, June 24-25, 2014. College of Agriculture and Environmental Sciences, The Islamia University of Bahawalpur.
- 27.** Two days workshop on “Simulation Modeling: A Decision Support System for Agro-Technology Transfer for Improving the Standards of Research” at Faculty of Agricultural Sciences and Technology, Bahauddin Zakariya University, Multan from 4-5 March, 2013.
- 28.** Two days workshop on “Agricultural Modeling Inter-comparison and Improvement Project (AgMIP) Kickoff Workshop” at University of Agriculture Faisalabad from 04-06 June, 2013.
- 29.** Workshop on “Modern Corn Technologies” organized by Monasanto Pakistan (Pvt.) Ltd. and Institute of Pure & Applied Biology on August 20, 2013 at Bahauddin Zakariya University, Multan.
- 30.** Workshop on “Emerging Postharvest Technologies for Fresh Fruits and Vegetables” at Bali, Indonesia from 23-27 September 2013.
- 31.** Three days workshop on “Cascading of Asian Institute of Technology (AIT) Thailand Based

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Training Program: Ensuring Training Effectiveness” at University College of Agriculture, Bahauddin Zakariya University, Multan from 9-11 April, 2012.

**32.** Seminar on “Recent Developments in Edible Oil Production and Processing with Special Reference to Pakistan” at University College of Agriculture, Bahauddin Zakariya University, Multan from 12-13 March, 2012.

**33.** Three days workshop on “Statistical Modeling for Improving the Standards of Research and Education for University Professionals” at University College of Agriculture, Bahauddin Zakariya University Multan from 23-25 January, 2012.

**34.** One day workshop “2<sup>nd</sup> workshop on Bioinformatics” at Muhammad Ali Jinnah University, Islamabad on 25 July, 2011.

#### **LANGUAGES:**

<b>Language</b>	<b>Speaking</b>	<b>Listening</b>	<b>Reading</b>	<b>Writing</b>
<b>English</b>	Excellent	Excellent	Excellent	Excellent
<b>French</b>	Good	Good	Good	Good
<b>Urdu</b>	Excellent	Excellent	Excellent	Excellent
<b>Punjabi</b>	Excellent	Excellent	Excellent	Excellent

#### **SERVICES:**

##### **ADMINISTRATIVE ASSIGNMENTS IN DEPARTMENT AND UNIVERSITY:**

- 1.** Member of University Convocation Committee 2023. Bahauddin Zakariya University Multan, Pakistan
- 2.** Member of University academic council, Bahauddin Zakariya University Multan, Pakistan
- 3.** Member of University Senate Bahauddin Zakariya University Multan, Pakistan.
- 4.** Member of National Agriculture Education Accreditation Council Pakistan for Evaluation Horticulture degree program offered by the Universities in all over Pakistan
- 5.** Member Board of Faculty, Faculty of Agricultural Science & Technology, Bahauddin Zakariya University Multan, Pakistan.
- 6.** Member Board of studies in Horticulture

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7. Member of PhD Synopsis evaluation committee from 22-02-2017.
8. Director Student Affairs (DSA) of Department of Horticulture, Bahauddin Zakariya University Multan, Pakistan.
9. In charge Experimental Orchards from 27-11-2015
10. Member Departmental Admission Committee from 03-07-2013.
11. Member of Campus Beautification Committee (25/11/2016).
12. Member of Campus Beautification Committee (12/10/2017).

### **MEMBERSHIP OF SOCIETIES:**

1. American society of horticultural sciences: Member ID 76457961
2. Life time member of Horticultural Foundation of Pakistan (Membership No. ASA 2750 HFP).
3. Member of International Society of Horticultural Sciences (Membership No. 94258).
4. Life time member of Pakistan Society of Horticultural Science (Membership No. PSHS L4).

### **ACADEMIC ACTIVITY**

1. **Member of DTRC** (Departmental Technical Review Committee) for evaluation of Faculty working on Tenure Track.
  - Department of Horticulture, Islamia University Bahawalpur, Pakistan
  - Department of Horticulture, The University of Punjab, Pakistan
2. **External Examiner**
  - Evaluated of PhD Thesis at The Punjab University, Lahore.
  - Evaluated the M.Sc. (Hons.) Thesis of two students at Gazi University, Dera Gazi Khan (Letter attached).
  - Evaluated the B.Sc. (Hons.) Thesis of three students at The Islamia University of Bahawalpur (Letter attached).
3. **Research Project Evaluation:** Germplasm Screening and Demonstration of Disease-Free Seed Production Technology in Elite Potato Cultivars” 2023
4. **Editorial**
  - **Guest Editor:** Special issues New insights into stress tolerance of horticultural crops of Horticulturae Journal MDPI. 2024.

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- **Associate Editor:** Journal of Horticultural Science & Technology (JHST) 2024.
- **Editorial board member of** Turkish Journal of Agriculture and Forestry. 2024.
- **Associate Editor** of The Journal of Environmental Sustainability and Technology (JEST)

**5. Reviewer for Scholarly Journals:**

- **Journal Name: Frontier in plant sciences (2024)**

Ms. Ref. No.: PBT-D-24-01246

Title: 1-MCP paper card treatment with polyethylene packaging extends shelf life and maintains quality of jujube (*Ziziphus mauritiana* Lamk) fruit under ambient conditions.

- **Journal Name: PLOS ONE (2024)**

Ms. Ref. No.: PONE-D-24-36013

Improving the prediction of Potato yield gaps: Solanum-model parameterization and evaluation in southwestern China

- **Journal Name: Subtropical Agriculture and Environments (2024)**

Ms. Ref. No.:

Rhizobial Adhesives Enhance Root Nodule Formation and Activity in Sunn Hemp

- **Journal Name: Frontier in plant sciences (2023)**

Ms. Ref. No.: 1140490

Title: Saline-alkaline stress resistance cabernet sauvignon grapes grafted on different rootstocks and rootstock combinations

- **Journal Name: Plant growth regulation (2023)**

Ms. Ref. No.: GROW-22-00810

Overexpression of KvCHX enhances salt tolerance in arabidopsis thaliana seedlings

- **Journal Name: Frontier in plant sciences (2023)**

Ms.Ref.No.: 1181830

Title: Regulation of abiotic stress tolerance in solanaceous crops: current understanding

- **Journal Name: Environmental and Experimental Botany (2023)**

Ms.Ref.No.: EEB-D-23-00889

Title: Agro-morphological, physiological and biochemical analysis of foxtail millet (*setaria italica* L.) landraces along with released cultivars under induced drought stress

- **Journal Name: Frontier in plant sciences (2023)**

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Ms.Ref.No.: 1253677

Title: Redox priming could be an appropriate technique to minimize the drought-induced reduction in quinoa

▪ **Journal Name: Journal of Plant Physiology (2022)**

Ms. Ref. No.: JPLPH-D-22-00470

Title: Tetraploid rootstock ziyang xiangcheng (*Citrus junos* Sieb. ex Tanaka) exhibited greater tolerance to salt stress than their diploid progenitors

▪ **Journal Name: International Journal of Fruit Science (2022)**

Effect of postharvest treatments on biochemical and bioactive compounds of custard apple (*Annona squamosa* L.) cv. Balanagar"

▪ **Journal Name: Journal of Plant Physiology (2022)**

Ms.Ref.No.: JPLPH-D-22-00576

Title: Zinc supply influences the root-specific traits with the expression of root architecture modulating genes in millets

▪ **Journal Name: HortScience (2021)**

Effects of salt stress on physiological and photosynthetic fluorescence characteristics of *Coreopsis tinctoria* Nutt

▪ **Journal Name: Plant Physiology and Biochemistry (2021)**

Ref: PLAPHY -D-21-00664 Title: New insights into the salt shock responses, and tolerance mechanisms at the physio-biochemical level of the whole maize plants

▪ **Journal Name: International Journal of Plant Production (2021)**

IJPO-D-21-00269R1, "Insights into temperature and soil moisture-induced alterations in safflower physiological, seed filling, quality, and yield attributes"

▪ **Journal Name: Agronomy Journal (2021)**

Manuscript ID AJ-2020-08-0838-A.R1 Nutrient uptake, antioxidative mechanisms in *Phyllostachys vivax* transplanted into saline soils

▪ **Journal Name: Physiology and Molecular Biology of Plants (2020)**

Ms.No.PMBP-D-20-00442 Free amino acids concentrations and expression of genes involved in nitrogen assimilation as key factors of the plant metabolic response to different cultivation method in organically and conventionally grown common oranges cv. 'Valencia late'

- **Journal Name: Physiology and Molecular Biology of Plants (2020)**

Ms.No.PMBP-D-20-00417 Boron application regulate sorbitol metabolism to reduce water core incidence in sand pear fruit

- **Journal Name: International Journal of Fruit Science (2020)**

Manuscript ID WSFR-2020-0275 Effect of putrescine and proline on profile of GABA and antioxidant activities in leaves of three Citrus species in response to low temperature stress.

- **Journal Name: Gesunde Pflanzen (2020)**

GEPP-D-20-00011 The Response of Citrus Rootstocks to Overcome Salt-Induced Damages

- **Journal Name: Journal of Agricultural and Food Chemistry (2020)**

jf-2020-022602 The Citrus CitERF6 contributes to citric acid degradation via up-regulation of CitAcl $\alpha$ 1, encoding ATP-citrate lyase.

- **Journal Name: Plant Physiology and Biochemistry (2019)**

Manuscript No.PLAPHY-D-19-02006 Title: Citrus scion and rootstock combinations show changes in DNA methylation profiles and ABA insensitivity under recurrent drought conditions

- **Journal Name: Journal of Agricultural and Food Chemistry (2019)**

Manuscript No. Jf-2019-06373k Title: The Citrus CitERF6 contributes to citric acid degradation via up-regulation of CitAcl $\alpha$ 1, encoding ATP-citrate lyase

- **Journal Name: Scientia Horticulturae (2019)**

Manuscript No. HORTI24948R1 Title: Comprehensive metabolic profiling to decipher the influence of rootstocks on Fruit Juice Metabolome of Kinnow (C. nobilis  $\times$  C. deliciosa)

- **Journal Name: Scientia Horticulturae (2019)**

Manuscript No. HORTI25368 Title: Role of production site and postharvest treatments on rind biochemical concentrations associated with 'Benny' valencia rind pitting

- **Journal Name: International Journal of Fruit Science (2019)**

Manuscript No. WSFR-2019-0045 Title: Regression and correlation studies of some morphological and physicochemical traits in Tunisian sweet orange (Citrus sinensis L) cv. Maltese Ballerin

- **Journal Name: International Journal of Fruit Science (2019)**

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Manuscript No. WSFR-2018-0053.R2 Title: Effects of salinity stress on growth, mineral nutrient accumulation and biochemical parameters of seedlings of three citrus rootstocks

▪ **Journal Name: Pakistan Journal of Agricultural Sciences (2019)**

Manuscript No. ID 8443 Title: Fruit quality assessment in pigmented grapefruit (Citrus paradise Macf.) for varietal diversification

▪ **Journal Name: Pakistan Journal of Agricultural Sciences (2019)**

Manuscript No. ID 8953 Title: Pre storage application of calcium chloride and salicylic acid maintain the quality and extend the shelf life of strawberry cv. Chandler

▪ **Journal Name: Journal of Horticultural Science & Technology (2019)**

Manuscript No. JHST-19-18 Title: Field comparison of different lures for their efficacy against fruit fly species (Bactrocera dorsalis, B. cucurbitae and B. zonata)

▪ **Journal Name: Scientia Horticulturae (2018)**

Manuscript No. HORTI21074

Title: Comparative study on the role of canopy position on physicochemical properties of 'Marsh' grapefruit during non-chilling postharvest cold storage

▪ **Journal Name: Scientia Horticulturae (2018)**

Manuscript No. HORTI22138

Title: Physiological and biochemical response of orange orchards to irrigation deficit regimes

▪ **Journal Name: Scientia Horticulturae (2018)**

Manuscript No. HORTI22803

Title: Effects of seasonal variations and harvesting times on bioactive and new colour pigments compounds of Citrus paradisi (grapefruit) cv. Shamber

▪ **Journal Name: Experimental Agriculture (2018)**

Manuscript No. EAG-D-18-00246

Title: Agronomic performance of newly isolated intervarietal garden pea (pisum sativum L.) progenies (f7) under north western himalayan conditions of India

▪ **Journal Name: Journal of Sustainability Science and Management (2018)**

Manuscript No. JSUSM-2018-0245

Title: Effects of additional substrates on the growth, yield, moisture and ash contents of grey oyster mushroom

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▪ **Journal Name: International Journal of Fruit Science (2018)**

Manuscript No. WSFR-2018-0027.R1

Title: Characterization of valuable indigenous barberry (*Berberis* sp.) germplasm by using multivariate analysis

▪ **Journal Name: Pure and Applied Biology (PAB) (2018)**

Manuscript No. PAB-MS 180120392

Title: Effect of surface disinfectants on fruit blemishes (Sooty blotch & Flyspeck) and quality of apple (*Malus domestica* Borkh.) cv. Banky during cold storage

▪ **Journal Name: Journal of Horticultural Science & Technology (2018)**

Manuscript No. JHST-18-09

Title: Preharvest Foliar Application of Oxalic Acid Improves Strawberry Plant Growth and Fruit Quality

▪ **Journal Name: Pakistan Journal of Life and Social Sciences (2018)**

Manuscript No. PJLSS-635-17 and 637-PJLSS-17

Title: Technical production efficiency of local cassava processed home industry in rural

Title: Increasing Infants' Length: The Complementary Feeding Mixed of Ripe Bananas Flour and Soybean Sprouts

▪ **Journal Name: Scientia Horticulturae**

Manuscript No. HORTI19972 (12/04/2017)

Title: Bioactive compounds, antioxidant activity and biological properties of selected Indian pummelo (*Citrus grandis* L. Osbeck) germplasm

▪ **Journal Name: Scientia Horticulturae**

Manuscript No. HORTI19331 (09/25/2017)

Title: Effect of postharvest ethanol treatment on green lemon (*Citrus limon* (L.) Burm. F. Eureka) fruit yellowing and quality during storage

▪ **Journal Name: Scientia Horticulturae**

Manuscript No. HORTI18758 (06/13/2017)

Title: A study on Cauliflower (*Brassica oleracea* var. botrytis) based intercropping system

▪ **Journal Name: International Journal of Food Engineering**

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Manuscript No. DGIJFE.2017.0302 (2017)

Titled "The effect of drying on total phenol, antioxidant capacity and the phenolic compounds of plum and mahaleb fruits.

▪ **Journal Name: Brazilian Archives of Biology and Technology**

Manuscript No. BABT-2016-0652 (2016)

Titled: DNA-methylation alteration in cotton (*Gossypium hirsutum* L.) under salt stress"

▪ **Journal Name: African Journal of Biotechnology**

Manuscript No. AJB-20.06.16-15533. (2016)

Titled: Growth and physiology of citrus hybrids under saline stress conditions.

▪ **Journal Name: Pakistan Journal of Life and Social Sciences**

Manuscript No. 515-PJLSS-16 (2016)

Salinity induced deleterious effects on biochemical and physiological processes of tomato.

## **AWARDS AND HONORS:**

1. Best Research Article Award JPLPH (Journal of Plant Physiology) 2022. [Awards - Journal of Plant Physiology | ScienceDirect.com by Elsevier.](#)
2. Received the **Performance Based Increment and Honorarium** Awarded by the University based on Academic and Scholarly performance for **YEAR 2021** on Tenure Track System.
3. Received the **Performance Based Increment and Honorarium** Awarded by the University based on Academic and Scholarly performance for **YEAR 2020** on Tenure Track System.
4. Received the **Performance Based Increment and Honorarium** Awarded by the University based on Academic and Scholarly performance for **YEAR 2019** on Tenure Track System.
5. Received the **Performance Based Increment and Honorarium** Awarded by the University based on Academic and Scholarly performance for **YEAR 2018** on Tenure Track System.
6. Received the **Performance Based Increment and Honorarium** Awarded by the University based on Academic and Scholarly performance for **YEAR 2017** on Tenure Track System.
7. Received the **Performance Based Increment** Awarded by the University based on Academic and Scholarly performance for **YEAR 2015** on Tenure Track System.
8. General Secretary of Pakistan Society of Horticultural Sciences **(2021)**

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- 9.** Approved supervisor by Higher Education Commission of Pakistan for PhD students
- 10.** Received the scholarship by Higher Education Commission of Pakistan for M.Phil. leading to Ph.D. studies in France
- 11.** Fourth position in M.Sc. (Hons.) Agriculture major Horticulture.