Curriculum Vitae

Dr. Samina Sarwar Samina.botany@pu.edu.pk

Highest Professional Qualifications:

- Postdoc (Austria)
- PhD. Life Sciences, Botany (PU, IRSIP: UK)
- M.Sc. Botany (PU)

Teaching Experience

1.

Sr. No.	Duration	Designation	Organization
1	2024- To date	Associate Professor BPS 20 (Botany)	University of the Punjab, Lahore
2.	2015-2024	Assistant Professor BPS 19 (Botany)	Lahore College for Women University, Lahore
4.	2013-2014	Assistant Professor IPFP (Environmental Sciences Department)	Lahore College for Women University, Lahore

Projects

Project Title: 'Conservation Status Through Genetic Profiling of Economically Significant Wild Suilloid Species of Mansehra District, Khyber Pakhtunkhawa and Understanding the Factors Affecting their Diversity'.

Ref. No. D/1924/ORIC; Dated: 19-09-2024

Funding organization: University of the Punjab Lahore

Funding Amount: PKR Rs.250,000/-Time Period: 2024-2025 (01 year)

Research Supervision (Supervised/under supervision= 66 students)

> Ph.D 3

> MS THESES 40

BS (Hons) 23

Courses Designed & approved

1. Plant-fungal Interactions (MS)

2. Mycosymbiosis (BS)

Reviewer of Journals: Many national and international Scientific Journals

Foreign Expert for Postdoc Fellowship Evaluation

Candidate Dr. Eng. Bodor Katalin for ICUB Fellowship for Young Researchers, Romania (2025)

External Examiners/Theses Evaluator (BS, MS & PhD Level)

- 1. The University of Veterinary & Animal Sciences (UVAS), Lahore
- 2. University of the Punjab Lahore
- 3. Government College University, Lahore
- 4. University of Education, Lahore
- 5. University of Gujrat, Gujrat
- 6. Hazara University, Mansehra
- 7. Government College University, Faisalabad
- 8. Lahore Garrison University, Lahore
- 9. Kinnaird College for Women University, Lahore

<u>Certifications / Scholarships / Awards</u>

- 1. JESH postdoc fellowship awarded by Joint Excellence in Science and Humanities (JESH), Austrian Academy of Sciences (henceforth ÖAW) (2022-2023)
- 2. Selected for "HEC Post-Doctoral Fellowships Programme (Phase III)-Batch 2" for the year 2022-2023.
- 3. 2nd Position (certificate and shield) in poster competition in 1st International Conference on Sustainable Development Goals organized by LCWU, Lahore from 29-31 March 2022. Poster entitled "Diversity of Toxin Producing Micromycetes on Different Cereal Seeds Collected from Local Markets in Pakistan".
- 4. Key note speaker in 1st International Conference on Biotechnology (ICB), Challenges and Opportunities" organized by Faculty of Basic Sciences & ORIC, Lahore Garrison University, Lahore, Pakistan, OCT, 11th-12th 2017.
- 5. Research Incentive Award 2016-2017 by Lahore College for Women University. USD 140.
- 6. Co-Chair Shield and certificate for chairing a session in 1st International Conference on "Plants: Their Chemical and Biological Applications for Today and Tomorrow", Organized by Department of Botany, University of Gujrat, Pakistan, from 12-14th April, 2017.
- 7. IRSIP Fellowship Awarded by Higher Education Commission (HEC) Pakistan under "International Research Support Initiative Programme" from October 2011-March 2012, for conducting research in Mycology section, Jodrell Laboratory, Royal Botanic Gardens, Kew, Surrey, United Kingdom.
- 8. Indigenous Fellowship Awarded by Higher Education Commission (HEC) Pakistan under "Indigenous PhD 5000 Fellowship Program" Batch IV for 05 years, for PhD degree.
- **9.** Merit Certificate (Second position in M.Sc., session 2002-2004) awarded by University of the Punjab, Lahore, Pakistan.

Sequences deposited in GenBank: 100+

Book Chapters Published

 Muhammad Hanif, Zubaria Ashraf, Samar Bashir, Fatima Riaz, Rizwan Amanat, Nousheen Yousaf and Samina Sarwar. 2023. "Ectomycorrhizal Fungi as Biofertilizers in Forestry" in the book "Arbuscular Mycorrhizal Fungi in Agriculture - New Insights", chapter 10. DOI: 10.5772/intechopen.110090. Published by IntechOpen Publishers, Rijeka. Editor = Dr. Rodrigo De Sousa. url = https://doi.org/10.5772/intechopen.110090. 2. **Samina Sarwar**, Qudsia Firdous and Abdul Nasir Khalid. 2019. "Importance of Molecular and Phylogenetic Analyses for Identification of Basidiomycetes" in Book Recent Advances in Phylogenetics," ISBN 978-1-78985-890-7. Chapter 3, pp: 43-58. http://dx.doi.org/10.5772/intechopen.80671. Published by IntechOpen Publishers, Rijeka.

Research Publications

- 1. Ullah, Zia; Jabeen, Sana; Sarwar, Samina; Faisal, Muhammad; Khalid, Abdul. 2025. Hortiboletus swaticus sp. nov. (Boletaceae, Boletales) from Himalayan forests of Pakistan". Nordic Journal of Botany. 2025 (8): e04929. https://doi.org/10.1002/njb.04929.
- 2. Crous et al. (2025). Fungal Planet description sheets: 1781–1866. (Pakistani part, Callistosporium khalidii S. Haroon, Haqnawaz, H. Ali, S. Sarwar and Afshan, sp. nov). Persoonia Molecular Phylogeny and Evolution of Fungi, 54: 327–587. https://doi.org/10.3114/persoonia.2025.54.10
- 3. Khalil, T., S. Sarwar*, S. Javad, A. Abid, M. Hanif, H. Khalil and A. Abrar. 2025. Green synthesis of silver nanoparticles using wild mushroom *Lepista sordida* and its antifungal activity. Pak. J. Bot., 57(3): DOI: http://dx.doi.org/10.30848/PJB2025-3(11).
- 4. Hyde KD et al. 2024 The 2024 Outline of Fungi and fungus-like taxa. *Mycosphere* 15(1), 5146–6239, Doi 10.5943/mycosphere/15/1/25.
- 5. Aleena Iqbal, Samina Sarwar*, Irmgard Krisai-Greilhuber, Talha Sajad, Muhammad Fiaz and Muhammad Hanif. 2024. Molecular phylogeny and phenology reveal a new fungistic record of *Pseudoomphalina khanspurensis* (Agaricales, Tricholomataceae) from Pakistan. *Tianjin Daxue Xuebao* (*Ziran Kexue yu Gongcheng Jishu Ban)/Journal of Tianjin University Science and Technology*; 57(8): 131-140.
- 6. Farwa Batool and Samina Sarwar*. 2024. A COMPREHENSIVE ANALYSIS AND STATUS OF BOLETALES FROM PAKISTAN. *Tianjin Daxue Xuebao (Ziran Kexue yu Gongcheng Jishu Ban)/Journal of Tianjin University Science and Technology*; 57: 05:2024.
- 7. Muhammad Hanif, Abdul Nasir Khalid, Samina Sarwar. 2024. First report of *Sparassis latifolia* (Basidiomycota) from Pakistan: evidence from morpho-anatomical and nrDNA data. *Pakistan Journal of Botany*, 56(4): DOI: http://dx.doi.org/10.30848/PJB2024-4(5)
- 8. Malka Saba, Abdul Nasir Khalid and Samina Sarwar. 2023. New species of *Mallocybe* (Agaricales, Inocybaceae) from Pakistan based on morphological and molecular evidence. *Mycokeys*, 99: 171–186. DOI: 10.3897/mycokeys.99.86844
- 9. Noor Fatima, Samina Sarwar*, Muhammad Shahbaz, Muhammad Hanif, Nousheen Yousaf, Amina Abrar. 2023. Characterization of mycoflora associated with the rhizosphere of rice crop from selected sites in district Gujranwala, Punjab, Pakistan. *Plant Protection*, 07 (02): 245-254. DOI: 10.33804/pp.007.02.4716.
- 10. Hira Bashir, Samina Sarwar*, Irmgard Krisai-Greilhuber, Ayesha Hanif and Abdul N. Khalid. 2023. A new fungistic record of *Boletus himalayensis* a morphologically complex porcini mushroom from Pakistan. *Bangladesh Journal of Plant Taxonomy*, 30(1): 99-106 https://doi.org/10.3329/bjpt.v30i1.67048.
- 11. Muhammad ASIF, Qudsia FIRDOUS, Aiman IZHAR, Abdul Rehman NIAZI, Samina SARWAR, Abdul Nasir KHALID. 2023. Molecular and morphological studies reveal a new

- species of *Panaeolus* (Agaricales, Basidiomycota) from Punjab, Pakistan. *European Journal of Taxonomy*, 888: 77–96
- 12. Sarwar, S*., M. Saba, M. Hanif, A. Abrar, M. Ulfat and H. Khalil. 2023. Utilization of fruit peels to inhibit aflatoxins synthesis by *Aspergillus* species: a biotreatment of two pulses *Cicer arietinum* and *Vigna radiata* for safe long–term storage. *Pakistan Journal of Botany*, 55(2): DOI: http://dx.doi.org/10.30848/PJB2023-2(38)
- 13. Amina Abrar, Samina Sarwar, Moneeza Abbas, Nadia Ghani, Ammara Fatima, Zahra Asghar and Arifa Tahir. 2023. Identification of locally isolated entomopathogenic *Fusarium* species from the soil of Changa Manga Forest, Pakistan and evaluation of their larvicidal efficacy against *Aedes aegypt*. Brazilian Journal of Biology. 83, e246230 | https://doi.org/10.1590/1519-6984.246230.
- 14. Muhammad Hanif, Bushra Arshad, Samina Sarwar & Nousheen Yousaf. 2022. First report of the ectomycorrhizal status of *Clavariadelphus pakistanicus* Hanif & Khalid based on morphotyping and molecular evidence. Bangladesh Journal of Plant Taxonomy. 29(1): 129-136.
- 15. Muhammad Hanif, Abdul Nasir Khalid, Samina Sarwar and Nousheen Yousaf. (2022). Ectomycorrhizal Status of *Pinus wallichiana* (Blue Pine) Growing in Himalayan Moist Temperate Forests of Pakistan. Pakistan Journal of Botany, 54(1): 275-283.
- 16. Samina Sarwar*, Arooj Naseer & Abdul N. Khalid. 2021. *Cyanoboletus macroporus* (Boletaceae), a new bolete species from Pakistani forests. *Karstenia*, 59(1–2): 78–87.
- 17. Samina Sarwar*, Zeb Siddique, Ayesha Bashir and Abdul Nasir Khalid. 2021. *Rubroboletus himalayensis* Sarwar & Khalid a new mushroom from Pakistan. Bangladesh Journal of Plant Taxonomy, 28(1): 17–26.
- 18. Dima B., Brandrud T.E., Corriol G., Jansen G.M., Jordal J.B., Khalid A.N., Larsson E., Lorås J., Morozova O.V., Naseer A., Noordeloos M.E., Rossi W., Santamaria S., Sarwar S., Sesli E., Usman M., Afshan N.S., Ahmad I., Banerjee A., Banerjee K., Bendiksen E., Colombo D.R.S., De Kesel A., Dovana F., Ferisin G., Hussain S., Islam S., Jesus A.L., Kaygusuz O., Krisai-Greilhuber I., Mahammad S., Mishra D.K., Nath P.S., da Paixão S.C.O., Panja B., Papp V., Pires-Zottarelli C.L.A., Radnóti Á., Rana D., Saha R., Türkekul I'. & Haelewaters D. (2021). Fungal Systematics and Evolution: FUSE 7. Sydowia 73: 271–339.
- 19. Samina Sarwar*, Tanzeela Aziz, Muhammad Hanif, Sobia Ilyas, Malka Saba, Sana Khalid and Muhammad Fiaz. 2020. Plectological and molecular identification of wild economically important Russulales mushrooms from Pakistan and their antifungal potential against potentially food pathogenic fungus *Aspergillus niger*. Bangladesh Journal of Plant Taxonomy. 27(1): 67–77.
- 20. Amina Abrar, Tahira Aziz Mughal, Samina Sarwar, Muhammad Oneeb, Kausar Abdullah Malik, Samia Saif & Moneeza Abbas. 2020. *Aspergillus Pakistanicus*: A new Entomopathogenic fungi isolated from soil of Changa Manga Forest, Pakistan based on Microscopy and Phylogenetic analysis. Applied Ecology and Environmental Research. 18(3):3795-3804. ISSN: 1589-1623.
- 21. Malka Saba, Junaid Khan, Samina Sarwar, Hassan Sher, Abdul Nasir Khalid. 2020. *Gymnopus barbipes* and *G. dysodes*, new records for Pakistan. Mycotaxon. 135: 203–212.
- 22. Amina Abrar, Zarafshan Ali, Tahira Aziz Mughal, Kausar Malik, Samina Sarwar, Muhammad Oneeb, Moneeza Abbas, Husnain Qamar and Rida Nasir. 2019. Effects of entomopathogenic *Aspergillus flavus* on tomato plant (*Solanum lycopersicum*) endophytic

- activity under agro-climatic condition of Lahore, Punjab-Pakistan. *Pure and Applied Biology*, 9 (1), 517-527.
- 23. Farwa Batool, Samina Sarwar*, Khajista Jabeen, Tooba Shafiq & Abdul Nasir Khalid. 2019. Assessment of Antifungal Activity of Some Boletes Mushrooms Found in Himalayan Range of Pakistan Against Some Fungi. Journal of Pure and Applied Biology. 8(4): 2257-2261.
- 24. Samina Sarwar*, Tanzeela Aziz, Muhammad Hanif, Sobia Ilyas and Shabnum Shaheen. 2019. *Russula swatica*: a new species of *Russula* based on molecular, LM and SEM analyses from swat valley of Khyber Pakhtunkhwa Province of Pakistan. Microscopy Research and Technique, 82(10):1700–1705.
- 25. Sarwar S*, Javed M and Nisar N. 2019. Biodegradation Capability of Native Fungi Present in the Effluent of a Local Pharmaceutical Industry near Lahore, Pakistan. Open Access Journal of Mycology & Mycological Sciences, 2(1): 1-7.
- 26. AROOJ Naseer, SAMINA Sarwar*, ABDUL NASIR Khalid, ROSANNE Healy & MATTHEW E. Smith. 2019. *Hortiboletus kohistanensis*: a new species from temperate and subalpine oak forests of Pakistan. Phytotaxa. 388 (3): 239–246.
- 27. Iqra Saeed, S. Shaheen, K. Hussain, M.A.Khan, M. Jaffer, T. Mehmood, S. Khalid, S. Sarwar, A. Tahir, F. Khan. 2018. Assessment of mold and yeast in some bakery products of Lahore, Pakistan based on LM and SEM. Microscopy Research and Technique, 82(2): 85-91.
- 28. Samina Sarwar*, Sana Jabeen, Ishtiaq Ahmed, Bryn M. Dentinger & Abdul Nasir Khalid (2018). *Boletus himalayensis* (Basidiomycota; Boletales), a new porcini species from Pakistan. Turkish Journal of Botany. 42: 790-800.
- 29. S. Sarwar*, M. Saba, A.N. Khalid and B.M. Dentinger. (2018). *Suillus himalayensis* (Boletales; Basidiomycota; fungi) and first report of its ectomycorrhizae with *pinus wallichiana* from coniferous forests of Pakistan. The Journal of Animal and Plant Sciences, 28(2): 576-584.
- 30. Samina S, Tahreem M, Shabnum S, Farah K, Qudsia F, Muhammad H 2017 Micromycete diversity associated with the rhizospheres of plants from different polluted soils of Lahore, Pakistan. Current Research in Environmental & Applied Mycology 7(3), 193–202.
- 31. Hernández-Restrepo, M., Schumacher, R. K. Wingfield, M. J. Ahmad, I, Cai, L., Duong, T, A. Edwards, J., Gené, J., Groenewald, J. Z., Jabeen, S., Khalid, A. N. Lombard, L. Madrid, H., Marin-Felix, Y., Marincowitz, S., Miller, A. N. Rajeshkumar, K. C., Rashid, A., Sarwar, S., Stchigel, A. M., Taylor, P. W. J., Zhou, N. & Crous, P. W. 2016. Fungal Systematics and Evolution: FUSE 2. Sydowia, 68: 193–230.
- 32. Samina Sarwar*, Sana Jabeen, Abdul Nasir Khalid and Bryn Masson Dentinger (2016). Molecular and phylogenetic analysis of fleshy pored mushrooms: *Neoboletus luridiformis* and *Hortiboletus rubellus* from western Himalayan range of Pakistan. *Pakistan Journal of Botany*, 48(5): 2077-2083.
- 33. Samina Sarwar*, Malka Saba, Abdul N. Khalid & Bryn M. Dentinger. (2015). *Suillus marginielevatus*, a new species and *S. triacicularis*, a new record from Western Himalaya, Pakistan. *Phytotaxa* 203 (2): 169–177.
- 34. Jabeen S, Sarwar S, Niazi ARK, Khalid AN. 2014. Checklist of Ectomycorrhizae from Pakistan. *Annals of Applied Bio-Sciences*.1: R10-R20.
- 35. S. Sarwar*, A. N. Khalid & A. R. Niazi. (2014). *Tylopilus*: a new species and a new record from Pakistan. *Mycotaxon*. 128: 1-10.

- 36. S. Sarwar*, A. N. Khalid. (2014). *Boletus pakistanicus* sp. nov. from coniferous forests of Pakistan based on molecular characterization. *International Journal of Agriculture & Biology* 16(3): 663–667.
- 37. S. Sarwar*, A.N. Khalid. (2014). Diversity and phylogeny of *Suillus (Suillaceae, Boletales)* from coniferous forests of Pakistan (Asia). *International Journal of Agriculture & Biology*, 16 (3): 489–497.
- 38. S. Sarwar*, S. Jabeen and A.N. Khalid. (2013). Additions to Ectomycorrhizae associated with *Populus ciliata* Wall. Ex Royle from Pakistan. *Journal of Yeast and Fungal Research* 4(3): 26-32.
- 39. S. Sarwar*, A.N. Khalid, M. Hanif & A.R. Niazi. (2012). *Suillus flavidus* and its ectomycorrhizae with *Pinus wallichiana* in Pakistan. *Mycotaxon* 121: 225-232.
- 40. S. Sarwar*, A.N. Khalid. (2012). Preliminary checklist of the *Boletales* in Pakistan. *Mycotaxon* 121: 12pp.
- 41. M.Hanif, A.N.Khalid and S. Sarwar (2012). Additions to the ectomycorrhizae associated with Himalayan Cedar (*Cedrus deodara*) using rDNA –ITS. *International Journal of Agriculture & Biology* 14(1): 101-106.

Participation in Science Conferences

- 1. 2nd International Conference on Recent Approaches in Plant Sciences (RAPS-2023), 4-5 May, 2023. Organized by the Department of Botany, Division of Science and Technology, University of Education, Lahore, Pakistan
- 2. Three Days '8th International and 17th National Conference on Advance in Plant Sciences in the Era of Climate Change'. 26-28 October 2022. Organized by Botanical Society of Pakistan held at GCU, Lahore and University of the Punjab, Lahore Pakistan
- 3. Three Days '1st International Conference on Sustainable Development Goals'. 29-31 March 2022. Organized by Lahore College for Women University, Lahore, Pakistan.
- 4. International conference on 'Smart Plantation' An Ultimate Solution to Climate Change (ICSP-2020), March 2-4, 2020. Organized by Department of Botany, LCWU, Lahore
- 5. 2nd International Conference on Plant Sciences (ICPS-2018) organized by Botany Department, GC University, Lahore, December 5-7, 2018.
- 6. 1st International Conference on "Natural Sciences" organized by Govt. Post Graduate College (W) Gulberg Pakistan, December 4-5, 2018.
- 7. 7th International and 16th National Conference on "Plant Resources: Current Trends, Challenges and Solutions", organized by Islamia College Peshawar and University of Peshawar Pakistan, March 23-26, 2018.
- 8. International Conference on "Conventional and Modern Approaches in Plant Sciences" organized by Botany Department, University of the Punjab Lahore, Pakistan, Nov. 28-29, 2017.
- 9. 1st International Conference on "Biotechnology (ICB), Challenges and Opportunities" organized by Faculty of Basic Sciences & ORIC, Lahore Garrison University, Lahore, Pakistan, OCT, 11th-12th 2017.
- 10. 3rd International Symposium on "Conservation Issues of Edible Wild Resources of Hindukush Himalayas" organized by Department of Botany, Islamia College Peshawar & Baragali Summer Campus, University of Peshawar, from July 21-24, 2017.
- 11. HEC 7th National Conference on "Biodiversity Conservation, Livelihood and Sustainable Development" organized by Centre of Plant Biodiversity & Botanical Garden, University of Peshawar, from July 10-12, 2017.

- 12. 1st International Conference on "Plants: Their Chemical and Biological Applications for Today and Tomorrow", Organized by Department of Botany, University of Gujrat, Pakistan, from 12-14th April, 2017.
- 13. "International Conference on Major Environmental Constraints to Plants: Assessment and Reclamations (MECP)", Organized by Department of Botany, Government College University Faisalabad, Pakistan from March 28-30, 2016.
- 14. "14th National & 5th International Conference of Botany", organized by Pakistan Botanical Society at University of Karachi from January 15–18, 2016.
- 15. "37th All Pakistan Science Conference" organized by PCSIR Lahore from 16-17 November, 2015
- 16. "4th International and 13th National conference of Botany", organized by Pakistan Botanical Society at Shaheed Benazir Bhutto University, Sheringal, Dir Upper, Khyber Pakhtunkhwa Pakistan on 27-30 August 2014.
- 17. "12th National and 3rd International Conference of Botany". September 1st to 3rd, 2012 Quaid-e-Azam University, ISLAMABAD, PAKISTAN.
- 18. "International Conference of Plant Sciences", 22 to 24 September, 2014, GC University, Lahore, PAKISTAN
- 19. "7th international conference on Mushroom Biology and Mushroom Products, INRA, Arcachon, France". 4th to 7th October 2011.
- 20. 2nd international conference of plant Scientists and 11th national meeting of plant Scientists at G.C. University Lahore Pakistan, February 22-24 2011.

Organizer/Co- Organizer

- 1. Organizer of ONE DAY SEMINAR ON IMPORTANCE OF TREES AND TREE PLANTATION CAMPAIGN". 18th April 2024. Organized by department of Botany, and Botanical Society of University Women, LCWU, Lahore in collaboration with Parks & Horticulture Authority Lahore (PHA), Forests, Wildlife & Fisheries Department, Lahore Zone) AND CHAUN FOUNDATION, Lahore
- 2. Co-organizer of the International Seminar on "Management of Bacterial Leaf Blight of Rice by Biological Agent" 5th March, 2024. Organized by Department of Botany, LCWU, Lahore
- 3. Organizer of "Hands on Training Workshop on Mushroom Cultivation", 17th June, 2022, Department of Botany, LCWU, Lahore
- 4. Co-organizer of Three days' Workshop on Sanger Sequencing 12th -14th October 2021. Organized by Department of Botany, LCWU, Lahore and DFDI, LCWU, Lahore
- 5. Organizer of International conference on 'Smart Plantation' An Ultimate Solution to Climate Change (ICSP-2020), March 2-4, 2020. Organized by Department of Botany, LCWU, Lahore
- 6. Co-organizer of 7th Annual Floral Art Competition, November 19th, 2019 organized by Botanical & Horticultural Society, Department of Botany, Lahore College for Women University, Lahore.
- 7. Organizer of 6th Annual Floral Art Competition, March 1st, 2018 organized by Botanical & Horticultural Society, Department of Botany, Lahore College for Women University, Lahore.
- 8. Organizer of seminar on Forests: Nature's Power houses, 31st March, 2017 organized by Botany Department & Env. Science Dept. LCWU in collaboration with Department of Forestry, Govt. of Punjab.
- 9. Co-Organizer in establishing the Botanical Garden of Botany Department of LCWU, 26th May, 2017.
- 10. Co-organizer of Green Day, LCWU, 31st March, 2017
- 11. Co-organizer of 5th Annual Floral Art Competition, March 9th, 2017 organized by Botanical & Horticultural Society, Department of Botany, Lahore College for Women University, Lahore.
- 12. Co-organizer of kitchen gardening Training, LCWU, April 7-8, 2016
- 13. Co-organizer of 4th Annual Floral Art Competition, March 10th, 2016 organized by Botanical & Horticultural Society, Department of Botany, Lahore College for Women University, Lahore.

14. Co-organizer of *3rd Annual Floral Art Competition*, March 26th, 2015 organized by Botanical & Horticultural Society, Department of Botany, Lahore College for Women University, Lahore.

Training Courses/workshops

- 1. Certificate of Participation in "International Seminar on Molecular Mysteries" organized by Zoological Society GCUL, Lahore on 27th March, 2024.
- 2. Certificate of Participation in one-day international workshop on the "Management of Botanic Garden and Museum, organized by Department of Botany and Botanic Garden, GC University Lahore on 25th October,2023.
- 3. Certificate of participation in (4) days' Workshop on "LATEX AND ENDNOTE: USEFUL TOOLS FOR PROFESSIONAL ACADEMIC WRITINGS", organized by Department of Botany & LISA LCWU in collaboration with DFDI, held on 29th May-01st June 2023
- 4. Certificate of Participation in one-day international Webinar on the "Post-Harvest Management and Storage of Potato Crop, organized by Horticultural Society, GCUL, Lahore on 13th April,2023.
- 5. Certificate of Participation in one-day international workshop on the "Postcards Production using Life-Forms, organized by Dr. Sultan Ahmad Botanical Society, GC University Lahore on 13th April,2023.
- 6. Certificate of Participation in one-day international Webinar on the "Biofertilizers in Agriculture, organized by Dr. Sultan Ahmad Botanical Society, GC University Lahore on 11th April,2023.
- 7. Certificate of Participation in one-day international Talk on the "Significance and Cultivation of Carnivorous Plants, organized by Dr. Sultan Ahmad Botanical Society, GC University Lahore on 7th April, 2023.
- 8. Certificate of Participation in one-day international Webinar on the "World Health Day, Antitumor Activity of Traditional Medicine Targeting LIF, organized by Biological Society, GC University Lahore on 7th April,2023.
- 9. Certificate of completion on "MycoAsia-Fungipedia Workshop on Mushroom Cultivation for Beginners (online)" conducted by Mr. Deepak Gowda, Founder Fungipedia, on 15-08-2022 through MycoAsia, Journal of Modern Mycology.
- 10. British Council-Higher Education Commission "Capacity Building Course for Researchers" Lahore, Pakistan on 26th July 2022-29th July 2022.
- 11. Certificate of completion on "MycoAsia online Workshop on Publication Ethics" conducted by Dr. Thomas Edison E. Dela Cruz from the University of Santo Tomas, Manila, Philippines on 23-07-2022 through MycoAsia Journal of Modern Mycology.
- 12. Certificate of participation in international webinar on "The Redox Regulatory Network of the Cell in the Heart of Metabolic Regulation and Stress Acclimation" organized by Department of Botany, GC University Lahore on 14th June, 2021.
- 13. Certificate of participation in international webinar on "Role of Youth in Global Biodiversity Conservation" organized by Horticultural Society GC University Lahore on 21st May, 2021.
- 14. Certificate of participation in webinar on 'Rooftop Gardening' organized by Horticultural Society, GCU Lahore on 24th April, 2021.
- 15. Two Credit Hours Online Certificate of training entitled 'International Food Standards' by National Alliance for Safe Food, 14th May 2020.
- 16. One-day training workshop on "Behavioral Based Biosafety Culture" organized by National Center of Excellence in Molecular Biology, University of the Punjab, Lahore, 23rd August, 2017.
- 17. Four days (10 Hours) workshop on "Patent Claim Drafting Techniques" organized by Faculty Development Centre, DFDI, LCWU, Lahore, May & October, 2017.
- 18. Three days Hands-on training ICGEB course on "Basic Biotechnology Techniques" organized by National Academy of Young Scientists (NAYS), Pakistan and Centre of Excellence in Molecular Biology (CEMB), University of the Punjab Pakistan, 7th 9th March, 2016.

- 19. "Performance Management in Public Sectors" a training course conducted by Govt. of Pakistan, Ministry of Planning, Development and reform, Pakistan planning and management institute, Islamabad (PPMI), 04 Day course from 23rd 26th November, 2015. Resource person. Dr. Muhammad Ali Noor, DG, PPMI.
- 20. "Time Management" a training course conducted by Govt. of Pakistan, Ministry of Planning, Development and reform, Pakistan planning and management institute, Islamabad (PPMI), 01 Credit Hour, 03 Day course from 25th 27th May, 2015. Resource person. Dr. Muhammad Ali Noor, DG, PPMI.
- 21. "Academic Writing for Publication", LCWU Post Graduate Diploma in Higher Education Teaching conducted by DFDI, LCWU, Lahore, 01 Credit Hour, 03 Day course from $04^{th} 06^{th}$ March, 2015. Resource person: Dr. Seemi Aziz, University of Arizona.
- 22. "Use of Bioinformatics in High Throughput Sequencing, Genomics, Proteomics and Transcriptomics" One Day Workshop organized by NIBGE Faisalabad on 31st March, 2015.
- 23. "Disaster Management and Emergency Response" of 02 contact hour organized by HARVARD SAI WEBINAR held on March 10, 2015 at Forman Christian College, Lahore
- 24. Training course on "Trade in Agriculture", By PITAD-TRTA (II) Programme Lahore, 10-11 June 2013.
- 25. "Capacity Building Workshop on Pakistan's National Biodiversity Clearing House Mechanism", 26th March 2013, Lahore. Organized by WWF Pakistan

Administrative Duties (Departmental and University level)

- 1. Member Departmental Tenure Review Committee (DTRC) of Institute of Botany (2025), University of the Punjab, Lahore
- 2. Member Self-Assessment Report (SAR) of Institute of Botany (2025), University of the Punjab, Lahore
- 3. Member Departmental Doctoral Program Committee (DDPC) (2025), Institute of Botany, PU, Lahore
- 4. Member Board of Studies (BOS), Institute of Botany, PU, Lahore
- 5. Secretary/Internal member Industrial Advisory Board (IAB), Botany Dept. LCWU
- 6. BOS member, 2023-2026, Botany Dept. LCWU
- 7. Team Leader of Self-Assessment Report (SAR) of Botany Department (2022-2023), Botany Dept. LCWU
- 8. Class Coordinator (BS, 2019-2023 session; BS, 2015-2019 session), Botany Dept.

LCWU

- 9. Member Self-Assessment Report (SAR) of Botany Department (2019), Botany Dept. LCWU
- 10. Member Faculty Board Report of Botany Department, LCWU
- 11. Member "Annual Stock Checking Committee", Botany Department, LCWU
- 12. Member Departmental Botanical & Horticultural Society, Botany Dept. LCWU
- 13. Member Departmental Prospectus committee, Botany Dept. LCWU
- 14. Member Glass ware purchase committee, Botany Dept. LCWU
- 15. Member Departmental Cleanliness committee, Botany Dept. LCWU
- 16. Member Departmental event organizing committee, Botany Dept. LCWU
- 17. Coordinator Kala Shah Kaku Campus (Botany Department) 2015, LCWU
- 18. Member, Departmental discipline committee
- 19. Member, Departmental exam and admission duties
- 20. Member, Departmental affiliated colleges duties

Botanical Trips (Research Purpose)

- Botanical Garden, University of Vienna, Austria
 Royal Botanic Garden Kew, Richmond, UK
 Himalayan Moist Temperate forests of Pakistan
 Northern Areas of Pakistan

- 5. Plain Areas of Pakistan