

AMNA SHOAIB (PH.D.)
(Professor)

✉ Department of Plant Pathology (DPP),
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ACADEMIC QUALIFICATIONS

- **Ph.D. (2002-2008)** in Mycology and Plant Pathology, University of the Punjab, Lahore. Pakistan.
- **M.Sc. (1999-2001)** in Botany, University of the Punjab, Lahore. Pakistan.
- **B.Sc. (1997-1999)** in Botany, Zoology, and Chemistry, University of the Punjab, Lahore. Pakistan

PROFESSIONAL EXPERIENCE

- **Professor:** Department of Plant Pathology, Faculty of Agricultural Sciences, University of the Punjab from 19-05-2022 to date.
- **Associate Professor:** Institute of Agricultural Sciences, University of the Punjab from 04-11-2019 to 18-05-2022.
- **Assistant Professor:** Institute of Agricultural Sciences, University of the Punjab from 14-05-2010 to 03-11-19.
- **Lecturer:** Institute of Mycology and Plant Pathology, University of the Punjab, from 15-08-08 to 15.04.2010.
- **Research Scholar:** First Fungal Culture Bank of Pakistan (FCBP), Institute of Mycology and Plant Pathology, University of the Punjab from 05.04.2004 to 01.04.2008.

DUTIES ASSIGNED BY THE INSTITUTE

- **Member, Doctoral Programme Coordination Committee, DPP, FAS**
- **Member, Board of Studies, DPP, FAS.**
- **Member, Departmental Tenure Review Committee, DPP, FAS**
- **Member Board of Studies, Minhaj University, Lahore.**
- **Member, Punjab University Research Journals Steering Committee**
- **Managing Editor, Mycopath, an official Journal of Myco-Phytopathological Society of Pakistan since 2010.**
- **Member Editorial board, Journal of Basic and Emerging Science, published by Minhaj University, Lahore, Pakistan.**
- **Member Editorial board, BMC Plant Biology, published by Springer.**
- **Member Editorial board, Myconews (2004-2006), quarterly published official newsletter of First Fungal Culture Bank of Pakistan, FAS.**
- **Member, Research Committee, DPP, FAS.**

RESEARCH INTERESTS

ENVIRONMENTAL PLANT PATHOLOGY

- Biotic and abiotic stress/s management of crops by integrated use of bio-based materials and essential metals. Wastewater treatment
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SCIENTIFIC RESEARCH SUMMARY

• RESEARCH PUBLICATIONS

- ✓ Published Research papers: **180**; Impact factor: **180.83**; Total Citations: ~**2600**
- ✓ Monographs/Books: **5**; Book chapters: **3**

• RESEARCH PROJECTS: **13 (completed), 2 (On going)**

• RESEARCH STUDENTS SUPERVISION

- ✓ Ph.D. 9 (Completed); 4 (ongoing); M.Sc. (Hons.); 3 (ongoing): 41 (completed); B.Sc. (Hons.): 30; (completed).

• CONFERENCES/WORKSHOPS/SEMINARS/TRAININGS

- ✓ Attended: 64; Organized: 7

• ACADEMIC HONORS/AWARDS

- ✓ **INCENTIVE AWARD/HONORARIUM ON PUBLICATIONS** for the years **2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022 & 2023** by University of the Punjab, Lahore, Pakistan
 - ✓ **RESEARCH GRANT, 2013-2014** of **10,000/Rs.** by **Punjab University** for **strengthening of Environmental Plant Pathology Lab.** in the Faculty of Agricultural Sciences, University of the Punjab.
 - ✓ **RESEARCH PRODUCTIVITY AWARD 2012** and **2013** (Category G) by Pakistan Council of Science and Technology.
 - ✓ **FIRST PRIZE in POSTER COMPETITION** entitled *Influence of Cu(II) on southern blight of pea* in International Conference on Agriculture and Food Security issues in Global Environment Prospective to be held on 11-13th July, **2012**. Faculty of Agriculture, University of Poonch, Rawlakot. Azad-Jammu and Kahmir. PAKISTAN.
 - ✓ **SECOND PRIZE in POSTER COMPETITION** entitled *Cu(II) uptake potential of micro and phyto adsorbents* in 8th National Phytopathological Conference to be held on 28-29th November, **2011**. Department of Plant Pathology, University of Agriculture, Faisalabad. PAKISTAN.
 - ✓ **PRIZE for BEST Presentation** entitled “*Screening of mungbean genotypes under rice allelopathic stress for best agronomic and symbiotic traits*” in TWAS Regional Young Scientists Conference to be held on 2nd-5th November, **2009**, Armada Hotel, Petaling Jaya, Selangor, MALAYSIA.
 - ✓ **TWAS/BIO VISION** grant to attend an international conference entitled Biovision to be held on 10-16 April **2008**, Bibliotheca Alexandrina, Alexandria, Egypt.
 - ✓ **THIRD PRIZE in POSTER COMPETITION** entitled “*Biosorption potential of Schizophyllum commune for removal of heavy metal ions from aqueous solution*” in 3rd International Phytopathological Conference to be held on November 19-21th, **2007**. Department of Mycology and Plant Pathology University of the Punjab, Quaid-e-Azam Campus. Lahore. PAKISTAN.
- ### • CONTRIBUTION TO FIRST FUNGAL CULTURE BANK OF PAKISTAN (2004-2008): Isolated, identified, and deposited 500 fungal cultures.

RESEARCH PUBLICATIONS (2002-2024)

1. N. Ali, **Shoaib A.**, Rafiq M., Malik B. and Yousaf M. (2024). Vanillic acid enhances mung bean resistance and growth against *Macrophomina phaseolina* as a sustainable antifungal approach. *Journal of Crop Health*. <https://doi.org/10.1007/s10343-024-01062-z>. (IF: 2.40)
2. Q. Fatima, **Shoaib A.**, Gull N., Khurshid S. and Fatima U. (2024). Chitosan-mediated copper nanohybrid for the attenuation of virulence of a necrotrophic phytofungus pathogen *Macrophomina phaseolina*. *Scientific Reports*, 14, Article ID: 23193. (IF: 3.80)
3. N. Iqbal, **Shoaib A.**, Fatima Q., Farah MA. and Raja V. (2024). Synthesis and antifungal efficacy of chitosan nanoparticles against notorious mycotoxigenic phytopathogens. *Plant Stress*, Article ID: 100614 (IF: 6.80)
4. M. Rafiq, **Shoaib A.**, Javaid A., Perveen S., Hassan MA., Nawaz HH. and Cheng C. (2024). Application of Asteraceae biomass and biofertilizers to improve potato crop health by controlling black scurf disease. *Frontiers in Plant Sciences*, <https://doi.org/10.3389/fpls.2024.1437702> (IF: 4.10)
5. M. Jarrar and **Shoaib A.** (2024). Unveiling the biocontrol potential of *Pseudomonas syringae* through seed biopriming against charcoal rot disease in maize. *Physiology and Molecular Biology of Plant*, 133: Article ID: 102370. (IF: 3.40)
6. **A. Shoaib**, Shafique H., Anwar A., Javed S., Malik B. and Mehnaz S. (2024). Iron supplemented alginate beads of *Pseudomonas chlororaphis* improves charcoal rot disease resistance and the productivity in the tomato plants. *Journal of Plant Growth Regulations*, <https://doi.org/10.1007/s00344-024-11366-z>. (IF: 4.70)
7. M. Rafiq, **Shoaib A.**, Javaid A., Perveen S., Umer M., Arif M. and Cheng C. (2024). Exploration of resistance level against black scurf caused by *Rhizoctonia solani* in different cultivars of potato. *Plant Stress*, 12: Article ID 100476. (IF: 6.80)
8. H.S. Yaqoob, **Shoaib A.**, Anwar A., Perveen S., Javed S. and Mehnaz S. (2024). Seed biopriming with *Ochrobactrum ciceri* mediated defense responses in *Zea mays* (L.) against Fusarium rot. *Physiology and Molecular Biology of Plant*, 30: 49-66. (IF: 3.40)
9. S. Javed, Anwar A., Javaid I., **Shoaib A.**, Aljawdah HM. and Prashant K. (2024). Anticancer activity of ethyl-acetate fraction of *Sorbaria tomentosa* and compound identification through HPLC and LC-MS analysis. *Journal of King Saud University-Science*, 36 (2), Article ID: 103037. (IF: 3.70)
10. G. Riaz, **Shoaib A.**, Javed S., Perveen S., Ahmed W., El-Sheikh MA. and Kaushik P. (2023). Formulation of the encapsulated rhizospheric *Ochrobactrum ciceri* supplemented with alginate for potential antifungal activity against the chili collar rot pathogen. *South African Journal of Botany*, 161: 586-598. (IF: 3.11)
11. S. Akhtar, **Shoaib A.**, Javiad I., Qaiser U. and Tasadduq R. (2023). Farmyard manure, a potential organic additive to reclaim copper and *Macrophomina phaseolina* stress responses in mash bean plants. *Scientific Reports*, 13: Article ID:14383. (IF: 4.60)
12. ZA. Awan, **Shoaib A.**, Schenk PM., Ahmad A., Alansi S. and Paray BA. (2023). Antifungal potential of volatiles produced by *Bacillus subtilis* BS-01 against *Alternaria solani* in *Solanum lycopersicum*. *Frontiers in Plant Sciences*, 13:1089562. doi: 10.3389/fpls.2022.1089562 (IF: 5.66)
13. S. Maqsood, Ali M., **Shoaib A.**, Ahmad S. and Noor-ul-Ain. (2023). Mass rearing of *Spodoptera litura* using a semi-synthetic diet based on wheat germ and tomato paste. *Pakistan Journal of Zoology*, 55(2): 601-607. (IF: 0.687)

14. S. Javed, **Shoaib A.**, Malik A., Ijaz B. and Perveen S. (2023). Rose and eucalyptus essential oil as potent anti-liver cancer agents. *Asian Journal of Agriculture and Biology*, DOI: 10.35495/ajab.2022.14. (IF: 2.20)
15. **A. Shoaib**, Khurshid S. and Javaid A. (2022). Cloncurry buffel grass mitigated Cr(III) and Cr(VI) toxicity in tomato plant. *Scientific Reports*, 12: Article ID 20952 (IF: 4.996)
16. **A. Shoaib**, Abbas S., Nisar Z., Javaid A. and Javed S. (2022). Zinc highly potentiates the plant defense responses against *Macrophomina phaseolina* in mungbean. *Acta Physiologiae Plantarum*, 44(22). <https://doi.org/10.1007/s11738-022-03358-x>. (IF: 2.736)
17. S. Javed, Javaid I., **Shoaib A.** and Perveen S. (2022). Oleanolic acid (pentacyclic triterpenes) as a potential candidate for α -glucosidase inhibition activity. *Advancements in Life Sciences*, 9(2): 219-223. (IF: 1.60).
18. **A. Shoaib**, Khan KA., Awan ZA., Jan BL. and Kaushik P. (2022). Integrated management of charcoal rot disease in susceptible genotypes of mungbean with soil application of micronutrient zinc and green manure (Prickly Sesban). *Frontiers in Microbiology*, <https://doi.org/10.3389/fmicb.2022.899224> (IF: 6.064)
19. S. Javed, Bibi A., **Shoaib A.**, Perveen S. and Ferdosi MFH. (2022). Essential oil of *Eucalyptus citriodora*: Physico-chemical analysis, formulation with hand sanitizer gel, and antibacterial activity. *Advancements in Life Sciences*, 9(4): 510-515. (IF: 1.60).
20. ZA. Awan, **Shoaib A.**, Iftikhar MS., Jan BL. and Ahmad P. (2022). Combining biocontrol agents with plant nutrients for integrated control of tomato early blight through modulation of physico-chemical attributes and key oxidants. *Frontiers in Microbiology*, <https://doi.org/10.3389/fmicb.2022.807699> (IF: 6.064)
21. S. Ahmad, Sarwar A., **Shoaib A.**, Javaid A., Hanif MS. and Ali Q. (2022). Sustainable management of guava fruit fly *bactrocera zonata* (Tephritidae diptera) by entomopathogenic fungi. *Fresenius Environmental Bulletin*, 31: 5522-5527 (IF: 0.50)
22. MFH. Ferdosi, **Shoaib A.**, Habib S. and Khan KA. (2021). Modulation of salt-induced stress impact in *Gladiolus grandiflorus* L. by exogenous application of salicylic acid. *Scientific Reports*, 11, 15597. (IF: 4.996)
23. A. Javaid, Jabeen N., Khan IH. and **Shoaib A.** (2021). Effect of *Datura metel* on crop growth and physiology of bell pepper. *Journal of Animal and Plant Science*, 31(6): 1862-1866. (IF: 0.570)
24. A. Javaid, Ali A., **Shoaib A.** and Khan IH. (2021). Alleviating stress of *Sclerotium rolfsii* on growth of chickpea var. Bhakkar-2011 by *Trichoderma harzianum* and *T. viride*. *Journal of Animal and Plant Sciences*, 31(6): 1755-1761. (IF: 0.570)
25. **A. Shoaib**, Akhtar M., Javaid A., Haider A., Nisar Z. and Javed S. (2021). Antifungal potential of zinc against leaf spot disease in chili pepper caused by *Alternaria alternata*. *Physiology and Molecular Biology of Plant*, 27: 1361-1376. (IF: 3.023)
26. N. Jabeen, Javaid A., **Shoaib A.** and Khan IH. (2021). Management of southern blight of bell pepper by soil amendment with dry biomass of *Datura metel*. *Journal of Plant Pathology*, 103(3): 901-913. (IF: 2.643)
27. S. Javed, Mahmood Z., Khan KM., Sarker SD., Javaid A., Khan IH. and **Shoaib A.** (2021). Lupeol acetate as a potent antifungal compound against opportunistic human and phytopathogenic mold *Macrophomina phaseolina*. *Scientific Reports*, 11, Article ID 8417 (IF: 4.996)
28. **A. Shoaib**, Ferdosi MFH., Saleem A. and Javed S. (2021). Morphological and biochemical variations induced by synergy of salicylic acid and zinc in cockscomb. *Folia Horticulturae*, 33(1): 1-11. (IF: 1.934)
29. **A. Shoaib** and Awan ZA. (2021). Mineral fertilizers improve defense related responses and reduce early blight disease in tomato (*Solanum lycopersicum* L.). *Journal of Plant Pathology*, 103: 217-229. (IF: 2.643)

30. M. Rafiq, Javaid A. and **Shoaib A.** (2021). Antifungal activity of methanolic leaf extract of *Carthamus oxycantha* against *Rhizoctonia solani*. *Pakistan Journal of Botany*, 53(3): 1133-1139. (IF: 1.101)
31. W. Sharf, Javaid A., **Shoaib A.** and Haider I. (2021). Induction of resistance in chili against *Sclerotium rolfsii* by plant growth promoting rhizobacteria and *Anagallis arvensis*. *Egyptian Journal of Biological Pest Control*, 31, Article no 16. (IF: 2.05)
32. S. Siddique, **Shoaib A.**, Khan SN. and Mohy-ud-din A. (2020). Screening and histopathological characterization of sunflower germplasm for resistance to *Macrophomina phaseolina*. *Mycologia*, 113(1): 92-107. (IF: 2.696)
33. S. Akhtar and **Shoaib A.** (2020). The counter defence system of antioxidants in Coelomycetous emerging human and plant pathogenic fungus *Macrophomina phaseolina* against copper toxicity. *Environmental Science and Pollution Research*, 27: 597-606. (IF: 4.223)
34. Nafisa, **Shoaib A.**, Iqbal J. and Khan KA. (2020). Evaluation of phenotypic, physiological and biochemical attributes connected with resistance in tomato against *Alternaria solani*. *Acta Physiologiae Plantarum*, 42, Article ID: 88. (IF: 2.35)
35. **A. Shoaib**, Ali H., Javaid A. and Awan ZA. (2020). Contending charcoal rot disease of mungbean by employing biocontrol *Ochrobactrum ciceri* and zinc. *Physiology and Molecular Biology of Plants*, 26(7): 1385–1397. (IF: 2.391)
36. S. Banaras, Javaid A. and **Shoaib A.** (2020). Non-chemical control of charcoal rot of urdbean by *Sonchus oleraceus* application. *Planta Daninha*, 38: e020216088. (IF: 0.705)
37. A. Ali, Javaid A., **Shoaib A.** and Khan IH. (2020). Effect of soil amendment with *Chenopodium album* dry biomass and two *Trichoderma* species on growth of chickpea var. Noor 2009 in *Sclerotium rolfsii* contaminated soil. *Egyptian Journal of Biological Pest Control*, 30: 102. (IF: 1.995)
38. A. Javaid, Munir R., Khan IH. and **Shoaib A.** (2020). Control of the chickpea blight, *Ascochyta rabiei* with the weed plant, *Withania somnifera*. *Egyptian Journal of Biological Pest Control*, 30: 114. (IF: 1.995)
39. **A. Shoaib**, Nisar Z., Nafisa, Javaid A., Khurshid S. and Javed S. (2019). Necrotrophic fungus *Macrophomina phaseolina* tolerates chromium stress through regulating antioxidant enzymes and genes expression. *Environmental Science and Pollution Research*, 26(12): 12446-12458. (IF: 3.056)
40. **A. Shoaib**, Awan ZA. and Khan KA. (2019). Intervention of antagonistic bacteria as potential inducer of disease resistance in tomato to mitigate early blight. *Scientia Horticulturae*, 252 (27): 20-28. (IF: 2.769)
41. ZA. Awan, **Shoaib A.** and Khan KA. (2019). Crosstalk of Zn in combination with other fertilizers underpins interactive effects and induces resistance in tomato plant against early blight disease. *Plant Pathology Journal*, 35(4): 330-340. (IF: 1.57)
42. ZA. Awan, **Shoaib A.** and Khan KA. (2018). Variations in total phenolics and antioxidant enzymes cause phenotypic variability and differential resistant response in tomato genotypes against early blight disease. *Scientia Horticulturae*, 239: 216-223. (IF: 1.76)
43. **A. Shoaib**, Meraj S., Nafisa, Khan KA. and Javaid MA. (2018). Influence of salinity and *Fusarium oxysporum* as the stress factors on morpho-physiological and yield attributes in the onion. *Physiology and Molecular Biology of Plants*, 24(6): 1093-1101. (IF: 1.538)

44. S. Khurshid, Javaid A., **Shoaib A.**, Javed S. and Qaiser U. (2018). Antifungal activity and GC-MS analysis of aerial parts of *Cenchrus pennisetiformis* against *Fusarium oxysporum* f. sp. *lycopersici*. *Planta Daninha*, 36: page 1-10, Article No. e017166627, DOI: 10.1590/S0100-83582018360100023. (IF: 0.54)
45. KA. Khan, **Shoaib A.**, Awan ZA., Basit A. and Hussain M. (2018). *Macrophomina phaseolina* alters biochemical pathway in *Vigna radiata* that is chastened by Zn and FYM to improve plant growth. *Journal of Plant Interactions*, 13(1): 131-140. (IF: 1.839)
46. **A. Shoaib**, Munir M., Javaid A., Awan ZA. and Rafiq M. (2018). Anti-mycotic potential of *Trichoderma* spp. and leaf biomass of *Azadirachta indica* against the charcoal rot pathogen, *Macrophomina phaseolina* (Tassi) Goid in cowpea. *Egyptian Journal of Biological Pest Control*, 28: 26. (IF: 0.38)
47. A. Javaid, Khan IH. and **Shoaib A.** (2018). Management of charcoal rot of mungbean by two *Trichoderma* species and dry biomass of *Coronopus didymus*. *Planta Daninha* 36: e018182795. (IF: 0.544)
48. S. Khurshid, **Shoaib A.**, Javaid A., Akhtar F., Shafiq M. and Qaisar U. (2017). Management of Fusarium wilt of tomato by soil amendment with *Cenchrus pennisetiformis* under chromium stress. *Physiological and Molecular Plant Pathology*, 97: 58-68. (IF: 1.39)
49. S. Rafi, **Shoaib A.**, Awan ZA., Rizvi NB., Nafisa and Shafiq M. (2017). Chromium tolerance, oxidative stress response, morphological characteristics and FTIR studies of phytopathogenic fungus *Sclerotium rolfsii*. *Folia Microbiologica*, 62: 207-219. (IF: 1.448)
50. A. Javaid, Qudsia H. and **Shoaib A.** (2017). Bioassays guided fractionation of *Senna occidentalis* for identification of natural antifungal constituents against *Macrophomina phaseolina*. *Planta Daninha*, 35:e01716348318. (IF: 0.461)
51. S. Banaras, Javaid A., **Shoaib A.** and Ahmed E. (2017). Antifungal activity of *Cirsium arvense* extracts against a phytopathogenic fungus *Macrophomina phaseolina*. *Planta Daninha*, 35: e017162738 (IF: 0.461).
52. A. Javaid, Niaz L. and **Shoaib A.** (2017). Effect of incorporation of leaf biomass of *Coronopus didymus* on management of basal rot disease of onion and plant physiology. *International Journal of Agriculture and Biology*, 19(3): 445-452. (IF: 0.746)
53. A. Javaid, Mubeen T., Bashir U. and **Shoaib A.** (2017). Management of parthenium weed by metabolites of *Alternaria japonica*. *Planta Daninha*, 35: e017161195 (IF: 0.461).
54. N. Sana, Javaid A. and **Shoaib A.** (2017). Effect of NPK fertilizers and commercial biofertilizers on southern blight disease and plant growth in chili. *Bangladesh Journal of Botany*, 46: 659-666. (IF: 0.233)
55. A. Ali, Javaid A. and **Shoaib A.** (2017). GC-MS analysis and antifungal activity of methanolic root extract of *Chenopodium album* against *Sclerotium rolfsii*. *Planta Daninha*, 35: e017164713. (IF: 0.461)
56. N. Sana, Bajwa R., Javaid A. and **Shoaib A.** (2017). Effect of biopower application on weeds growth and yield of rice. *Planta Daninha*, 35: e017164872. (IF: 0.461)
57. A. Javaid, Afzal L. and **Shoaib A.** (2017). Antifungal potential of a Brassicaceous weed *Sisymbrium irio* against *Macrophomina phaseolina*. *Planta Daninha*, 35: e017164280. (IF: 0.461)
58. N. Sana, Javaid A. and **Shoaib A.** (2017). Antifungal activity of methanolic leaf extracts of allelopathic trees against *Sclerotium rolfsii*. *Bangladesh Journal of Botany*, 46(3): 987-993. (IF: 0.233)
59. A. Javaid, Afzal L. and **Shoaib A.** (2017). Biological control of charcoal rot of mungbean by *Trichoderma harzianum* and shoot dry biomass of *Sisymbrium irio*. *Planta Daninha*, 35: e017165756. (IF: 0.461)

60. N. Sana, **Shoaib A.** and Javaid A. (2017). Management of collar rot disease in chili by farmyard manure and commercial biofertilizers. *Sains Malaysiana*, 46(7): 1693-1700. (IF: 0.47)
61. A. Javaid, Akhtar N., Khan A., **Shoaib A.** and Hafeez R. (2016). New host record of *Alternaria brassicicola* infecting triangle palm (*Dypsis decaryi*) in Pakistan. *Journal of Animal and Plant Sciences*, 26(6): 1894-1898. (IF: 0.38)
62. Z.A. Awan, Akhtar N., **Shoaib A.** and Akhtar S. (2016). First report of *Aspergillus minisclerotigenes* as a postharvest pathogen of soybean seeds from Pakistan. *Journal of Plant Pathology*, 98(16): 683. (IF: 1.26)
63. Nafisa, **Shoaib A.**, Shafiq M. and Javaid A. (2016). Effect of *Sclerotium rolfsii* on uptake of heavy metal copper in pea (*Pisum sativum* L.). *International Journal of Agriculture and Biology*, 18(6): 1025-1031. (IF: 0.746)
64. S. Akhtar, **Shoaib A.**, Akhtar N. and Mehmood R. (2016). Separate and combined effects of *Macrophomina phaseolina* and copper on growth, physiology and antioxidative enzymes in *Vigna mungo* L. *Journal of Animal and Plant Sciences*, 26(5): 1339-1345. (IF: 0.38)
65. N. Sana, **Shoaib A.** and Javaid A. (2016). Antifungal potential of leaf extracts of leguminous trees against *Sclerotium rolfsii*. *African Journal of Traditional, Complementary and Alternative Medicines*, 13(5): 15-40. (IF: 0.51)
66. S. Khurshid, **Shoaib A.**, Javaid A. and Abid K. (2016). Bioaccumulation of chromium by *Fusarium oxysporum*. *ScienceAsia*, 42: 92-98. (IF: 0.343)
67. S. Khurshid, **Shoaib A.**, Javaid A. and Qaisar U. (2016). Fungicidal potential of allelopathic weed *Cenchrus pennisetiformis* on growth of *Fusarium oxysporum* f. sp. *lycopersici* under chromium stress. *Planta Daninha*, 34(3): 453-463. (IF: 0.461)
68. S. Khurshid, **Shoaib A.** and Javaid A. (2016). Chromium toxicity to tomato (*Lycopersicon esculentum* Mill.) susceptible to *Fusarium* wilt pathogen. *Current Science*, 110(3): 399-404. (IF: 0.843)
69. N. Akhtar, **Shoaib A.**, Awan Z.A. and Amin U. (2015). First Report of *Aspergillus parvisclerotigenus* rot in garlic bulbs from Pakistan. *Plant Disease*, 99(10): 1448. (IF: 3.19)
70. **A. Shoaib**, Akhtar S. and Akhtar N. (2015). Copper tolerance, protein and catalytic activity in phytopathogenic fungus *Alternaria alternata*. *Global Nest Journal*, 17(4): 664-672. (IF: 0.458)
71. A. Javaid, Naqvi A.F., **Shoaib A.** and Iqbal S.H. (2015). Management of *Macrophomina phaseolina* by extracts of an allelopathic grass *Imperata cylindrica*. *Pakistan Journal of Agricultural Sciences*, 51(2): 37-41. (IF: 0.597)
72. R. Hafeez, Akhtar N., **Shoaib A.**, Bashir U., Haider M.S. and Awan Z.A. (2015). First report of *Geotrichum candidum* from Pakistan causing postharvest sour rot in loquat (*Eriobotrya japonica*). *Journal of Animal and Plant Sciences*, 26(5): 1737-1740. (IF: 0.422)
73. N. Sana, Javaid A., **Shoaib A.** and Bajwa R. (2015). Effect of weeds and soil amendments on N, P and K contents of rice. *Pakistan Journal of Botany*, 47(SI): 251-254. (IF: 0.658)
74. **A. Shoaib**, Diferoze A., Khan A., Khurshid S. and Akhtar S. (2014). Effect of fungicides on morphology, physiology and biochemistry of tomato seedlings infected with *Fusarium oxysporum* f. sp. *lycopersici*. *Philippine Agricultural Scientist*, 97(4): 416-421. (IF: 0.256)
75. **A. Shoaib**, Akhtar N., Akhtar S. and Hafeez R. (2014). First report of *Alternaria longipes* causing leaf spot of potato cultivar Sante in Pakistan. *Plant Disease*, 98(12): 1742. (IF: 2.74)

76. S. Akhtar and **Shoaib A. (2014)**. Toxic effect of arsenate on germination, early growth and bioaccumulation in wheat (*Triticum aestivum* L.). *Pakistan Journal of Agricultural Sciences*, 51(2): 399-404. (IF: 1.054)
77. N. Akhtar, Awan ZA. and **Shoaib A. (2014)**. First report of new post-harvest rot in ginger rhizome by *Aspergillus parvisclerotigenus* in Pakistan. *Plant Disease*, 98(8): 1158. (IF: 2.74)
78. **A. Shoaib**, Aslam A. and Aslam N. (2014). Adsorption of Cr(III) ions through efficient and eco-friendly adsorbents. *Journal of Animal and Plant Sciences*, 24(4): 1224-1229. (IF: 0.549)
79. S. Khurshid, **Shoaib A.** and Javaid A. (2014). *In vitro* toxicity evaluation of culture filtrates of *Fusarium oxysporum* f. sp. *lycopersici* to growth and physiology of tomato under chromium(VI) stress. *Journal of Animal and Plant Sciences*, 24(4): 1241-1245. (IF: 0.549)
80. A. Javaid, Akram W., **Shoaib A.**, Haider MS. and Ahmad A. (2014). ISSR Analysis of Genetic Diversity in *Dalbergia sissoo* in Punjab, Pakistan. *Pakistan Journal of Botany*, 46(5): 1573-1576. (IF: 1.207)
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Book chapters

1. **Shoaib A**, Javaid A. (2021). Chapter 7. Oxidative stress in plants exposed to heavy metal. In: Organic solutes, oxidative stress and antioxidant enzymes under abiotic stressors, Latif AAHA (Ed.). CRC Press, Taylor & Francis Group. pp. 133-152. ISBN: 978-0-367-90140-0
2. A. Javaid, **Shoaib A.** and Khan SN. (2012). Chapter 25. Mango Cultivation in Pakistan. In: *Mango Vol. 2: Cultivation in Different Countries*. Valavi SG, Mohan R, Govil JN, Peter KV, Thottappilly G (Eds.). Studium Press LLC, USA. ISBN 1-933699-72-8. pp. 385-394.
3. Javaid A. and **Shoaib A.** (2012). Chapter 12. Allelopathy for the Management of Phytopathogens. In: *Allelopathy: Current Trends and Future Applications*. Cheema ZA, Farooq M, Wahid A (Eds.). Springer Publishers. ISBN 978-3-642-30594-8.

Published Short Articles in Myconews (Quarterly newsletter published from Institute of Agricultural Sciences, Punjab University)

1. **Amna Javaid**, 2005. Agenda for Survival. *Myconews*, 3(2).
2. **Amna Javaid**, 2005. Biotechnology- For Solution of Water Pollution. *Myconews*, 3(1).

RESEARCH PROJECTS

1. 2024-2025: Worked as Principal investigator in the project entitled **Enhanced control of chili pepper leaf spot disease through *Pseudomonas-Zinc* synergy**. Support of Academic Research, Punjab University, Pakistan. Grant = 3,00,000/Rs
2. 2023-2024: Worked as Co-Principal investigator in the project entitled **Hydrogen and other Fuels**. Support of Oil & Gas Regulatory Authority, Government of Pakistan. Grant = 9,60,000/Rs
3. 2022-2023: Worked as Principal investigator in the project entitled **Effect of chitosan-coupled copper nanohybrid against charcoal rot disease in mungbean**. Support of Academic Research, Punjab University, Pakistan. Grant = 3,00,000/Rs
4. 2021-2022: Worked as Principal investigator in the project entitled **Antifungal action of white vitriol against charcoal rot fungus**. Support of Academic Research, Punjab University, Pakistan. Grant = 2,50,000/Rs
5. 2019-2020: Worked as Principal investigator in the project entitled **Molecular studies based on full genome sequence of pepper infecting Pakistani chilli veinal mottle virus isolates**. Support of Academic Research, Punjab University, Pakistan. Grant = 1,50,000/Rs
6. 2017-2018: Worked as Principal investigator in the project entitled **Antioxidant enzymes changes in onion due to effect of basal rots disease under salt stress**. Support of Academic Research, Punjab University, Pakistan. Grant = 1,50,000/Rs
7. 2016-2017: Worked as Principal investigator in the project entitled **Induction of resistance and management of cowpea Charcoal rot disease by biocontrol agents**. Support of Academic Research, Punjab University, Pakistan. Grant = 1,50,000/Rs
8. 2015-2016: Worked as Principal investigator in the project entitled **Biological control efficiency of *Trichoderma* spp. against *Sclerotium rolfsii***. Support of Academic Research, Punjab University, Pakistan. Grant = 1,50,000/Rs
9. 2013-2014: Worked as Principal investigator in the project entitled **Effect of chromium on growth and physiology of *Lycopersicon esculentum* Fusarium Wilt**. Support of Academic Research, Punjab University, Pakistan. Grant = 1,50,000/Rs
10. **Strengthening of Fungal Plant Pathology and Physiology Lab.** in the Institute of Agricultural Sciences, University of the Punjab. (2013-2014). Grant = 10,00,000.
11. 2012-2013: Worked as Principal investigator in the project entitled **Impact of heavy metal on severity of charcoal rot of mash bean**. Support of Academic Research, Punjab University, Pakistan. Grant = 1,50,000/Rs
12. 2011-2012: Worked as Principal investigator in the project entitled **Characterization of metallothionein (MTA) gene expression in *Pisum sativum* L simultaneously growing under wilt and Cu-stressed condition**. Support of Academic Research, Punjab University, Pakistan. Grant = 1,50,000/Rs
13. 2010-2011: Worked as Principal investigator in the project entitled **Influence of arsenic on wheat growth and its bioremediation through agricultural waste**. Support of Academic Research, Punjab University, Pakistan. Grant = 1,50,000/Rs
14. 2009-2011: Worked as Research Associate in the project entitled **Fungi, Ultimate solution to industrial heavy metal pollution** in coordination with Environmental Protection Agency, Lahore, Pakistan.

THESIS SUPERVISION

Ph.D. Thesis Supervision

1. **Nighat Sana:** Management of collar rot of chilies by biofertilizers and soil amendments under abiotic stress of chromium (2009-2015, Completed).
2. **Saba Khurshid:** Exploiting natural compounds of *Cenchrus pennisetiformis* against Fusarium wilt of tomato under chromium stress (2010-2015, Completed).
3. **Sundus Akhtar:** Impact of charcoal rot on growth, physiology and gene expression of *Vigna mungo* grown under copper stress (2011-2016, Completed).
4. **Kashif Ali Khan:** Role of zinc in improving plant resistance against charcoal rot of *Vigna radiata* L. (2011-2016, Completed).
5. **Nafisa:** Phenotypic and molecular marker assisted screening of R gene analogues against *Alternaria solani* for early blight disease in tomato (2012-2017, Completed).
6. **Muhammad Rafiq:** Management of black scurf of potato by commercial biofertilizers and asteraceous weeds (2014-2020, Completed).
7. **Zoia Arshad Awan:** Antifungal potential of bacterial bioactive compounds and plant nutrients to manage early blight disease of tomato (2015-2021, Completed).
8. **Sana Siddique:** Exploiting the role of zinc, boron and biofertilizer in managing charcoal rot disease of sunflower (*Helianthus annuus* L.) (2015-2022, Completed).
9. **Shagufta Perveen:** Morphological, biochemical and genetic variation in phytopathogenic species of Genus *Alternaria* (2015-2023, Completed).
10. **Muhammad Jarrar:** Evaluation of the potential impact of chitosan and zinc as integrated approach to manage Sclerotium stem rot in *Solanum lycopersicum* L. (ongoing).
11. **Ghulam Roquyya:** Antifungal potential of chitosan-Zn complex against *Alternaria* leaf spot disease in *Capsicum annuum* L. (ongoing).

M.Sc.(Hons) Thesis Supervision

1. **Nimra Iqbal, 2022-2024.** Fabrication of nano-titanium chitosan beads as a bio-fungicidal solution for management of anthracnose stalk rot of maize
2. **Qudsia Fatima, 2022-2024.** Formulation of biopolymer based NPK-coated hydrogel infused with iron for control of a necrotrophic fungal pathogen, *Rhizoctonia solani*
3. **Uswah Fatima, 2022-2024.** Design and evaluation of carboxymethyl-guar gum superabsorbent composites for targeted nutrient delivery and suppressing Fusarium wilt.
4. **Muhammas Yousaf, 2022-2024.** Developing Microbeads with Plant Growth-Promoting Rhizobacteria and Iron-Doped ZnO Nanoparticles to Combat the pathogen of *Alternaria* Leaf spot.
5. **Huma Shafique, 2021-2023.** Management of charcoal rot in *Solanum lycopersicum* L. with essential metal iron and alginate-based Encapsulated biocontrol bacteria.
6. **Ghanwa Riaz, 2020-2022.** Disentangling the role of *Ochrobactrum ciceri* and chitosan in suppression of soil-borne pathogenic fungus *Sclerotium rolfsii*.

7. **Hafiza Sibgha Yaqoob**, 2020-2022. Effect of seed biopriming with soil beneficial bacteria for controlling Fusarium stalk rot disease in *Zea mays* (L.).
8. **Muhammad Sohail**, 2020-2022. Evaluation of potential biocontrol rhizobacteria against Alternaria leaf spot in chili.
9. **Umme Moniba**, 2020-2022. Green synthesis of nanoparticles using leaf extract of *Sonchus oleraceus* L. to control charcoal rot of black gram.
10. **Sofia Shafi**, 2020-2022. Green synthesis of nanoparticles using leaf extract of *Agratum conyzoides* for the management of Fusarium wilt of tomato.
11. **Almas Qmar**, 2018-2020. Synergistic effect of *Lantana camara* and *Trichoderma* spp. application on control of southern blight disease of tomato.
12. **Sana Abbas**, 2018-2020. Effect of zinc on morpho-physiological characteristics in mungbean infected with charcoal rot pathogen.
13. **Mishaal Akhtar**, 2018-2020. Encountering leaf spot disease caused by *Alternaria alternata* in chili by employing zinc.
14. **Awais Saleem**, 2017-2019. Effect of zinc and salicylic acid on growth and physiology of *Celosia argentea* var. *cristata*
15. **Warda Latif**, 2017-2019. Biological control of southern blight of chili by PGPR and *Anagallis Arvenis*.
16. **Annees Ahmed**, 2017-2019. Molecular studies based on full genome sequence of Pakistani Chilli veinal mottle virus isolates.
17. **Haider Ali**, 2016-2018. Disease management potential of *Ochrobactrum ciceri* and zinc against charcoal rot of mung bean.
18. **Mujahid Hussain**, 2016-2018. Rboh mediated immunity in *Coriandrum sativum* L. under stress of *Erwinia carotovora*.
19. **Zahra Nisar**, 2016-2018. Chromium tolerance and oxidative stress response in fungus *Macrophomina phaseolina*.
20. **Salma Habib**, 2016-2018. Up-regulation of antioxidant defense mechanism in *Gladiolus grandiflorus* L. against salt-induced oxidative stress by exogenous application of salicylic acid.
21. **Shahid Rafi**, 2014-2016. Chromium tolerance, oxidative stress response, enzymatic characteristic and FTIR studies of phytopathogenic fungus *Sclerotium rolfsii*.
22. **Muhammad Jarrar Ahmed**, 2014-2016. Role of *Pseudomonas syringae* in suppression of charcoal rot disease caused by *Macrophomina phaseolina* in *Zea mays* L.
23. **Tehmina Tufail**, 2013-2015. Induction of resistance against collar rot disease of chilli by farm yard manure under chromium stress.
24. **Arooj Shahzad**, 2013-2015. Management of *Sclerotium rolfsii* through soil amendment with leaves of *Raphanus sativus* L. and *Trichoderma* spp.
25. **Sidrah Meraj**, 2013-2015. Effect of *Fusarium oxysporum* f. sp. *cepa* on growth, physiology and biochemistry of *Allium cepa* L. under salinity stress.
26. **Madiha Muneer**, 2013-2015. Improvement of resistance in cow pea against charcoal rot disease by leaves of *Azadirachta indica* and *Trichoderma* spp.

27. **Halima Qudsia**, 2013-2015. Bioassays guided fractionation of *Senna occidentalis* for identification of antifungal constituent against *Macrophomina phaseolina*.
28. **Rabia Afzal**, 2013-2015. Biological control of Sclerotium wilt of chilies by *Trichoderma harzianum* and leaves of *Eucalyptus citriodora*.
29. **Tehmina Hanif**, 2012-2014. Effect of pesticide on growth and physiology of *Aspergillus*.
30. **Zoia Arshad Awan**, 2012-2014. A polyphasic approach to the identification of *Aspergillus* section *Flavi*: A nasty post-harvest pathogen.
31. **Lubna Niaz**, 2011-2013. Effect of *Kochia Indica* on development of basal rot disease of onion.
32. **Laiba Afzal**, 2011-2013. Biological control of charcoal rot of *Vigna radiata* by *Trichoderma* spp. and *Sisymbrium*.
33. **Sidra Shah**, 2011-2013. Effect of farm yard manure on copper partitioning in soil and Fusarium wilt of tomato.
34. **Nafisa Farooq**, 2010-2012. Morphological, molecular and FTIR characterization of *Psium sativum* under Sclerotium wilt and copper.
35. **Sundus Akhtar**, 2009-2011. Effect of arsenic(III) on germination and growth of *Triticum aestivum*.
36. **Nida Aslam**, 2008-2010. Characterization of various Binding sites in myco- and phyto-adsorbents responsible for binding of Cr(III & VI) through Fourier Transform Infrared (FTIR) Spectroscopy.

M.Sc.(Hons) Thesis Supervision other than Punjab University

37. **Nayab Raza**, 2022-Mphil-App-Chem-03. Session (2022-2024). Title: Fabrication and Analysis of Nanoscale Iron Oxide Particles for Sustainable Water Purification, Department of Chemistry, UET, Lahore.
38. **Farrukh Ahmad**, 2022-Mphil-App-Chem-206. Session (2022-2024). Title: Synthesis and Characterization of Copper Nanoparticles by using Punica granatum, Musa acuminata, and Mangifera indica Peel Extracts for Biomedical Applications, Department of Chemistry, UET, Lahore.
39. **Aisha Hanif**, 2022-Mphil-App-Chem-202. Session (2022-2024). Title: Nanofabrication of the metal oxide-based antimicrobial membrane by employing electrospinning method. Department of Chemistry, UET, Lahore.
40. **Bisma Khalid**, 2022-Mphil-App-Chem-205. Session (2022-2024). Title: Fabrication of metal-based electrospun nanomembrane for sustainable water purification. Department of Chemistry, UET, Lahore
41. **Syeda Saba Batool**, 2022-Mphil-FS-02. Session (2022-2024). Title: Green Synthesis of Glycine max-Derived Nanoparticles for Assessing their Anti-Proliferative and Apoptotic Effects in Hepatocellular Carcinoma (HCC). Department of Chemistry, UET, Lahore.

B.Sc. (Hons) Thesis Supervision

1. **Rabia Nawaz** (BS-AGS51F120) (2020-2024). Collection, Isolation and Identification of Fungi from Horticultural Crops. Department of Plant Pathology, Faculty of Agricultural Sciences, University of the Punjab.
2. **Shiza Mehmood** (BS-AGS03F20) (2020-2024). From Field to Lab: Exploring Pathogenic Diversity in Different Crops. Department of Plant Pathology, Faculty of Agricultural Sciences, University of the Punjab
3. **Iman Fatima** (BS-AGS137F20) (2020-2024). Combatting Crop Diseases: A Comprehensive Report on Agricultural Technical services for Farmers. Department of Plant Pathology, Faculty of Agricultural Sciences, University of the Punjab.
4. **Fatima Noman** (BS-AGS94F19) (2019-2023). Techniques in Biotechnology. Department of Plant Pathology, Faculty of Agricultural Sciences, University of the Punjab.
5. **Noman Ali** (BS-AGS05F19) (2019-2023). *In planta* application of vanillic acid managed charcoal rot disease in mungbean and up-regulating expression of defense-related genes. Department of Plant Pathology, Faculty of Agricultural Sciences, University of the Punjab.
6. **Muhammad Yousaf** (BS-AGS22F18) (2018-2022). *In vitro* bioassays to assess the antifungal potential of vanillic acid against *Sclerotium rolfsii*. Department of Plant Pathology, Faculty of Agricultural Sciences, University of the Punjab.
7. **Nimra Iqbal** (BS-AGS167F18) (2018-2022). Effect of chitosan nanoparticles against phytopathogenic fungus-*Macrophomina phaseolina*. Department of Plant Pathology, Faculty of Agricultural Sciences, University of the Punjab
8. **Qudsia Fatima** (BS-AGS155F18) (2018-2022). Chitosan-mediated copper nanohybrid attenuates the virulence of *Macrophomina phaseolina*. Department of Plant Pathology, Faculty of Agricultural Sciences, University of the Punjab.
9. **Uswa Fatima** (BS-AGS117F18) (2018-2022). Zinc-chitosan nanocomposites act as potential antifungal weapons against *Macrophomina phaseolina*. Department of Plant Pathology, Faculty of Agricultural Sciences, University of the Punjab.
10. **Muhammad Zohaib**, (2017-2021). Physicochemical analysis of food sample, Department of Plant Pathology, Faculty of Agricultural Sciences, University of the Punjab.
11. **Tehseen Fatima**, (2017-2021). Early Blight of tomato and its management through Resistant Gene, Department of Plant Pathology, Faculty of Agricultural Sciences, University of the Punjab.
12. **Umme Moniba**, (2016-2019). Molecular techniques to improve fiber contents in transgenic cotton (*Gossypium hirsutum* L.), Institute of Agricultural Sciences, University of the Punjab.
13. **Aimal Waheeh**, (2016-2019). Characterization of fiber contents in transgenic Cotton (*Gossypium hirsutum* L.), Institute of Agricultural Sciences, University of the Punjab.
14. **Mujahid Hussain**, (2014-2016). Determination of aflatoxin from different food commodities. Institute of Agricultural Sciences, University of the Punjab. Institute of Agricultural Sciences, University of the Punjab
15. **Ansa Delferooz**, (2009-2013). Biochemical defense responses in tomato against Fusarium wilt through fungicides application. Institute of Agricultural Sciences, University of the Punjab
16. **Samia Munir**, (2009-2013). Polyphasic taxonomic differentiation of various isolates of *Aspergillus niger*, a nasty post-harvest pathogen. Institute of Agricultural Sciences, University of the Punjab.
17. **Hafiza Aqsa Aftab**, (2009-2013). Alternaria disease of canola: stress physiology and disease management. Institute of Agricultural Sciences, University of the Punjab.
18. **Aroosa Khan**, (2009-2013). Tomato-Fusarium wilt: study of host-pathogen- fungicides interaction and effect on host biochemical balance. Institute of Agricultural Sciences, University of the Punjab.
19. **Taskeen Badar**, (2006-2010). Biosorption of heavy metals (Pb, Cu & Cd) from aqueous solution by fungi and multiple metal systems. Institute of Agricultural Sciences, University of the Punjab.

20. **Ayesha Qamar**, (2006-2010). Influence of chromium and mercury on germination and growth of *Vigna radiata*, *Vigna mungo* & *Vigna unguiculata*. Institute of Agricultural Sciences, University of the Punjab.
21. **Ayesha Naureen**, (2005-2009). Equilibrium studies on Ni(II) ions removal by eco-friendly adsorbents. Institute of Agricultural Sciences, University of the Punjab.

B.Sc. (Hons) Thesis Co-Supervision

22. **Hina Sarwar**, (2014-2017). Effect of zinc application on growth, physiology and antioxidant enzymes of *Gladiolus* in saline condition. Institute of Agricultural Sciences, University of the Punjab.
23. **Namra Shahid**, (2014-2017). Effect of zinc fertigation and foliar spray of micronutrients on growth, physiology and antioxidant enzymes activities of *Gladiolus* plant under saline condition. Institute of Agricultural Sciences, University of the Punjab.
24. **Tayyaba Imtiaz** (2010-2014). Assessment of Cr toxicity on *Sclerotium rolfsii*, pathogen of collar rot. Govt. Postgraduate College for Women Samnabad, Lahore.
25. **Zunaira Iqbal** (2010-2014). Seed and seedling growth responses of chilli under Cr(III) stress. Postgraduate College for Women Samnabad, Lahore.
26. **Naila Tehreem** (2010-2014). Chemical management of *Fusarium oxysporum* pisi. Postgraduate College for Women Samnabad, Lahore.
27. **Mehwish Tanveer** (2010-2014). Impact of different fungicides on the pathogen of *Pisum sativum*. Postgraduate College for Women Samnabad, Lahore.
28. **Zainab Khan** (2010-2014). Chemical management of charcoal rot of *Cicer arietinum* L. Postgraduate College for Women Samnabad, Lahore.
29. **Saadia Saeed** (2010-2014). Isolation and identification of mycoflora from irrigation water. Postgraduate College for Women Samnabad, Lahore.
30. **Nazish Noor** (2010-2014). Isolation and identification of soil mycoflora from *Brassica campestris* L. field. Postgraduate College for Women Samnabad, Lahore.

TRAININGS

Attended

1. Safeguarding Academic Ingenuity–Mastering Intellectual Property Rights. 26-26th April, **2024** at University of Veterinary and Animal Sciences. Lahore, **PAKISTAN**.
2. Outcome based Education. Organized by Higher Education Commission, Pakistan. 7-8th June, **2023** at Faculty of Agricultural Sciences, University of the Punjab. Lahore, **PAKISTAN**.
3. Training Workshop on Dielectric Measurements and Calculations. 2nd March, **2023**, School of Physical Sciences (SPS). University of the Punjab, Lahore, **PAKISTAN**.
4. Faculty-Wise Training Workshop on “How to Prepare Self-Assessment Report (SAR)” for QEC Focal Persons of University of the Punjab, Lahore. March, **2023**, Quality Enhancement Cell (QEC). University of the Punjab, Lahore. **PAKISTAN**.

5. Training Seminar on “How to Improve/Implement HEC-QEC Parameters for QEC Focal Person, 3rd March, **2022**, by Quality Enhancement Cell (QEC), University of The Punjab, Lahore, **PAKISTAN**.
6. One-day Training Workshop on Western Blotting, 5th May, **2015**. Department of Microbiology and Molecular Genetics, University of the Punjab, Lahore, **PAKISTAN**.
7. Training Workshop on Polymerase Chain Reaction (PCR) Technology, 2nd February, **2013**, Undergraduate Block, University of the Punjab, Lahore, **PAKISTAN**.
8. Workshop on Gender mainstreaming, 7th-9th December, **2010**. Institute of Administrative Science, University of the Punjab, Lahore, **PAKISTAN**.

SEMINARS/CONFERENCES

Keynote Speaker

- 1 Securing Harvests: Zinc, Alginate, and Biocontrol Bacteria Unite against Fungal Threats, 9-11th May, **2024**. 2nd National Conference on Emerging Trends in Food Science and Nutrition (N-ETFSN-2024). University of Management and Technology. Lahore. **PAKISTAN**
- 2 A Seminar on Vegetables and Rice Diseases Diagnostics & Their Management, 18th March, **2024** at Punjab Agriculture Department, Pest Warning & Quality Control of Pesticides Wing, Lahore. **PAKISTAN**.
- 3 Keys to Clarity: A Seminar on Elevating Scientific Communication, 8th March, **2024**. Department of Botany, Minhaj University, Lahore. **PAKISTAN**.
- 4 A Seminar on Decoding the Riddles of High-Impact Scientific Writing, 21st February, **2024**. Department of Chemistry, University of the Engineering and Technology, Lahore. **PAKISTAN**.

Organized

- 5 Two-Days Training Workshop on Data Science with “R” From Basic to Advance Technique, 28-29th September, **2023**. Department of Plant Pathology, Faculty of Agricultural Sciences, University of the Punjab, Lahore. **PAKISTAN**.
- 6 Hands-on Training on Data Science with MS Excel, 20th March, **2023**. Department of Plant Pathology, Faculty of Agricultural Sciences, University of the Punjab, Lahore. **PAKISTAN**.
- 7 International Horticulture Conference, 26-28, February **2020**. Institute of Agricultural Sciences, University of the Punjab, Lahore. **PAKISTAN**.
- 8 5th International/10th International conference of Pakistan Phytopathological Society, November 23rd-25th, **2015**. Institute of Agricultural Sciences, University of the Punjab, Lahore, **PAKISTAN**.
- 9 3rd International Conference on “Plant Pathology”, 19-21 November, **2007**, Department of Mycology and Plant Pathology, University of the Punjab, Lahore, **PAKISTAN**.
- 10 HEC Workshop on Identification and Conservation of Micromycetes, 20th-25th August, **2007**. Department of Mycology and Plant Pathology, University of the Punjab Lahore, **PAKISTAN**.

11 HEC Workshop on Identification and Conservation of Micromycetes, 23rd-28th August, **2004**. Department of Mycology and Plant Pathology, University of the Punjab Lahore, **PAKISTAN**.

Attended

1. Safeguarding Academic Ingenuity–Mastering Intellectual Property Rights, 25-26th April, **2024** organized by Punjab Higher Education Commission, **PAKISTAN**.
2. Intellectual Property & Patent Essential: Basic and Legal Aspects, August 28th, **2023** organized by Office of Research Innovation & Commercialization (ORIC) at the University of the Punjab and GC University Lahore, **PAKISTAN**.
3. Chair session (Technical Session 12: Theme: Life/Biological Sciences) at Kinnaird’s 2nd International Conference on Science, Technology and Innovation” from 8th-10th, March **2023**. Kinnaird College for Women, Lahore, **PAKISTAN**.
4. Participated and chair session in 8th International and 17th National Conference on “Advances in Plant Science in the Era of Climate Change” from October 26-28, **2022** at the University of the Punjab and GC University Lahore, **PAKISTAN**.
5. Participated as Judge at 8th Invention to Innovation Summit (Buy and Sell) held on 2-3 April, **2019**, University of the Punjab, Lahore, **PAKISTAN**.
6. International Seminar on Resource Conservation for Sustainable Agriculture and Food Security. 19th April, **2018**. Institute of Agricultural Sciences, University of the Punjab, Lahore, **PAKISTAN**.
7. National Workshop on Air pollution & Smog: From Science to Solution, 8th November, **2017**. Department of Environmental Science, University of Veterinary and Animal Sciences. **PAKISTAN**.
8. One-day Seminar on Sustainable Crop Production for Food Security under Changing Climate, April 18th, **2017**. Institute of Agricultural Sciences, University of the Punjab, Lahore. **PAKISTAN**.
9. 5th Symposium on Engineering Sciences, 2nd April, **2014**. Institute of Chemical Engineering & Technology, University of the Punjab, Quaid-i-Azam Campus, Lahore. **PAKISTAN**.
10. Seminar on Developing Local Food Additives/Preservatives, 22nd November, **2012** at Institute of Agricultural Sciences, University of the Punjab, Lahore. **PAKISTAN**
11. International Conference on Prospects and Challenges to Sustainable Agriculture. 14th-16th July, **2011**. Faculty of Agriculture, Rawalakot University of Azad Jammu & Kashmir. **PAKISTAN**.

Presented papers

- 1 Guardians of Growth: Zinc vs. Fungal Menace in Safeguarding Global Food Security. 9th Invention to Innovation Summit. February 27-28th, 2024, University of the Punjab, Lahore, **PAKISTAN**.
- 2 Encapsulated formulation of plant biocontrol bacteria supplemented with alginate and iron for its potential activity to manage charcoal rot in tomato. 8th International Conference of Pakistan Phytopathological Society (8th ICPPS 2023) on Sustainable Agriculture and Food Security, November 26-28th, 2023. Bahawalpur, **PAKISTAN**.
- 3 Crosstalk of *Bacillus subtilis* in combination with Zn underpins interactive effects and induces resistance in tomato plant against early blight disease. International Conference on Smart Plantation “An Ultimate Solution to Climate Change” (ICSP 2020). 2-4 March, 2020. Lahore College for Women University, Lahore. **PAKISTAN**.

- 4 Biocontrol efficacy of *Bacillus subtilis* in bilateral combination with plant nutrients against tomato early blight disease. International Horticulture Conference, 26-28, February 2020. Institute of Agricultural Sciences, University of the Punjab, Lahore. **PAKISTAN.**
- 5 Combating early blight infection by employing *Bacillus subtilis* in combination with plant fertilizers. 1st International and 3rd National Conference on the Biodiversity of Phytochemicals: Using Plants to Improve Life, 26-27th November, 2019. Institute of Molecular Biology and Biotechnology, University of Lahore, Off Raiwind Road Campus, **PAKISTAN.**
- 6 *Ochrobactrum ciceri* as a Biocontrol agent of Charcoal Rot Pathogen. International Conference on Recent Innovations in Molecular Sciences” 06-08, November, 2019, at the University of the Punjab (Quaid-e-Azam Campus), Lahore. University of the Punjab. **PAKISTAN**
- 7 Growth, physiological and antioxidative Responses of tomato to early blight pathogen. A conference on Microbiology & Molecular Genetics, 7-9th February, 2018, organized by Department of Microbiology & Molecular Genetics, University of the Punjab. **PAKISTAN.**
- 8 Response of *Macrophomina phaseolina* to Cr(VI) toxicity. 3rd International Conference on Biosciences. 9th to 11th May, 2018 Organized by GC University Lahore, **PAKISTAN.**
- 9 Chromium tolerance and oxidative stress response in phytopathogenic charcoal rot fungus. New Trends in Natural Sciences II: Public Health, Food Nutrition & Safety. 24th-26th October, 2018. Department of Biotechnology & Zoology, Lahore College for Women University. **PAKISTAN.**
- 10 Effect of *Macrophomina phaseolina* on growth, physiology and antioxidant enzymes in *Glycine max* L. Merrill genotypes. 1st International Conference on “Plants: Their Chemical and Biological Applications for Today and Tomorrow. 12-14th April, 2017. Department of Botany University of Gujrat, **PAKISTAN.**
- 11 *Induction of resistance against collar rot disease of chili by farm yard manure under chromium stress.* 5th International/10th International of Pakistan Phytopathological Society, November 23rd-25th, **2015.** Institute of Agricultural Sciences, University of the Punjab Lahore. **PAKISTAN.**
- 12 *Identification and characterization of aflatoxigenic and non-aflatoxigenic strains of Aspergillus section flavi: A nasty pathogen.* **2014** the 3rd Asia-Pacific International Congress on Engineering & Natural Sciences, Hotel Fort Canning Singapore. 15-17th August, **2014.** **SINGAPORE.**
- 13 *Effect of copper on Fusarium wilt of tomato and biological disease management.* International Conference on Stress Biology and Biotechnology Challenges & Management. 21st-23rd May, **2014** at the Institute of Agricultural Sciences, University of the Punjab. Lahore. **PAKISTAN.**
- 14 *Effect of farm yard manure on copper uptake in tomato.* First International Conference on Applied, Chemical, Biological and Aquatic Sciences (ICACBAS 2014). 18-20th February, **2014** in GC University, Faisalabad, **PAKISTAN.**
- 15 *Simultaneous effect of charcoal rots pathogen and copper on seed and seedling growth of mash bean.* DAAD-HEC International Summer School “Food Security in Times of Climate Change”, 2-5 November, **2013** hosted by the Department of Biosciences COMSAT, Institute of Information Technology. Islamabad. **PAKISTAN.**
- 16 *Cr(III) adsorption potential of fungi.* Sustainable Development Conference on Green technology, Renewable energy and Environmental protection, 21-23 June **2013** organized by Tomorrow People Organization at Royal Benja hotel, Bangkok. **THAILAND.**

- 17 *Growth of Fusarium oxysporum f. sp. lycopersci* under abiotic stress of Cr(VI). International Conference on Biotechnology: Prospects & Challenges in Agriculture, Industry, Health & Environment. 22-26 April, **2013** at National Institute for Biotechnology and Genetic Engineering (NIBGE). Faisalabad. **PAKISTAN**.
- 18 Growth of soil borne fungi under toxic heavy metals. International Conference on Crop management in Changing Climate. 11-13th February, **2013** at Department of Agronomy, University of Agriculture, Faisalabad, **PAKISTAN**.
- 19 *The forensic analysis of Pisum sativum by FTIR in response to southern blight disease and copper*. International Conference: Sustainable Crop Productivity: Threats and Options. 11th-12th April, **2013** at Ayub Agricultural Research Institute, Faisalabad. **PAKISTAN**.
- 20 *Comparative Assessment of heavy metal biosorption by wood rotting fungi*. A conference on Bio physico-chemical basis Technopreneurship. 2-3 April, **2013** organized by Department of Microbiology & Molecular Genetics at Undergraduate Block University of the Punjab. Lahore. **PAKISTAN**.
- 21 *In vitro response of green peas to white mold under abiotic stress of metal*. International Conference on Crop Management in Changing Climate. 11-13 February, **2013** at University of Agriculture, Faisalabad. **PAKISTAN**.
- 22 *Removal of Cr(VI) from aqueous solution by Trichoderma harzianum*. 1st Conference on Global Environmental Change. 15th-16th January, **2013** at Govt. College University. Faisalabad. **PAKISTAN**.
- 23 *Response of Pisum sativum L. to southern blight disease under abiotic stress of copper*. The 10th Conference of European Foundation for Plant Pathology (EFPP). 1st-5th October, **2012**. Organized by the Royal Netherlands Society for Plant Pathology (KNPV), hosted by Wageningen University and Research Centre, Wageningen. **THE NETHERLANDS**.
- 24 *Green Mould as potential scavenger of Cr(VI)*. 12th National and 3rd International Conference of Botany. 1-3rd September, **2012** at Quaid e Azam University, Islamabad. **PAKISTAN**.
- 25 *Expression of defensin like gene in Pisum sativum*. 12th National and 3rd International Conference of Botany. 1-3rd September, **2012** at Quaid e Azam University, Islamabad. **PAKISTAN**.
- 26 *Influence of Cu(II) on southern blight of pea*. International Science Conference on Agriculture and Food Security issues in Global Environment Prospective. 11th-13th July, **2012** at Faculty of Agriculture, University of Poonch, Rawlakot. Azad-Jammu and Kashmir. **PAKISTAN**.
- 27 *Expression of metal tolerant gene in Psium sativum*. SAARC Regional Conference on New Frontiers in Agricultural Genomics and Biotechnology. 5th-7th June, **2012** hosted by NIBGE at Marriott Hotel Islamabad. **PAKISTAN**.
- 28 *Mycofriendly technology for treatment tannery wastewater*. International Conference on Climate Change: Opportunities and Challenges. 9th-11th May, **2012** at National University of Sciences and Technology (NUST), Sector H-12 Islamabad. **PAKISTAN**.
- 29 *Influence of Arsentae on the Sclerotium rolfsii: Pathogen of southern blight of Triticum aestivum*. International Conference on Climate Change: A Challenge for Agriculturists, 28th-30th May, **2012** at Khyber Pakhtunkhwa Agricultural University, Peshawar. **PAKISTAN**.
- 30 *Influence of heavy metals on growth of soil borne fungi*. International Conference on Climate Change: A Challenge for Agriculturists, 28th-30th, May, **2012**. Khyber Pakhtunkhwa Agricultural University, Peshawar. **PAKISTAN**.

- 31 *A low cost technology for metal bearing effluent*. International Conference on Engineering Sciences. 28th-29th February, **2012** at Institute of Chemical Engineering, University of the Punjab, Lahore. **PAKISTAN**.
- 32 *Risk assessment of Arsenate As(V) on wheat and its mitigation through biosorption*. International Conference on Engineering Sciences. 28th-29th February, **2012** at Institute of Chemical Engineering, University of the Punjab, Lahore. **PAKISTAN**.
- 33 *Removal of Cr(III) ions from tannery wastewater through fungi*. International Science and Technology Conference. 7th-9th December, **2011**. Istanbul University. Istanbul. **TURKEY**.
- 34 *Myco and phytoremediation of heavy metal from aqueous solution*. International Science and Technology Conference. 7th-9th December, **2011** at Istanbul University. Istanbul. **TURKEY**.
- 35 *Risk assessment of arsenate on seed and seedling growth of wheat*. 8th National Phytopathological Conference. 28th-29th November, **2011** at Department of Plant Pathology, University of Agriculture, Faisalabad. **PAKISTAN**.
- 36 *Cu(II) uptake potential of micro and phyto adsorbents*. 8th National Phytopathological Conference 28th-29th November, **2011** at Department of Plant Pathology, University of Agriculture, Faisalabad. **PAKISTAN**.
- 37 *Influence of arsenate on Sclerotium rolfsii, pathogen of southern blight of Triticum aestivum*. 8th National Phytopathological Conference, 28th-29th November, **2011** at Department of Plant Pathology, University of Agriculture, Faisalabad. **PAKISTAN**.
- 38 *Parthenium management by culture filtrates of Drechslera spp.* 3rd International Symposium on Environmental Weeds and Invasive Plants. October 2nd-7th, **2011**. Monte Verita, Ascona, **SWITZERLAND**.
- 39 *Antifungal Potential of Metabolites of Trichoderma species against seed-borne mycoflora of wheat*. TWAS Regional Young Scientists Conference. 2nd-5th November **2009** at Armada Hotel, Petaling Jaya, Selangor, **MALAYSIA**.
- 40 *Screening of mungbean genotypes under rice allelopathic stress for best agronomic and symbiotic traits*. TWAS Regional Young Scientists Conference. 2nd-5th November **2009** at Armada Hotel, Petaling Jaya, Selangor, **MALAYSIA**.
- 41 *Influence of NPK fertilizers and two types of green manures on growth and mycorrhizal colonization of wheat*. TWAS Regional Young Scientists Conference. 2nd-5th November **2009**, Armada Hotel, Petaling Jaya, Selangor, **MALAYSIA**.
- 42 *A new approach of exploiting lignocellulosic material colonized by fungal mycelia for removal of Cr(III) ions from tannery wastewater*. TWAS Regional Young Scientists Conference. 2nd-5th November **2009**, Armada Hotel, Petaling Jaya, Selangor, **MALAYSIA**.
- 43 *Wheat Allelopathy for Management of Parthenium Weed*. 9th National Weed Science Conference. 28th-30th June, **2009** at Agriculture University Peshawar. **PAKISTAN**.
- 44 *Biosorption of industrial heavy metals by some macromycetes*. International Conference BioVision Alexandria. 11-16, April **2008** at the Bibliotheca Alexandrina. **EGYPT**.
- 45 *Evaluation of biosorption potential of Aspergillus niger and Rhizopus arrhizus for heavy metals removal from Industrial effluents*. 3rd International Phytopathological Conference 19-21, November **2007** at Department of Mycology and Plant Pathology University of the Punjab, Quaid-e-Azam Campus. Lahore, **PAKISTAN**.

- 46** *Biosorption potential of Schizophyllum commune for removal of heavy metal Ions from aqueous solution.* 3rd International Phytopathological Conference. 19th-21st November **2007** at Department of Mycology and Plant Pathology University of the Punjab, Quaid-e-Azam Campus. Lahore, **PAKISTAN.**
- 47** *Isolation and Identification of Aspergilli from seed.* 3rd International Phytopathological Conference 19-21, November **2007** at Department of Mycology and Plant Pathology University of the Punjab, Quaid-e-Azam Campus. Lahore, **PAKISTAN.**
- 48** *Biosorption by fungi.* International Symposium on Biofertilizer & Biocontrol Technology. 25-27th July, **2007** at Department of Mycology and Plant Pathology University of the Punjab, Quaid-e-Azam Campus. Lahore, **PAKISTAN.**

COURSE TAUGHT IN THE FACULTY OF AGRICULTURAL SCIENCES

- ✓ Molecular Host-Pathogen Interaction
- ✓ Plant Disease Epidemiology
- ✓ Introduction to Plant Pathology
- ✓ Lower Fungi
- ✓ Plant Disease Diagnosis
- ✓ Soil Field Crop Production
- ✓ Fungal Systemic
- ✓ Introduction to Soil Borne Pathogens and their Management

PROFESSIONAL MEMBERSHIP

- Phytopathological Society
- Myco-Phytopathological Society of Pakistan
- Pakistan Journal of Weed Science Research

COMPUTER SKILLS

- MS office, Power point, MS Excel (calculations, graphs, biplots, PCA, heatmap etc.) Publisher, SPSS (Tukeys's test, LSD, Correlation, regression etc.), Internet browsing and overall comprehensive in general applications