CURRICULUM VITAE

Dr. Muhammad Naveed Shahid (PhD)
Associate Professor (Tenured)
Department of Botany,
Division of Science and Technology,
University of Education, College Road, Township,
Lahore 54590, Pakistan
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HEC Approved PhD Supervisor

Area of Research Interest

Plant Molecular Biology, Plant Genomics, Plant Transformation, Computational Biology

Expertise

Molecular Biological Techniques including: Polymerase Chain Reaction (PCR), Gel Electrophoresis and PAGE, Sequencing PCR, Q-PCR, Chromas, BLASTX, BLASTN, Mega X Gene cloning in plant expression vector, Plant Transformation

Professional Experience

Associate Professor:

University of Education, Lahore, From March 15, 2023 to Date

Assistant Professor:

University of Education, Lahore, From Sep 18, 2017 to March 14, 2023

GC University Faisalabad, Layyah Campus, From Sep 22, 2016 to Sep17, 2017

Minhaj University, Lahore, From April 20, 2016 to Sep 21, 2016

The University of Lahore, Lahore, From May 6, 2014 to March 15, 2016

Senior Research Associate:

CEMB, University of the Punjab, Lahore, From Jan 24, 2013 to May 23, 2014

Research Associate:

CEMB, University of the Punjab, Lahore: From Dec 01, 2011 to Nov 30, 2012

Academic Background

PhD

PhD Molecular Biology (2014), Center of Excellence in Molecular Biology (CEMB), University of the Punjab, Lahore, Pakistan

Research Title: Identification of salt stress responsive gene(s) from desi cotton (*Gossypium arboreum* L.) by differential display

Master

M.Sc. (Hons) Botany (2004-2006), University of the Punjab, Lahore, Pakistan

Research Title: Isolation of imidacloprid degrading Bacteria from cotton fields

Graduation

B.Sc. (Hons) Botany (2001-2003), University of the Punjab, Lahore, Pakistan

Higher Secondary School

Higher Secondary school Certificate (2000) examination, B.I.S.E. D.G. Khan

Major Subjects: Biology, Chemistry, Physics

Secondary School

Secondary school Certificate (1996) examination, B.I.S.E. D.G. Khan

Major Subjects: Biology, Physics, Chemistry, Mathematics

Publications:

1. Yasmin, A., **Shahid, M.N.,** Arif, U., Jamal, A., (2025). Evaluation of milk thistle (*Silybum marianum*) phytochemicals as curative agents of retinoblastoma using *in-silico* approach. Journal of Herbal Medicine 50 (2025) 100992.
2. Jamal, A., Arif, A., **Shahid, M.N.,** Kiran, S., Batool, Z., (2025). Plant Secondary Metabolites Inhibit Cancer by Targeting Epidermal Growth Factor Receptor (EGFR): An Updated Review on their Regulation and Mechanisms of Action. *Asian Pac J Cancer Biol*, 10 (1), 191-206
3. Jamal, A., Nawaz, A., Arif, A., Shahid, M.N., (2025). Phytochemical and pharmacological potential of Solanum nigrum: A concise review. Acta Biologica Slovenica 68 (3).
4. Jamal, A., Arif, A., Kiran, S., **Shahid, M.N.,** Anwar, I., Shahid, A., Hossain, M.B., (2025). Phytochemistry, Therapeutic Potential and Computational Analysis of *Cucumis melo* L. Compounds Against *Mycoplasma pneumoniae* Protein. Journal of Chemistry, Volume 2025, Article ID 5209442, 21 pages. https://doi.org/10.1155/joch/5209442.
5. Ikhtiar, F., Jamal, A., Arif, A., **Shahid, M.N.,** Bokhari, SMSM (2025). Hemochromatosis and Hepatic Complications: A Comprehensive Review of Molecular Mechanisms, Diagnostics, and Emerging Therapeutics. Curr Mol Med. doi: 10.2174/0115665240371495250505054101.

6. Jamal A, Arif A, Kiran S, **Shahid MN,** Hossain MB. (2025). Phytochemical Investigations and Pharmacological Potential of Organic Extracts of *Calotropis gigantea* L. Leaves. Scientifica (Cairo). doi: 10.1155/sci5/1669969.
7. Nawaz, A., Jamal, A., Arif, A., Kiran, S., **Shahid, M.N.,** Arshad, S., Shamim, Z. (2024). Bioactive compounds isolated from Solanum nigrum remarkably inhibit cancerous activity in cancer cell lines. *South African Journal of Botany*. Volume 168, Pages 488-496.
8. Jamal, A., Arif, A., **Shahid, M.N.,** (2024). Identification of bioactive constituents in indigenously grown *Calotropis gigantea* and *Moringa oleifera* fractions by HPLC. Acta Scientiarum. Biological Sciences, v. 46, e72215.
9. Jamal, A., Arif, A., Kiran, S., **Shahid, M.N.,** Hussain, M.B., (2024). Inquisition of the phytochemistry, antioxidants, and hemolytic and antimicrobial potential of polar extracts of *Moringa oleifera* leaves indigenously grown in Pakistan. Journal of Chemistry Volume 2024, Article ID 9500215. https://doi.org/10.1155/joch/9500215.
10. **Shahid, M.N.,** Maqbool, F., Saifullah, (2024). Prediction of drought regulating gene (s) in barley (Hordeum vulgare L.) using express sequence tags (ESTs) through in silico approaches. *South African Journal of Botany,* 167, 457-466.
11. **Shahid, M.N.,** Ullah, S., Jamal, A., Mukhtar, N., Khalid, S. (2024). In silico prediction of drug based potential inhibitors against coat protein of tobacco ringspot virus. *Pakistan Journal of Botany*.
12. Nawaz, A., Jamal, A., Arif, A., Kiran, S., Arshad, S., **Shahid, M.N.,** Shamim, Z., (2023) Quercetin and chlorogenic acid as bioactive compounds show promising docking site interaction and reveal these bioactive compounds as potential targets for rheumatoid arthritis. *Informatics in Medicine Unlocked*, 43, 101388.
13. Khalid, S., Siddique, R. Shaheen, S., **Shahid, M.N.,** Shamim, Z., Khand, M.K. A. and Ulubaş Serçee. (2023). Current understanding of an Emerging Coronavirus using in silico approach: Severe Acute Respiratory Syndrome- Coronavirus-2 (SARS-CoV-2) Brazilian Journal of Biology, 2023, vol. 83, e247237
14. **Shahid, M.N.,** Shoukat, S., Jamal, A., Khalid, S., (2023). Effect of application of growth elicitors and *in silico* analysis of regulatory proteins in sweet pea (*Pisum sativum* l.) against drought stress. *Pak. J. Bot*., 55(3): 983-993.
15. **Shahid, M.N.,** Sarfraz Kiani, Bushra Rashid, Tayyab Husnain, 2023. Identification, characterization and expression profiling of salt-stress responsive proteinase inhibitor in Gossypium arboreum L. South African Journal of Botany 160 (2023) 194-200.
16. Ashraf, U., Hussain, S., **Shahid, M.N.,** Anjum, S. A., Kondo, M., Mo, Z., Tang, X., 2022. Alternate wetting and drying modulated physio-biochemical attributes, grain yield, quality, and aroma volatile in fragrant rice. Physiologia Plantarum. 2022; 174:e13833. https://doi.org/10.1111/ppl.13833.
17. Sonia, R., Shaheen, S., Khalid, S., Sharifi-Rad, J., **Shahid, M.N.,** Mukhtar, H., Khalid, Z., Harun, N., Hussain, R. A., Khan, F., 2022. Light and scanning electron microscopic comparative studies of geminivirus infected and healthy Eclipta alba (L.). Microsc Res Tech. 2022; 1-9.
18. **Shahid, M.N.,** Rasheed, S., Iqbal, M.S., Jamal, A., Khalid, S., Shamim, Z., 2022. *In silico* prediction of potential mirnas to target zymv in *cucumis melo Pak. J. Bot*., 54(4): 1319-1325.
19. Khalid, S., Zia-ur-Rehman, M., Hameed, U., Shaheen, S., **Shahid, M.N**., Jabeen, K., Khan F., Haider, M.S., 2022. Whiteflies are not responsible for transmission of chickpea chlorotic dwarf virus and mastrebegomo chimeric virus. Pakistan J. Zool., pp 1-7.
20. Nawaz, A., Arif, A., Jamal, A., Afzal, M., **Shahid, M.N.,** 2022. Isolation and characterization of phytochemicals from ethyl acetate fraction of Solanum nigrum using GC-MS. Pak. J. Pharm. Sci.,35(2); 547-552
21. Nawaz, A., Arif, A., Jamal, A., **Shahid, M.N.,** Nomani, I., Bahwerth, F.B., 2022. Medicinal plants

show remarkable antiproliferative potential in human cancer cell lines. Bioscience, Biotechnology, and Biochemistry, 86(3); 362-367.

22. **Shahid, M.N.,** Amjad, M., Ashraf, U., Jamal, A., and Wattoo, J.I. (2022). Computational analysis of catalase from different source organisms. Pak. J. Bot., 54(1)
23. **Shahid, M.N.,** Shehnaz, S., Iqbal, M.S., Shabbeer, A., Jamal, A., Khalid, S., (2021) *In silico* plum pox virus silencing via host-retrieved miRNAs in peach plant. Current Science, 121(10): 1316-1322.
24. **Shahid, M.N.,** Rasheed, S., Jamal, A., Khalid, S., Shamim, Z., (2021) In Silico Study of Protein-Protein Interactions in Mapks and pp2cs of *Medicago sativa* Discloses its Docking Sites Variations**.** Brazilian Archives of Biology and Technology, https://doi.org/10.1590/1678-4324-2021210169
25. Shaheen, S., Khan, M.N., Naeem, M.A., **Shahid, M.N.,** Jaffer, M., Mukhtar, H., (2021) Comparison of Bougainvillea spectabilis and Bougainvillea glabra species inhibited in Pakistan based on microscopic studies: Light microscope and scanning electron microscope. Microscopy Research and Technique, https://doi.org/10.1002/jemt.23987
26. Shaheen, S., Harun, N., Hussain, K., Sharifi-Rad, J., **Shahid, M.N.,** Ashfaq, M., Sonia, R., Ahmad, M. and Khan, F. (2021) Light and scanning electron microscopic study of genus Echinochloa species inhabited in Pakistan. Microsc. Res. Tech. 84: 2286–2290.
27. Shaheen, S., Sharifi-Rad J., Hussain, K., **Shahid, M.N.,** Shamim, Z., Abbas, M., Ahmad, M., Sardar, A.A., Sonia, R., and Khan, F. (2021) Micro morphological foliar taxonomic studies of genus Paspalum based on scanning electron microscopy. Microsc Res Tech; 1–9.
28. Shaheen, S., Khan, M. A., **Shahid, M.N.,** Shamim, Z., Rasool, B., Hussain, K., Khalid, S., Harun, N., Siddique, R., Sonia, R., Khan, F. (2021). Morphological and palynological assessment of taxonomically problematic genus Paspalum based on light and scanning electron microscopy. Microsc Res Tech; 1–7.
29. Khalid, S., Shaheen, S., Hussain, K., **Shahid, M.N.** and Sarwar, S. (2020). Pharmacological analysis of obnoxious water weed: Eichhornia Crassipes (mart.) Solms. The Journal of Animal & Plant Sciences, 30(6): 1465-1475.
30. Jamal, A., **Shahid, MN**., Johargy, A.K., Aftab, B., Rashid, B., and Husnain, T., (2020) Isolation, characterization and expression analysis of putative drought responsive expressed sequenced tags from *Gossypium arboreum* roots. The J. Animal and Plant Science. 30(3); 749-765
31. Jamal, A., Shahid, I., **Shahid, MN.,** Alshmemri MS., and Bahwerth, FS., (2020). Human papillomavirus, microRNA and their role in cervical cancer progression, diagnosis and treatment response: A comprehensive review. Pak. J. Biol. Sci. 23(8); 977-988.
32. Harun, N., Shaheen, S., Ahmad, M., and **Shahid, MN**. (2020). Light and scanning electron microscopy-based foliar micro morphological tools for the identification of fodder grass taxa. Micros. Res. tech. 83(5); 953-978.
33. Khalid, S., Shaheen, S. Hussain, K. **Shahid, MN.** and Sarwar, S. (2020). Pharmacological analysis of obnoxious water weed: *Eichhornia crassipes* (mart.) Solms. The Journal of Animal & Plant Sciences, 30(6): 1465-1475
34. **Shahid, MN,** Jamal, A., Kiani, MS., Wattoo, JI., Rashid, B., Husnain, T., (2019). Proton gradient regulator 5 (GPGR5) of Gossypium arboreum enhances salt-stress tolerance in Gossypium hirsutum, Current Science, 117(9); 1505-1511
35. Jamal, A., **Shahid, MN**., Aftab, B., Husnain, T., (2019). Generation and analysis of expressed sequence tags from roots cDNA library of cotton (*Gossypium arboreum*). Pakistan Journal of Botany, 51(4); 1303-1310.
36. Wattoo, JI., Liaqat, S, Mubeen, H., Ashfaq, M., **Shahid, MN**., Farooq, A., Sajjad, M., Arif, M., (2019) Genetic Mapping of Grain Nutritional Profile in Rice using Basmati Derived Segregating Population Revealed by SSRs. International Journal of Agriculture & Biology, 21(5): 929–935
37. Iqbal, F., Sadique, S., Batool, F., Sarwar, MB., Rashid, B., **Shahid, MN.,** Shahid, AA., Husnain, T. (2017) Zinc finger transcription factor induces the drought, salt and cold stress tolerance in transgenic cotton. Indian J. Biotech., 16: 457-464.

38. **Shahid, MN.,** Jamal A., Aftab B., Mohamed BB., Wattoo JI., Kiani MS., Rashid B., Husnain T. (2016) Identification, characterization and expression profiling of salt-stress tolerant proton gradient regulator 5 (*PGR5*) in *Gossypium arboreum.* Turk J Biol. 40: 889-898.
39. Wattoo JI., Iqbal MS., Rubab I., Ashraf MA., Saleem Z., **Shahid MN.,** Sajjad M., Arif M., Iqbal M. (2015) Homology modeling, functional annotation and comparative genome analysis of *GBSS* enzyme in rice and maize genomes. Int J of Agric and Biol. 17: 1061-1065.
40. Jamal A, **Shahid MN.,** Aftab B., Rashid B, Kiani MS., Mohamed BB., Sarwar, MB., Hassan, S., Husnain T. (2015). Alterations In Photosynthetic, Water Relations And Biochemical Components In Cotton Subjected To Drought Stress. J of global Biosci 4(2): 1517-1529.
41. Jamal A, **Shahid MN.,** Aftab B., Rashid B, Sarwar, MB., Mohamed, BB., Hassan, S., Husnain T., (2014). Water stress mediated changes in morphology and physiology of Gossypium arboreum (var FDH-786). J of Plant Sci. 2(5): 179-186.
42. Aftab B., **Shahid MN**., Riaz S., Jamal A., Mohamed BB., Zahur M., Aftab M., Rashid B., Husnain T. (2014) Identification and expression profiling of CLCuV responsive transcripts in upland cotton (*Gossypium hirsutum*. L). Turk J Biol. **38**: 226-237.
43. Mohamed, BB., **Shahid, MN.,** Rashid, B., Jamal, A., Aftab, B., Dahab, AA., Kiani, S., Ashrif, MA., Sarwar, MB., Hassan, S., and Husnain, T (2014) Identifying salt stress-responsive transcripts from Roselle (*Hibiscus sabdariffa* L.) roots by differential display. Afri. J. of Biotech. **13 (53):** 4775-4781.
44. Kiani S., Mohamed BB., Shehzad K., Jamal A., **Shahid MN**., Shahid AA., Husnain T. (2013) Chloroplast-targeted expression of recombinant crystal-protein gene in cotton: An unconventional combat with resistant pests. J. of Biotech. 166: 88– 96.
45. Mohamed BB., Sarwar MB., Rashid B., Dahab AA., Jamal A., **Shahid MN**., Aftab B., Hassan S., Husnain T. (2013) Physiological and biochemical responses of Roselle (*Hibiscus sabdariffa* L.) to NaCl stress. *Agrochimica*, **57(3):** 250-266.
46. **Shahid MN**., Jamal A., Rashid B., Aftab B., Husnain T. (2012) Identification and isolation of salt-stress-responsive transcripts from *Gossypium arboreum* L. Turk J Biol **36:** 746-756.
47. Zahur M, Maqbool A, Irfan M, Jamal A, **Shahid MN**, Aftab B, Husnain T. (2012) Identification and Characterization of a Novel Gene Encoding Myb-Box Binding Zinc Finger Protein In *Gossypium arboreum*. Biologia Plantarum 56 (4): 641-647.
48. **Shahid MN.**, Jabeen, F., Hussan SW. (2009). Isolation of imidacloprid degrading bacteria from industrial sites. Sci. Int. 19(4): 287-290.

Book Chapters

1. Shamim, Z., Razzaq, H., **Shahid, MN.,** Awan, M.T., Chapter 14 - Generation of New Landraces of Forage Species: Red Fescue and Clover, Editor(s): Muhammad Tehseen Azhar, Shabir Hussain Wani, Wild Germplasm for Genetic Improvement in Crop Plants, Academic Press, 2021, 259-268, https://doi.org/10.1016/B978-0-12-822137-2.00014-X.
2. Ashraf, U., Mahmood, S., **Shahid, MN.,** Imran, M., Siddique, M., Abrar, M. (2022). Multi-omics Approaches for Strategic Improvements of Crops Under Changing Climatic Conditions. In: Prakash, C.S., Fiaz, S., Fahad, S. (eds) Principles and Practices of OMICS and Genome Editing for Crop Improvement. Springer, Cham. https://doi.org/10.1007/978-3-030-96925-7_3
3. Umair Ashraf, Munazza Kiran, **Muhammad Naveed Shahid,** Shakeel Ahmad Anjum, and Imran Khan, Biofortification Through Seed Priming in Food Crops: Potential Benefits and Future Scope.
4. *Umair Ashraf,* ***Muhammad Naveed Shahid,*** *Shiza Ayaz Khilji, Munazza Kiran, Sammina Mahmood, Iqra Yousaf,Shakeel Ahmad Anjum, Lin Li.* Nanofertilizers for Growing Fortified Crops: A Need of the Day.
5. Umair Ashraf, **Muhammad Naveed Shahid**, Fatima Batool, Sammina Mahmood, Ghulam, M Mustafa, Muhammad Aqeel, Muhammad Abrar, Hummera Nawaz. Application of Nanomaterials in Agriculture

Conference/ Seminar/ Workshop Organized

1. 1st International Conference on *Recent Approaches in Plant Sciences* (RAPS-2022) organized at Department of Botany, University of Education, Lahore on March 30-31, 2022
2. A webinar on "*An Overview of Wheat Biotechnology*" organized at Department of Botany, University of Education, Lahore on November1, 2021.
3. An international virtual seminar on "*How modern molecular techniques are shaping agriculture*" organized by Department of Botany, University of Education, Lahore on August 24, 2020.
4. 6th International conference on "*Science beyond classroom*" organized by University of Education, Lahore on March 5-7, 2018.

Participation in Conference/ Seminar/ Workshop

1. Online international Training Program on "*Role of Healthy soil plant interactions towards achieving resilient agriculture*" Organized by MARDI, Malaysia on 21 Feb-03 March, 2022.
2. PSF Workshop on "Establishing & leading a research group" held at COMSATS, Lahore on May 02-03, 2016
3. First workshop on core techniques of biotechnology was held at Institute of molecular biology and biotechnology, The University of Lahore on Feb 15-19, 2016.
4. CIIT workshop on "Supervising & mentoring research students" held at COMSATS, Lahore on Sep 17-18, 2015.
5. 1st National Conference on Integrated Role of Forensic Sciences in Criminal Justice System held on Sep-25, 2014 in The University of Lahore, Lahore

Research Project:

Identification and expression study of transcripts in cotton under abiotic stress PI 0.5 M HEC 1 year

Research Students Supervised/Supervising

Ph.D. Students

S. No.	Student Name	Thesis Title	Year	Current Status
1	Laraib Iqra	In Silico Genome Wide Identification and Characterization of Salt Overly Sensitive (SOS) Gene Family in Cotton (*Gossypium hirsutum* L.) Under Abiotic Stresses	2026	In Progress
2	Ayesha Shafqat	Improving Salinity Stress Resilience in Zea mays L. through the Synergy of Beneficial Microbes and Nanomaterials	2026	In Progress

MS/M Phil Students

S. No.	Student Name	Thesis Title	Year	Current

				Status
1	Saifullah	Prediction of drought regulating gene (s) in barley (*Hordeum vulgare* l.*)* using express sequence tags (ESTs) through *in silico* approach	2022	completed
2	Arfa	3D structure refinement and quality assessment of *ricin* through *in-silico* studies	2021	completed
3	Safia Shoukat	Predicting the interaction of nicotinamidase and nicotinamide in tobacco (*Nicotiana tabacum* L.) using *in-silico* approach	2021	completed
4	Maryam Zawar	Molecular docking and physicochemical characterization of ace inhibitory peptides obtained from hydrolysis of proteins in sweet wormwood (*Artemisia annua* L.)	2021	completed
5	Faiza Younis	Virtual analysis of potential inhibitors for coat proteins of *tobacco ringspot virus*	2020	completed
6	Kiran Bilal	*In silico* prediction of MAPK and PP2C interaction in *Gossypium raimondii* ulbr.	2020	completed
7	Fariha Fareed	Identification and characterization of abiotic stress tolerant genes in cotton (*Gossypium hirsutum* L.) through *in silico* study	2020	completed
8	Sania Rasheed	Protein - protein interaction studies in alfalfa (*Medicago sativa* L.) through *in silico* approach	2020	completed
9	Aneela Shabbeer	*In silico* apple chlorotic leaf spot virus (ACLSV) silencing via host retrieved miRNAs in orchard apple	2019	completed
10	Fatima Khaliq	Identification and characterization of wax related transcript(s) from *Agave sisalana* under drought stress	2019	completed
11	Tanzeela Masood	Identification and characterization of myb related transcription factors gene(s) from *Agave sisalana* under drought stress	2019	completed
12	Faiza Younas	Target prediction of host retrieved miRNAs with potential silencing of tomato chlorosis virus in tomato plant	2019	completed

BS Students

S. No.	Student Name	Thesis Title	Year	Current Status
1	Safia Shaukat	Effects of ascorbic acid and salicylic acid on sweet pea (*Pisum sativum* l) against drought stress	2019	completed
2	Mahnoor Amjad	Computational analysis of catalase from different source organisms	2019	completed
3	Saima Saddique	Effect of salicylic acid and ascorbic acid on pea plant under cold stress	2019	completed
4	Syeda Shehnaz	Computational methods for miRNA target prediction to plum pox virus (PPV) in peach plant	2018	completed
5	Amina Nawaz	Prognosis of host glean miRNAs with possible targets maize dwarf mosaic virus (MDMV) in Sorghum plant	2018	completed
6	Aqsa Aslam	Target prediction of soybean miRNAs with tobacco ring spot virus using computational methods	2018	completed
7	Sania Rasheed	Prediction of host-derived miRNAs with the potential to target Zucchini yellow mosaic virus (ZYMV) in *Cucumis melo*	2018	completed

8	Mahwish Nadeem	In silico wheat streak mosaic virus (WSMV) silencing conclude potential host-derived miRNAs in Wheat	2018	completed