

CURRICULUM VITAE

PERSONAL:-

NAME : Dr. Farooq Ahmad
FATHER NAME : Abdul Rehman
DATE OF BIRTH : 01-10-1976
DOMICILE : Punjab
NATIONALITY : Pakistani
MARTIAL STATUS : Married
N.I.C. # : 38201-1089435-7
PERMANENT ADDRESS : Village & Post Office Mardwal, Tehsil Naushahra,
Distt. Khushab
PRESENT ADDRESS : Department of Botany, University of Agriculture
Faisalabad
PHONE # : 0306-5118498
E-MAIL ADDRESS : farooqbot@yahoo.com, f.ahmad@uaf.edu.pk

ACADAMIC QUALIFICATION:-

- Ph.D. Plant Taxonomy in 2010 from Quaid-i-Azam University, Islamabad.
- M.Phil. Botany in 2002 from University of Agriculture Faisalabad.
- M.Sc. in Botany in 1999 from Univ. of Arid Agriculture, Rawalpindi.
- B.Ed. in Education in 2002 from Allama Iqbal Open University, Islamabad.
- B.Sc. in Biology in 1997 from University of the Punjab, Lahore.
- F.Sc. in Pre-Medical in 1993 from B.I.S.E. Sargodha.
- S.S.C. in Science in 1991 from B.I.S.E. Sargodha.

RESEARCH INTEREST:-

- Plant Taxonomy (Agrostology)
- Plant Anatomy
- Palynology
- Medicinal plants & Ethnobotany

TEACHING EXPERIENCE:

Lecturer : In 2005 (1-Year), at Army Degree College Sargodha
Assistant Professor (IPFP). From 1-7-2010 to 19-3-2011 in PMAS Arid Agriculture
University Rawalpindi

Assistant Professor (TTS). From 25-3-2011 to 31-8-2019 in University of Agriculture
Faisalabad.

Associate Professor (Tenured). From 31-8-2019 to date

RESEARCH TRAINING:

- 6 months research training in University of Valencia (Spain) under International Research Support Initiative Program Sponsored by Higher Education Commission of Pakistan in 2008.
- **Membership:** Life time member of Pakistan Botanical Society, University of Karachi, Pakistan

Students Produced:

Ph.D: 9

M.Phil: 160

Total Publications: 113

INTERNATIONAL PUBLICATIONS:

1. **Ahmad, F.**, M. A. Khan, M. Ahmad, M. Zafar, A. Nazir and S. K. Marwat. 2009. Taxonomic studies of grasses and their indigenous uses in the salt range area of Pakistan. *Afr. J. Biotechnol.* 8 (2): 231–249.
2. Jabeen, A., M. A. Khan, M. Ahmad, M. Zafar and **F. Ahmad**. 2009. Indigenous Uses of Economically Important Floras of Margallah Hills National Park, Islamabad, Pakistan. *Afr. J. Biotechnol.* 8(5): 763-784
3. Marwat, S. K., M. A. Khan, M. Ahmad, M. Zafar and **F. Ahmad**. 2009. Taxonomic studies of nodulated leguminous weeds from the flora of North Western part (Dera Ismail Khan) of Pakistan. *Afr. J. Biotechnol.* 8(10): 2163-2168.

4. Ahmad, K., M. A. Khan, M. Ahmad, M. Zafar, M. Arshad and **F. Ahmad**. 2009. Taxonomic Diversity of Stomata in Dicot Flora of District Tank, N.W.F.P, Pakistan. **Afr. J. Biotechnol.** 8(6): 1052-1055
5. **Ahmad, F.**, M. A. Khan, M. Ahmad, M. Zafar, T. Mahmood and A. Jabeen. 2010. Ethnomedicinal uses of grasses in Salt Range region of Northern Pakistan. **J.Med. Plant Res.**4(5): 362-369.
6. Khan, A, I. Iqbal, A.Shah, **F.Ahmad** and M.Ibrahim. 2010. Alleviation of adverse effects of salt stress in *Brassica(B.campestris)* by pre sowing seed treatment with Ascorbic acid. **Americ. Eur. J. Agric & Env. Sci.** 7(5): 557-560.
7. **Ahmad,F**, M.A.Khan, M.Ahmad, M.Zafar, M.Arshad and A.Khan. 2010. Taxonomic utilization of anatomical characters in tribe Andropogoneae based on transverse sections of leaves. **J.Med.Plant.Res.** 4(14): 1349-1358.
8. Zafar, M., M.A.Khan, M.Ahmad, G.Jan, S.Sultana, K.Ullah, S.K.Marwat,**F.Ahmad**, A.Jabeen, A.Nazir, A.M.Abbasi, Z.U.Rehman, Z.Ullah. 2010. Elemental analysis of some medicinal plants used in traditional medicine by atomic absorption spectrophotometer (AAS).**J.Med.Plant.Res.**Vol.4(19):1987-1990.
9. S.K.Marwat, M.A.Khan, M.A.Khan, F.U.Rehman, A.H.Akbari, M.Ahmad,M.Zafar and **F.Ahmad**. 2011. Medicinal and Pharmacological Potentiality of Plant At-Tin, Common Fig (*Ficus carica* L). **Asian J.Chem.** 23(1):1-10.
- 10.Zafar, M, M.Ahmad, M.A.Khan, S.Sultana, G.Jan, **F. Ahmad**, A.Jabeen, G.M.Shah, S.Shaheen, A.Shah, A. Nazir and S.K.Marwat. 2011. Chemotaxonomic Clarification of Pharmaceutically important species of *Cyprus* L. **Afr.J.Pharm & Pharmacol.** Vol. 5(1), 67-75.
- 11.**Ahmad, F.**, M.A.Khan, M.Ahmad, M.Arshad, M.Zafar, A.Khan, N.I.Raja and Z.Rehman.2011. Foliar epidermal anatomy as an aid to the identification of grasses in tribe Aveneae (subfamily Pooideae (Poaceae) from Salt Range of Pakistan. **J.Med.Plant.Res.** Vol(5)1: 81-87.
12. Khan, M.A., M. Ahmad, M. Zafar, S. Sultana, S.K. Marwat, S. Shaheen, M.K.Laghari, G.Jan, **F.Ahmad** and A. Nazir. 2011. Medico-botanical and chemical

standardization of pharmaceutically important plants of *Tricholepis chaetolepis* (Boiss) Rech. **J. Med. Plant. Res.** Vol. 5(8): 1471-1477.

13. **Ahmad, F.**, M.A.Khan, M.Ahmad, M.Zafar, A.Khan and Z.Iqbal. 2011. Palynological studies in tribe Chlorideae (Poaceae) from Salt Range of Pakistan. **Afr.J.Biotech.**10(44): 8909-8913.

14. **Ahmad, F.**, M.A.Khan, M.Ahmad, M.Zafar, Z.Iqbal and A.Khan.2011. Leaf epidermal anatomy as an aid to the identification of genus *Setaria* weeds, tribe Paniceae (Poaceae), from salt range of Pakistan. **J.Med.Plant.Res.** 5(15): 3500-3506,

15. **Ahmad, F.**, M.A.Khan, M.Ahmad, M.Hameed, R.B.Tareen, M.Zafar and A.Jabeen.2011. Taxonomic Application of Foliar anatomy in grasses of Tribe Eragrostideae (Poaceae) of Salt Range of Pakistan. **Pak.J.Bot.** 43(5): 2277-2284.

16. Khan, A., I. Ahmed, I. Lang, **F. Ahmad**, A. Ghani, A. Shah, M. Ashraf, H. Nawaz and S. Tufail. 2012. Physiological and Biochemical changes produced in Maize (*Zea mays* L.) by the application of Nickel. **J. Med. Plant. Res.** 6(7): 1340-1343,

17. **Ahmad, F.**, M. Hameed, M. Ashraf, M. Ahmad, A. Khan, T. Nawaz, K. S. Ahmad and M. Zafar. 2012. Role of leaf epidermis in identification and differentiation of grasses in tribe Chlorideae (Poaceae) from Pakistan. **J.Med.Plant.Res.** 1955 – 1960.

18. Gill, A.H., K.S.Ahmad, S.Habib, M.Hameed, M.S.A.Ahmad, T.Nawaz, **F.Ahmad** and R.Batool. 2012. Impact of highly saline wetland ecosystem on floral diversity of Cholistan desert. **Pak. J. Bot.**, 44: 107-112, Special Issue.

19. Hameed, M., T. Nawaz, M.Ashraf, **F.Ahmad**, K.S.Ahmad, M.S.A.Ahmad, S.H.Raza, M.Hussain and I.Ahmad. 2012. Floral Biodiversity and conservation status of the Himalayan Foothill region, Punjab. **Pak. J. Bot.**, 44: 143-149, Special Issue.

20. Ahmad, K.S., W.K.Kayani, M.Hameed, **F.Ahmad** and T.Nawaz.2012. Floristic diversity and ethnobotany of Senhsa, District Kotli Azad Jammu & Kashmir (Pakistan). **Pak. J. Bot.**, 44: 195-201, Special Issue.

21. Nawaz, T., Hameed, M., M. Ashraf, **F. Ahmad**, M.S.A. Ahmad, M. Hussain, I. Ahmad, A. Younis and K.S. Ahmad. 2012. Diversity and Conservation Status of Economically Important Flora of the Salt Range, Pakistan. **Pak. J. Bot.**, 44: 203-211, Special Issue.
22. Ahmad, I., M.S.A. Ahmad, M. Hameed, M. Hussain, M.Y. Ashraf, **F. Ahmad** and H. Malik. 2012. Status of plant diversity in the soon valley, Salt Range Pakistan. **Pak. J. Bot.**, 44: 59-62, Special Issue.
23. Ahmad, K.S., M. Hameed, R. Qureshi, **F. Ahmad** and T. Nawaz. 2012. Conservation assessment and medicinal importance of some plant resources from Sharda valley Azad Jammu and Kashmir (AJ&K). **Int. J. Agric. Biol.**, 14(997-1000).
24. Hameed, M., M. Ashraf, N. Naz, T. Nawaz, R. Batool, S. A. Ahmad, **F. Ahmad** and M. Hussain. 2013. Anatomical adaptations of *Cynodon dactylon* (L.) Pers. From the salt range to salinity stress. ii. Leaf Anatomy. **Pak. J. Bot.**, 45(SI). 133-142.
25. Ahmad, K.S., M. Hameed, M.S.A. Ahmad, M. Ashraf, **F. Ahmad**, Z.K. Shinwari, S. Habib and M. Hussain. 2013. Economic evaluation of some plant resources from Neelum valley Azad Jammu & Kashmir (AJ&K). **Pak. J. Bot.**, 45(S1): 111-117.
26. Nazir, A., M.A. Khan, **F. Ahmad**, K. Ullah and A. Shah. 2013. Foliar epidermal studies as an aid to the identification of grasses of tribe andropogoneae (Poaceae) from Potohar region of Pakistan. **Pak. J. Bot.**, 45(SI). 235-241.
27. Naz, N., M. Hameed, T. Nawaz, R. Batool, M. Ashraf, **F. Ahmad** and T. Ruby. 2013. Structural adaptations in the desert halophyte *Aeluropus lagopoides* (Lin. Trin. ex Thw.) under high salinities. **J. Biol. Res. (Thessalon)**, 19(150-164).
28. Younis, A., A. Riaz, S. Ikram, T. Nawaz, M. Hameed, S. Fatima, R. Batool, **F. Ahmad**. 2013. Salinity-induced structural and functional changes in three cultivars of *Alternanthera bettzikiana* (Regel) G. Nicholson. **Turk. J. Agric For.** 37: 674-687.
29. Khan A, I Ahmad, A Shah, **F Ahmad**, M Nawaz, F Shaheen, H U Fatima, F Pervaiz, S Javed, F Hayat, H Nawaz & R Zubair. 2013. Amelioration of salinity stress in wheat (*Triticum aestivum* L) by foliar application of phosphorus. **Phyton**. 82: 281-287.
30. Hameed, M., M. Ashraf, N. Naz, T. Nawaz, R. Batool, S. Fatima, and **F. Ahmad**. 2014. Physiological adaptive characteristics of *Imperata cylindrica* (L.) Raeuschel for salinity tolerance. **Biologia**. 69(9): 1148-1156. Impact Factor (0.696)
31. **Ahmad, F.**, M. Hameed, K. S. Ahmad, M. Ashraf. 2015. Significance of anatomical markers in tribe *Paniceae* (Poaceae) from the Salt Range, Pakistan. **Int. J. Agric. Biol.** 17(2): 271-279 (ISI. Impact Factor: 0.940).

32. Hameed, M., N. Naz; R. Batool; S. Fatima; M. Ashraf; **F. Ahmad**; M. S. A. Ahmad. 2015. Adaptive components of salinity tolerance in a saline desert grass *Lasiurus scindicus* Henrard. **Ecological Research**. 30(3):429-438. Impact Factor: (1.3)
33. Mansoor, U., M. Naseer, M. Hameed, A. Riaz, M. Ashraf, A. Younis, **F. Ahmad**. 2015. Root morpho-anatomical adaptations for drought tolerance in *Cenchrus ciliaris* L. ecotypes from the Cholistan Desert. **Phyton Annales Rei Botanicae**. 55(1):159-179 (ISI. Impact Factor: 0.528).
34. Ahmad, K.S., M. Hameed, S. Fatima, M. Ashraf, **F. Ahmad**, M. Naseer and N. Akhtar. 2016. "Morpho-anatomical and physiological adaptations to high altitude in some Aveneae grasses from Neelum Valley, Western Himalayan Kashmir". **Acta Physiologiae Plantarum**. (2016) 38:93. Impact Factor: 1.584). (DOI 10.1007/s11738-016-2114-x).
35. Ahmad, K.S., M. Hameed, **F. Ahmad** and B. Sadia. 2016 "Edaphic factors as major determinants of plant distribution of temperate himalayan grasses. **Pak. J. Bot.** 48(2):567-573. Impact Factor: 0.822
36. Naz, N., S. Fatima, M. Hameed, M. Naseer, R. Batool, M. Ashraf, **F. Ahmad**, M. S. A. Ahmad, A. Zahoor, K. S. Ahmad. 2016. Adaptations for salinity tolerance in *Sporobolus ioclados* (Nees ex Trin.) Nees from saline desert. **Flora**. 223(2016)46–55. (impact factor: 1.47).
37. **Ahmad**, F., M. Hameed and K. S. Ahmad. 2016. *Tetrapogon cenchrifomis* and *Parapholis strigosa*, (Poaceae) two new reports from Pakistan.. **Research and Reviews: J. Bot. Sci.** S(3):18-21.
38. Naeem, M.S., L. Dai, **F. Ahmad**, A. Ahmad, J. Li, C. Zhang. 2016. AM1 is a potential ABA substitute for drought tolerance as revealed by physiological and ultra-structural responses of oilseed rape. **Acta Physiol. Plant.** 38:183. Impact Factor: 1.584). (published on line).
39. Ahmad, K.S., M. Hameed, J. Deng, M. Ashraf, A. Hamid, **F. Ahmad**, S. Fatima and N. Akhtar. 2016. Ecotypic adaptations in Bermuda grass (*Cynodon dactylon*) for altitudinal stress tolerance. **Biologia**. 71/8: 885—895. Impact Factor (0.719) (Published on line)
40. Ahmad, K.S., M. Hameed, M. Ashraf, A. Hamid, F. Nawaz, J. Deng, **F. Ahmad** and S. Fatima. 2016. Leaf physiological and biochemical adaptations in *Leptothrium senegalense* (Poaceae) to salt stress. **Phyton (Horn, Austria)** (56(2):277-291.
41. Ahmad, K.S., M. Hameed, S. Fatima, M. Ashraf, **F. Ahmad**, M. Naseer, A. Zahoor, I. Ahmad. 2017. Tribe Andropogoneae from Neelum Valley, Azad Jammu and Kashmir: Phylogeny based on Morpho-anatomy. **Pak. J. Bot.** 49 SI.: 73-82.

42. Naseer,M., M. Hameed, M. Ashraf, A. Zahoor, **F. Ahmad**, S. Fatima, M. S. A. Ahmad ,K. S. Ahmad and M. Iftikhar. 2017. Photosynthetic response in Buttonwood(*Conocarpus erectus* L.) to salt stress. **Pak.J.Bot.** 49(3): 847-856.
43. Tufail,A., **F. Ahmad**, M. Hameed and R. Ahmad.2017. Growth performance and stomatal behavior in relation to ecotypic adaptations in *Cynodon dactylon* (L.) Pers. **Pak.J. Bot.** 49(4):1395-1403.
44. Naseer, M., M. Hameed, **F. Ahmad**, S. M. A. Basra. 2017. Growth attributes and distributional pattern of halophytic *Cyperus laevigatus* L. along salinity and altitude gradients. **Pak.J. Bot.** 49(5): 1697-1707.
45. Ahmad, K.S., A. Hamid, F. Nawaz, M. Hameed, **F. Ahmad**, J. Ding, N. Akhtar, A. Wazarat and S.Mahroof.2017. Ethnopharmacological studies of indigenous plants in Kel village, Neelum Valley, Azad Kashmir, Pakistan.Published on line. **Journal of Ethnobiology and Ethnomedicine**.13:68.(impact factor: 1.903).
46. Hameed,M., N. Naz; S. Fatima; M. Ashraf; **F. Ahmad**; M. Naseer; A. Zahoor. 2018. Structural and Functional Aspects of Salt Tolerance in Differently Adopted Ecotypes of *Aeluropus lagopoides* from Saline Desert Habitats. **Int. J. Agric. Biol.** 20:41-51.
47. Fatima, S., **F.Ahmad**, M. Hameed, and R.Ahmad. 2018. Ecology and species association of grass species in response to altitudinal gradient in the Potohar region. **Pak.J.Bot.** 50(1): 41-49.
48. Zahoor, A., **F. Ahmad** , M. Hameed and S. M. A. Basra. 2018. Structural and functional aspects of photosynthetic response in *Eichhornia crassipes* (mart.) Solms under cadmium stress. **Pak.J.Bot.** 50(2): 489-493.
49. Ahmad, K.S., M. Hameed, A. Hamid, F. Nawaz, B. H. Kiani, M. S. A. Ahmad, J. Deng, **F. Ahmad**, I. Hussain, S. Fatima.2018. Beating cold by being tough:impact of elevation on leaf characteristics in *Phleum hemalaicum* Mez. Endemic to Himalaya. **Acta Physiologiae Plantarum**.40:56.
50. Zahoor,A., **F. Ahmad**, M. Hameed, and S. M. A. Basra. 2018. Contribution of structural and functional traits in turgor maintenance of *Pistia stratiotes* L under cadmium toxicity. **Int. J. Agric. Biol.**20: 1391-1396
51. Fatima,S., M. Hameed, **F. Ahmad**, M. Ashraf and R. Ahmad.2018. Structural and functional modifications in a typical arid zone species *Aristida adscensionis* L. along altitudinal gradient. **Flora**. 249:172-182.

52. Mustafa, F., **F. Ahmad**, M. Hameed and B. Sadia. 2019 Anatomical Adaptations for Drought Tolerance in *Lasiurus scindicus* Henr in Punjab, Pakistan. **Int. J. Agric. Biol.**22(2): 290-298.
53. Mumtaz,S., M. Hameed, **F. Ahmad** and B. Sadia.2019. Structural and Functional Modifications in Osmoregulation for Ecological Success in Purple Nutsedge (*Cyperus rotundus*) **Int. J. Agric. Biol.** 22(5):1123–1132.
54. Mansoor, U., M. Hameed, M. Naseer, M. Waseem, M. Ashraf, S. Fatima, F. Ahmad, M.S. A. Ahmad. 2019. Structural modifications for aridity tolerance in stem and leaves of *Cenchrus ciliaris* L. ecotypes from the Cholistan Desert. **Flora.** 261(2019)15148.
55. Zahoor,A., F. Ahmad, M. Hameed, M. Naseer and N. Irum. 2019. Palynological features of medicinal plants from Salt Range of Pakistan.**J. Environ.Agric.Sci.**, 21:29-37.
56. Hameed, M., S. Fatima, S. M. R. Shah, **F. Ahmad**, M. Ashraf, M. S. A. Ahmad, I. Ahmad, U.Iqbal. 2020. Ultrastructural response of wheat (*Triticum aestivum* L.) to potential allelopathy of *Alstonia scholaris* (L.)R.Br. leaf extract. **Turk.J.Bot.**44: 509-525.
57. Tufail, A., M. Aqeel, N. Khalid, M. Ahsan, S.A.Khilji, **F.Ahmad**, M.Hameed, A.Noman, S.Alamri, M.Hashem.2020. Soil toxicity in a natural habitat induces structural and functional modifications and modulate metabolism in Bermuda grass (*Cynodon dactylon* [L.] Pers.) ecotypes. **Appl. Ecol. Environ. Res.**18(5): 6569-6588
58. Iftikhar,M., I. Ahmad, M.Hameed, S. Fatima, **F. Ahmad**, M. Ashraf, Z. Nazish, M.S.A. Ahmad and M. Ahmad.2021. Anatomical aspects of tolerance in a potential weed Sun Spurge (*Euphorbia helioscopia* L. against post-emergence herbicides. **Weed Research.** 61:126-136 (DOI: 10.1111/wre.12464)
59. Ahmad,I., L. Shamsi, M. Hameed, S. Fatima, **F. Ahmad**, M. S. A. Ahmad, M. Ashraf, A. Javaid, and M. A. Sultan. 2021. Micro-morphological response of some native dicotyledonous species to particulate pollutants emitted from stone crushing activities. **Environ. Sci. Pollut. Res.** <https://doi.org/10.1007/s11356-021-12463-2>
60. Fatima,S., M. Hameed, N. Naz, S. M. R. Shah, M. Naseer, M. S. A. Ahmad, M. Ashraf, **F.Ahmad**, S. Khalil and I.Ahmad. 2021. Survival strategies in Khavi Grass [*Cymbopogon jwarancusa* (Jones) Schult.] colonizing hot hypersaline and arid environments. **Water Air Soil Pollut.** 232:82.(<https://doi.org/10.1007/s11270-021-05050-1>).
- 61.Iqbal,U., M. Hameed, **F. Ahmad**. 2021. Conservation stratigies through anatomical traits in the endangered arid species *Salvadora oleoides* Decne. **Turk.J.Bot.** 45:140-157.(doi:10.3906/bot-2010-43).

62. Waseem, M., S. Mumtaz, M. Hameed, S. Fatima, M. S. A. Ahmad, **F. Ahmad**, M. Ashraf, Iftikhar Ahmad . 2021.Adaptive traits for drought tolerance in red-grained wheat (*Triticum aestivum* L.) landraces. **Arid Land Res. Manage.** Published online.(doi.org/10.1080/15324982.2021.1905103).
63. Bibi,S., M. S. A. Ahmad, M. Hameed, A. K. Alvi and **F. Ahmad**. 2021.Influence of soil and water physico-chemical properties on vegetation structure of artificial ponds established within Bamboo plantations.**Pak.J.Bot.**53 (6):DOI:http://dx.doi.org/10.30848/PJB2021-6(24).
64. Fatima,S., M. Hameed, **F. Ahmad**, S. Khalil, M. S. A. Ahmad, M. Ashraf, I. Ahmad. 2021. Diversity and distribution of Family Poaceae along an elevation gradient in the sub-Himalayan mountains. **Phytocoenologia**. DOI:10.1127/phyto/2021/0378.Published on line.
65. Kamal,A., M. S. A. Ahmad, A. Khadija Alvi, M. Hameed, **F. Ahmad**, and K. Ghaffar. 2021. Soil salinity differentially influences soil physicochemical properties and nutrient availability in rhizospheric soils of grasses growing in hyper-saline arid regions. **Soil Environ.**40(1):69-84.
66. Iqbal,U., M. Hameed, **F. Ahmad**, M.S. A. Ahmad and M. Ashraf. 2021. Adaptive strategies for ecological fitness in *Calotropis procera* (Aiton)W.T.Aiton. **Arid Land Res. Manage.** Published on line.
67. Mumtaz, S., M, Hameed, **F. Ahmad**, M.S.A. Ahmad, I. Ahmad and M. Ashraf. 2021. Structural and functional determinants of physiological pliability in *Kylinga brevifolia* Rottb. f in or survival in hyper-saline saltmarshes. Water, Air and Soil Pollution.232:424. <https://doi.org/10.1007/s11270-021-05391-x>. Published on line.
68. Iqbal,U M. Hameed, F. Ahmad, M. S. A. Ahmad, M. Ashraf, M. Kaleem, S. M. R. Shah, M. Irshad. 2021. Contribution of structural and functional modifications to wide distribution of Bermuda grass *Cynodon dactylon* (L) Pers. Flora. <https://doi.org/10.1016/j.flora.2021.151973>
69. Sarwar,Y., A. Asghar, M. Hameed, S. Faima, F. Ahmad, M. S. A.Ahmad, M. Ashraf, S. M. R. Shah, S. Basharat, U. Iqbal, M. Irshad, I. Ahmad.2021. Structural responses of differentially adapted *Cenchrus setigerus* Vahl ecotypes to water deficit. Environmental and Expermental Botany. <https://doi.org/10.1016/j.envexpbot.2021.104746>.
70. Naz, N., S. Fatima, M. Hameed, F. Ahmad, M.S.A.Ahmad, M. Ashraf, H. Shahid, U.Iqbal, M.Kaleem, S.M.R. Shah, and I. Ahmad.2022.Modulation in plant micro-structures through soil physico-chemical properties determines survival of *Salsola imbricate* Forrsk.in hypersaline environments. J.Soil Sci. Pl. Nut. <https://doi.org/10.1007/s42729-021-00697-5>.
71. Naz, N., S. Fatima, M. Hameed, M. Ashraf, M.S.A.Ahmad, F. Ahmad, S.M.R. Shah, F. Islam, I. Ahmad, F.Ejaz, M. Naseer. 2022.Contribution of structural and functional

adaptations of hyper-accumulator *Sueda vera* Forrsk. ex J.F.Gmel. to adaptability across salinity gradients in hot desert. Environ. Sci. Pollut. Res.<https://doi.org/10.1007/s11356-022-19167-1>.

72. Hameed, M., S. Fatima, **F. Ahmad**, S. N. Zafar, M. Ashraf, M.S.A. Ahmad, S.bibi,I. Ahmad. 2022. Anatomical modifications in some *Bambusa* Schreb. species to combat ecological constraints. *Int.J. Appl.Exp.Biol.*1(1):21-31.

73. Iqbal, U., M. Hameed, **F. Ahmad**, M.S.A.Ahmad, M. Ashraf. 2022 Unraveling the survival potential of a desert halophyte *Salvadora oleoides* Decne. across heterogenic environments. *Trees*.<https://doi.org/10.1007/s00468-022-02274-4>.

74. Fatima, S., M. Hameed, **F. Ahmad**, M.S.A.Ahmad. 2022. Structural and functional attributes in widespread distribution of some dominant grasses towards climatic variables along altitudinal gradients.*Flora*.DOI:10.1016/j.flora.2022.152034

75. Bibi, S., M.S.A.Ahmad, M.Hameed, **F.Ahmad**, A.K.Alvi, and A.Kamal. 2022. Morpho-physiological, biochemical and leaf epidermal responses of *Desmostachya bipinnata* L. in arid habitats. *Arid Land Res. Manage.* Published online. 36 (4) : 445-464

76. Ameer, A., **F. Ahmad**, and M. Hameed. 2022. Structural and functional plasticity in root and stem of *Dicanthium annulatum* (Forsk) Stapf under salt stress. *Pak.J.Bot.*,54(5): DOI: [http://dx.doi.org/10.30848/PJB2022-5\(37\)](http://dx.doi.org/10.30848/PJB2022-5(37)).

77. **Ahmad, F.**, M. Hameed and M.S.A. Ahmad. 2022. Taxonomic significance of palynological studies for identification of two morphological similar *Malva* species. *Microscopy Res. Technique*. DOI:10.1002/jemt.24131.

78. Ahmad,K.S., A. Javaid M. Hameed, S.Fatima, **F. Ahmad**, M. Ashraf, S.M.R.Shah, M.S.A. Ahmad, and I.Ahmad. 2022. Survival strategies in two high altitude *Sorghum* species from Western Himalayas. *Acta Physiologiae Plantarum*.. <https://doi.org/10.1007/s11738-022-03392-9>

79. Kaleem,M., M. Hameed, F. Ahmad, M. Ashraf, and M.S.A. Ahmad. 2022. Anatomical and physiological features modulate ion homeostasis and osmoregulation in aquatic halophyte *Fimbristylis complanata* (Retz.) link. *Acta Physiologiae Plantarum*. <https://doi.org/10.1007/s11738-022-03400-y>.

80. Ain, Q., M. Hameed, S. Fatima, M.S.A.Ahmad, M.Ashraf, F. Ahmad, S. Khalil, M. Munir, S.M.R. Shah, I. Ahmad and A.Younis. 2022. Structural determinants of phytoremediation capacity in saltmarsh halophyte *Diplachne fusca* (L) P.Beauv.ex Roem.& Schult.subsp. fusca. *International Journal of Phytoremediation*.DOI: 10.1080/15226514.2022.2098251.

81. Ameer A., S.Mumtaz, N. Asghar, M.Hameed, F. Ahmad, A. Mahmood, M. Naseer and M. Azeem.2022.Structural and functional attributes of *Citrus reticulata* Blanco under diverse soil and environmental conditions. Pak.J.Bot.55(1):DOI:http://dx.doi.org/10.30848/PJB2023-1(37).
82. Riaz, S., S. Basharat, F. Ahmad, M. Hameed, S. Fatima, M.S.A.Ahmad, S.M.R. Shah, A. Asghar, M.A. El-Sheikh and P. Kaushik. 2022. *Dactyloctenium aegyptium* (L.) Willd.(Poaceae) differentially responds to pre and post emergence herbicides through micro-structural alterations. *Agriculture* 2022, 12, 1831.
83. Muneeb, A., I.Ahmad., M.S.A. Ahmad., S.Fatima., M. Hameed., F. Ahmad, A. Asghar, S. Basharat, S.M.R.Shah, J.Shafqat.I.F.Z.Hassan. 2023. Ethnobotanical and economic uses of some medicinal plants from native saline areas Int.J.Appl.Exp.Biol. 2(2)147-154.doi:10.56612/ijaeb.v1i1.45
84. Kausar S., F. Ahmad, and M. Hameed. 2023. Osmoregulation mediated by structural and functional features in *Cenchrus ciliaris* L. under saline conditions. Pak.J.Bot.,55(4):DOI:http://dx.doi.org/10.20848/PJB2023-4(18).
85. Tufail, A., F. Ahmad, M. Hameed. 2023. Structural modifications in Bermuda grass (*Cynodon dactylon* (L.) Pers. Ecotypes for adaptation to environmental heterogeneity. Front. Plant Sci. doi: 10.3389/fpls.2022.1084706.
86. Shah,S.M.R., S.Fatima, M.Hameed, S.Basharat, M.S.A.Ahmad, F.Ahmad, A. Asghar, M.Anwar, F.Yasmin, M.Ashraf and J.Shafqat.2023. Crop and Pasture Science, https://doi.org/10.1071/CP22373.
87. Asghar, A., F. Ahmad, M. Hameed, M.S. Naeem. 2023. Anatomical modifications in *Carex brownii* and *Carex brunnea* along elevation gradient. 2023. Pak.J.Bot., 55(5):DOI:http://dx.doi.org/10.30848/PJB2023-5(40) .
88. Iqbal,U., M. Hameed, F.Ahmad, M.S.A.Ahmad, N. Naz, M. Ashraf and K. Akmal.2023. Modulation of structural and functional traits in facultative halophyte *Salvadora oleoides* Decne for adaptability under hyper-arid and saline environments. Journal of Arid Environments. <https://doi.org/>. Published online.
89. Iqbal,U., M.Hameed, F. Ahmad.2023. Fate of rubberbush [*Calotropis procera* (Aiton)W.T.Aiton] in environmental adversaries modulated by microstructural and functional attributes. Journal of arid land. https://doi.org/10.1007/s40333-023-0012-9.

90. Fatima, S., M. Hameed, F. Ahmad, M.S.A.Ahmad, M, Anwar, M.Munir, M.Ashraf, S.M.R.Shah, S.Basharat, I.Ahmad, S.Khalil.2023. Dramatic changes in anatomical traits of a C4 grass *Chrysopogon serrulatus* Trin.(Poaceae) over a 1000 m elevational gradient. J. Mt. Sci.20(5):1316-1335. <https://doi.org/10.1007/s11629-022-7385-7>.
91. Basharat,S, F.Ahmad, M.Hameed and M.S.Naeem. 2023. Defense through foliar anatomical alterations in large spike buffel grass *Cenchrus prieurii* (Kunth) Maire, against multiple environmental stresses.Pak.J.Bot.DOI:10.30848/PJB2023-6(17)
92. Ahmad,I., M. Sohail, M. Hameed, S.Fatima, M.S.A. Ahmad, F. Ahmad, A. Mehmood, S. Basharat, A.Asghar, S.M.R.Shah, K.S.Ahmad 2023. Morpho-anatomical determinants of yield potential in *Olea europea* L. cultivars belonging to diversified origin grown in semi-arid environments.PLoS ONE 18(6):0286736
93. Naz,N., S.Fatima, M.Hameed,M.S.A.Ahmad, S.M.R.Shah, F.Ahmad, M.Anwar, S.Basharat, A.Asghar and M,Ashraf.2023.Role of micro-structural architectures in survival of *Fagonia indica* Burm.f. in extremely hot arid and saline environments. Env.Sci.Pollut.Res.doi.org/10.1007/s11356-023-28162-z. Impact Factor 5.19, Category W.
94. Asghar N., M.Hameed, M.S.A.Ahmad and F.Ahmad. 2023. Soil-root relationship in a leaf succulent halophyte *Suaeda vera* Forssk.ex J.F.Gmel. from differently salt-affected habitats. Water, Air, and Soil Pollution (Accepted for publication). Impact: 2.984, Category W.
95. Arshad, R., M.Arfan, F. Ahmad, Hassan Munir. 2023. L-Methionine a viable exogenous intervention for enhanced growth yield, antioxidant and ionic activities in hybrid Maize. Journal of Xian Shiyu University, Natural Sciences Edition. ISSN (Online): 1673-064X E-Publication: Online Open Access Vol:66 Issue: 07:2023,DOI:10.17605/OSF.IO/25SH3.
- 96.Ameer, A., F. Ahmad, N. Asghar, M. Hameed, K.S. Ahmad, A. Mehmood, F.Nawaz, M.A.Shehzad, S,Mumtaz, M.Kaleem and U.Iqbal. 2023. Aridity driven changes in structural and physiological characteristics of Buffel grass (*Cenchrus ciliaris* L.) from different ecozones of Punjab Pakistan. Physiology and Molecular Biology of Plants. <https://doi.org/10.1007/s12298-023-01351-3>.

97. Iqbal, U., M.Hameed, F. Ahmad. 2023. Structural and functional traits underlying the capacity of *Calotropis procera* to face different stress conditions. Plant Physiology and Biochemistry. Published online.<https://doi.org/10.1016/j.plaphy.2023.107992>.
98. Ahmad, I., M.S.A.Ahmad, M.Hameed, A.Muneeb, M.Imran, M.Hussain, F.Ahmad, , A.Asghar, S.Basharat, S.Fatima, I.Parvez, S.M.R.Shah. 2024. Spatio-temporal variations in synthesis of some nutraceutical components of thorowax foldwing (*Dicleptera bupleuroides* Nees).International Journal of applied and experimental Biology.3(1):37-49 .
99. Ahmad,M.S.A., M.Hameed, M.Kaleem, S.Fatima, F. Ahmad, M.Farooq, M. Maratib, I. Aziz.2023.Foliar architecture differentially restrains metal sequestration capacity in wheat grains (*Triticum aestivum* L.) grown in hyper-chloride-contaminated soils. Env.Sci.Pollut.Res. <https://doi.org/10.1007/s11356-023-30340-y>.
- 100.Muneeb,A., I.Ahmad, M.S.A.Ahmad, S. Fatima, M.Hameed, F.Ahmad, A.Asghar, S.Basharat, S.M.R.Shah, J.Shafqat,I.F.I.Hassan.2023. Ethnobotanical and economic uses of some medicinal plants from native saline areas. IJAEB. 2(2): 147-154.
101. Arshad,R., M. Arfan, F.Ahmad and H.M.Bajwa. 2023. Application of L-Methionine confers salinity tolerance in Maize through modulation of metabolites and antioxidative defense. Jilin Daxue Xuebao (Gongxueban)/Journal of Jilin University (Engineering and Technology Edition)ISSN: 1671-5497, Vol: 42 Issue: 10-2023DOI: 10.5281/zenodo.10052459.
102. Naz, N., A. Asghar, S.Basharat, S.Fatima, M.Hameed, M.S.A.Ahmad, F.Ahmad,S.M.R.Shah,and M.Ashraf. 2024. Phytoremediation through microstructural and functional alterations in alkali weed (*Cressa cretica* L.) in the hyperarid saline desert. Int.J.Phytoremediation.<https://doi.org/10.1080/15226514.2023.2282044>.
103. Basharat,S., F. Ahmad, M.Hameed, M.S. Naeem, A.Asghar, M.S.A.Ahmad, and S.Fatima.2024. Defence strategies in *Cenchrus biflorus*, *C.ciliaris*, and *C.orientalis* to cope with aridity, salinity, and cold stress. Arid Land Research and Management. <https://doi.org/10.1080/15324982.2023.2285886>.
104. Basharat S., F.Ahmad, M.Hameed, M.S.A.Ahmad, A.Asghar, S.Fatima, K.S.Ahmad, S.M.R.Shah, A.Hashim,G.D.A.Quezeda, E.F.AbdAllah, Z.Abbas. 2024.Structural and functional strategies in *Cenchrus* species to combat Plants.accepted for publication.

105. Javed, M., M.S.A.Ahmad, W. Rani, M. Hameed, F.Ahmad.2024. Influence of soil physicochemical properties on diversity and distribution of aquatic vegetation in the riverine forested habitats. *International Journal of Applied and Experimental Biology* 3(1):93-103.
106. Maqsood, S., F.Ahmad, M.S.A.Ahmad, M.S.Naeem. 2024. Structural and functional traits for salinity tolerance in differentially adapted ecotypes of *Phragmites australis*. *Xi anshiyou Daxue xuebao journal of Xi an shiyou University, Natural Science Edition*. 20(2): 837-874.
- 107.Kanwal, B., S. Tanwir, F. Ahmad and J.N.Ahmad. 2024. Jasmonic Acid and Salicylic Acid improved resistance against *Spodoptera frugiperda* infestation in Maize by modulating growth and regulating redox homeostasis. *Sci Rep* **14**, 16823 (2024). <https://doi.org/10.1038/s41598-024-67151-1>.
- 108.Shahid, H., M.Hameed, F.Ahmad. 2025. Invasive success regulated by micromorphological modifications in wild sage (*Lantana camara* L.) from ecologically diverse habitats. *Pak. J. Bot.*, 57(2): DOI: [http://dx.doi.org/10.30848/PJB2025-2\(6\)](http://dx.doi.org/10.30848/PJB2025-2(6)).
109. Ijaz,I., F.Ahmad, M.Hameed and I.Khan. 2024. Soil physicochemical and morphological adaptations of *Aristida* L. species in varied ecological zones of Pakistan. *Xi'an Shiyou Daxue Xuebao (Ziran Kexue Ban)/ Journal of Xi'an Shiyou University, Natural Sciences Edition*. 67(09):278-293.
110. Kaleem,M., M.Hameed, M.S.A. Ahmad, F.Ahmad, U.Iqbal, N. Asghar, A.Ameer, A.Mehmood, N.Shahzadi, M.S.Chishti, A.Hashem and E.F.Abd-Allah. 2024. Role of leaf micro-structural modifications in modulation of growth and photosynthetic performance of aquatic halophyte *Fimbristylis complanata* (Retz.) under temporal salinity regimes". *Scientific Reports*. Doi.org/10.1038/s41598-024-77589-y.
111. Asghar,A, A. Ameer, F.Ahmad, M.Hameed, M.S.A.Ahmad, M.Qin, A.Asghar, S.A.Khan, H.Y.Li and Z.F. Zhang. 2024. Adaptive Response of Rare Mountain Sedge (*Carex ecostata* C.B. Clarke) to Hyper-Cold Environments.*Plant Soil*. Published online.doi.org/10.1007/s11104-024-07108-5.
112. Din, K.U., F. Ahmad, S.Hussain and M.S.Naeem. 2025. Green synthesized Zinc oxide nanoparticles enhance Maiza tolerance against drought stress by improving plant water balance, antioxidant defence and osmotic adjustment.
- 113.Azam,A., U.Iqbal, Z.Usman, M.Sharif, M.F.Gul, N.Naz, I.Nawaz and F.Ahmad. 2025.Biomonitoring and phytoremediation potential of *Conocarpus erectus* (Buttonwood) for mitigating air pollution from highway traffic. *Chemosphere*. Published online.<https://doi.org/10.1016/>. IF:8.5

NATIONAL PUBLICATIONS

1. **Ahmad,F.**, K.Nawaz, A.Y.Khan and A.Khan.2004. Effect of different nitrogen fertilizers on yield of wheat under saline conditions. Indus Journal of Biological sciences.1(2) 169 -174.
2. Nawaz,K., A.Y.Khan, A.Khan and **F.Ahmad**.2004. Effect of simulated acid rain on leaf gas exchange parameters of two sunflower varieties. Indus Journal of Biological Sciences.(12)130-133

Book Published: 1

Book Title: Salt Range Grasses of Pakistan.2011. Lambert Academic Publications Germany

Book Chapters: 3

1. Exploring potential of Minor/Underutilized grasses for remote areas facing food scarcity. Global perspectives on underutilized crops. 2018. Springer publishers.
2. Ensuring food security of arid regions through sustainable cultivation of halophytes. Hand Book of Halophytes. From molecules to ecosystem towards biosaline agriculture.2021. Springer publishers. (First online, 19 May, 2021)
3. Plant resources and their uses in Salt Range, Pakistan. Ethnobiology of mountain communities in Asia.2021. Springer publishers. (First online,27 March,2021

Research Productivity Award: Received Research Productivity award for the year 2012 from PCST.

Conferences and Seminars Attended.

- National Conference on Conservation of Natural resources & Environment on 20-5-2010, in Islamabad, organized by the Agricultural Foundation of Pakistan.
- Poster Presentation in 2nd International Conference of Plant Scientists and 11th National Meeting of Plant Scientists on 22-24th February, 2011 at GC University Lahore, Pakistan.

- One day seminar on ‘How to write a winning research proposal on 7-5-2011 in University of Agriculture Faisalabad.
- Workshop on Implementation of Biosafety protocols on 14-5-2011 in university of Agriculture Faisalabad.
- Participated and presented paper in International Symposium on Strategies for Conservation of Endangered Ecosystems, on 16-18 April, 2012 in University of Agriculture Faisalabad.
- Participated and presented paper in 3rd International Conference of Plant Scientists and 12th National Meeting of Plant Scientists on 1-3 September, 2012 at Quaid-i-Azam University Islamabad, Pakistan.
- 3rd International Conference of PSA "Sustainable crop productivity: threats & options". held on April, 11-12, 2013, organised by Pakistan Society of Agronomy, Ayub Agricultural Research Institute Faisalabad.
- International Conference on Date Palm (Present status and future prospects) held on Sep. 2-3, 2013 at Islamia University Bahawalpur .
- Presented research proposal in one day workshop on grant writing on Sep, 12, 2014, organised by ORIC (UAF) in collaboration with University of California UC Davis.
- Seminar on Forensic Botany on May, 30, 2015, organised by deptt. of Botany in collaboration with University of California Davis.
- Seminar on “Cultivation of medicinal plants and their uses” on Nov. 23, 2015, organised by Deptt. of Botany, Chemistry and Biochemistry, at Kisan mela, 2015 in UAF.
- Consultative meeting on prioritization of researchable topics by U.S.-Pakistan centre for advanced studies in agriculture and food security on 07 Jan., 2016. in UAF.

- One day international seminar on waste management, on 14 March, 2016, organized by Punjab Bioenergy Institute UAF at Community College.
- Research seminar on “Pierce s disease in Grapes”, on April 02, 2016, organized by U.S.-Pakistan center for advanced studies in agriculture and food security.
- Participated in 1st International conference of Botany in University of Sargodha on 9 -11 May, 2018.
- Participated and presented paper and co-chaired the technical session in 2nd International conference of Botany at GCU, on 26-27 March, 2019.
- Participated in national cactus and succulents show at Qadir Bukhsh Nursery form, organised by Agri tourism corporation of Pakistan, on 31th March, 2019.
- Invited speaker in a virtual seminar organised by University of Education Lahore, Vehari Campus, on 24th June, 2021.
- Participated in seminar on production technology of Wheat organised by Agriculture Department (Extension wing) and University of Agriculture Faisalabad, on 20-11-2021.
- Assigned duties as Tehsil Coordinator in Wheat Campaign launched by UAF in collaboration with Punjab Agriculture department, in November, 2021.
- Participated in capacity building and professional development workshop organised by directorate of Academics and teaching resource centre, UAF, on 31-12-2021.
- Participated as resource person in the “ One week refresher course for Laboratory staff” from 10-16 August, 2022, organized by UAF Community College, PARS.
- Focal person in 2nd international conference on recent approaches in plant sciences, organized by University of Education Lahore on 4-5 May, 2023.
- Participated as Chairperson and presented in Ph.D Scholars Colloquium, organized by Faculty of Sciences, UAF on 15 Feb, 2024.

- Participated in Special Seminar/ Lecture “ A Career in Science at the Cutting Edge: Conquering Mt. Everest Deciphering the 17GB Wheat Genome”. by Prof.Dr.Bikram Singh Gill from Kansas State University, USA on 18 Feb,2024.
- Participated as member of organising committee and moderator in “ International conference on Biodiversity and Biosafety” dated May,27-29, 2024, organised by University of Agriculture, Faisalabad.
- Member of the organizing committee and posters presentation in “ International conference on Biodiversity and Biosafety” dated May,27-29, 2024, organised by University of Agriculture, Faisalabad.
- Participated as keynote speaker in an International Webinar on “Biodiversity and Food Security: A critical Connection” organized by Department of Botany, University of Sargodha, dated June 3-4,2024.
- Organized poster exhibition as chief organizer in faculty of Sciences on world food safety day, 2024 under the theme “ Food safety: prepare for the unexpected”on 13-6-2024 in University of Agriculture Faisalabad.

Proceedings:

- 2nd International Conference of Plant scientists & 11th National Meeting of Plant scientists, Department of Botany, GC University Lahore Pakistan, Feb 22-24, 2011
Abstract Title: Taxonomic application of foliar transverse sections in tribe Paniceae (Poaceae) from Salt Range of Pakistan.
- International Conference on Prospects and Challenges to sustainable Agriculture, on July 14-16, 2011, organized by Faculty of Agriculture Rawalakot, University of Azad Jammu and Kashmir.
Abstract Title: Ethnobotanical study of Important Medicinal plants of Sehnsa and its allied areas, District Kotli AJK.
- 1st International Conference on Biodiversity Crisis (ICBC) 2014 on 4-5 September, 2014, at IPB International Convention Center Bogor-West Java Indonesia, organized by Research Institute of Universitas Negeri Jakarta.

Abstract Title: Diversity, Ethnobotanical uses and Conservation Status of Grasses in Salt Range, Pakistan.

- 16th international congress of soil science, held on 15th to 17th March, 2016, in PMAS Arid Agriculture University Rawalpindi.
- 7th international and 16th National conference on Plant Resources: Current trends, challenges and solutions: Islama College Peshawar and University of Peshawar (Mar, 23 to 26, 2018).

Abstract Title: 1. Structural response of some grass species from the Potohar region to altitudinal gradient.

4. Anatomical alterations in *Pistia stratiotes* L. plants exposed to Nickel stress.
5. Root and stem anatomical adaptations for salinity tolerance in Buttonwood (*Conocarpus erectus* L.).
 - 2nd International conference of Botany at GC University Faisalabad held on 26-27 March, 2019.

Abstract Title: Significance of Foliar Epidermis in the identification of common Poaceous weeds.

Projects completed:

1. HEC Project entitled “Morpho anatomical characterization of family Poaceae from Pothohar region of Pakistan”. Project Duration (3 Years). Project cost:(3.3 million).
2. HEC Project entitled “Morpho-anatomical and Palynological studies as an aid to the identification and Authentication of important medicinal plants from Salt Range of Pakistan: Project Duration (2 Years). Project cost:(3.2 million).