

CURRICULUM VITAE

Dr. Humera Afrasiab

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University of the Punjab,
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Education:

- 2006 PhD in Botany, University of the Punjab, Lahore. Pakistan.
Dissertation title: “Biochemical and molecular markers of somaclonal variants and induced mutants of potato (*Solanum tuberosum* L)”.
- 1985 M.Sc. in Botany, University of the Punjab, Lahore. Pakistan.
Dissertation title: “Effect of post-irradiation IAA treatment of seeds on distribution of Nucleic acid content during early growth of *Raphanus sativas*. L”.
- 1981 B.Sc. University of the Punjab, Lahore, Pakistan.

Employment:

- 2004-Current: Assistant Professor, Department of Botany, University of the Punjab, Lahore, Pakistan.
- 2000-2004: Lecturer, Department of Botany, University of the Punjab, Lahore, Pakistan.
- 1999-2000: Research Officer, Department of Botany, University of the Punjab, Lahore, Pakistan.
- 1985-1999: Research Officer, Centre for Advanced Molecular Biology, University of the Punjab, Lahore, Pakistan
- 1985-1985: Research Fellow, Centre for Advanced Molecular Biology, University of the Punjab, Lahore, Pakistan

Honors/Awards:

1. Gold medal awarded for securing 1st position in M.Sc. Botany by the University of the Punjab. Lahore. Pakistan.
2. Two advance increments on the basis of First Class First in M.Sc.
3. HEC Approved Supervisor (2010).
4. Incentive Award (from 01-01-2004 and 01-01-2004).
5. Performance Evaluation Award (01-01-2006 to 31-12-2006).
6. Incentive Award on research publication (2008).
7. Performance Evaluation Award (01-01-2008 to 31-12-2008).
8. Annual increment on the basis of research publications (2008-2009).
9. Annual increment on the basis of research publications (2010).
10. Performance Evaluation Award (01-01-2011 to 31-12-2011).
11. Honorarium/Performance Based Increment for the year 2012.
12. Annual increment on the basis of Self-Assessment Report for the year 2013.
13. Annual increment on the basis of Self-Assessment Report for the year 2014.
14. Annual increment on the basis of research publications (2015).
15. Annual increment on the basis of research publications (2017).

Publications:

1. Islam, R. **Farooqi, H.** and Riazuddin, S. (1993). *In vitro* organogenesis of chickpea and its transformation by *Agrobacterium tumefaciens*. ***Plant Tissue Culture (Presently Plant Tissue Culture and Biotechnology*** since 2002). 3(1): 29-34. **(I. F. 0.37)**.
2. Islam, R. Riazuddin, S. and **Farooqi, H.** (1995). Clonal propagation from seedling nodes and shoot apices of Chickpea (*Cicer arietinum* L.). ***Plant Tissue Culture (Presently Plant Tissue Culture and Biotechnology*** since 2002). 5(1): 53-57. **(I.F. 0.37)**.
3. Islam, R., **Farooqi, H.** and Riazuddin, S. (1998). *In vitro* Genotype-Phytohormone interaction in Chickpea (*Cicer arietinum* L.). ***Plant Tissue Culture (Presently Plant Tissue Culture and Biotechnology*** since 2002) 8(2):173-175. **(I. F. 0.37)**.
4. Ali, A., **Afrasiab, H.**, Rauf, M. and Iqbal, J. (2008). An efficient protocol for *in vitro* propagation of carnation (*Dianthus caryophyllus*). ***Pakistan Journal of Botany***. 40(1): 111-121. **(I.F. 0. 794)**.

5. Aftab, F., Alam, M. and **Afrasiab, H.** (2008). *In vitro* multiplication and callus induction in *Gladiolus hybridus* Hort. ***Pakistan Journal of Botany*. 40(2): 517-522. (I.F. 0.794).**
6. **Afrasiab, H.** and Iqbal, J. (2010). *In vitro* techniques and mutagenesis for the genetic improvement of potato (*Solanum tuberosum* L) cvs. Desiree and Diamant. ***Pakistan Journal of Botany*. 42(3): 1629-1637. (I.F. 0.794).**
7. **Afrasiab, H.** and Jafar, R. (2011). Effect of different media and solidifying agents on callogenesis and plant regeneration from different explants of rice (*Oryza sativa* L) varieties Super Basmati and IRRI-6. ***Pakistan Journal of Botany*. 43(1): 487-501. (I.F. 0.794).**
8. **Afrasiab, H.** and Iqbal, J. (2012). Genetic analysis of somaclonal variants and induced mutants of potato (*Solanum tuberosum* L.) cv. Diamant using RAPD markers. ***Pakistan Journal of Botany* 44 (1): 215-220. (I.F. 0.794).**
9. **Afrasiab, H.** and Iqbal, J. (2012). Biochemical and molecular characterization of somaclonal variants and induced mutants of potato (*Solanum tuberosum* L.) cv. Desiree. ***Pakistan Journal of Botany*. 44(5): 1503-1508. (I.F. 0.794)**
10. Intzaar, S., Akram, M. and **Afrasiab, H.** (2013). High frequency multiple shoot formation of Pygmy Groundcherry (*Physalis minima*, L): an endangered plant. ***International Journal of Agriculture and Biology*. 15: 755-760. (I.F. 0.890).**
11. **Afrasiab, H.** and Aman, N. (2014). Primary and secondary somatic embryogenesis from leaf explants of Rosemary (*Rosmarinus officinalis* L.). ***Pakistan Journal of Botany*. 46(3): 903- 909. (I.F. 0.794).**
12. Ali, N and **Afrasiab, H.** (2014). Effect of TIBA and other plant growth regulators on callogenic response from different explants of Safflower (*Carthamus tinctorius* L). ***International Journal of Agriculture and Biology*. 16: 1112-1116. (I.F. 0.890).**
13. Afrasiab, H, Rashid, N. and Akram, M. (2017). An efficient method for direct shoot regeneration from leaf explants of *Solanum nigrum* induced by thiadizuron. ***International Journal of Agriculture and Biology*. 19(2): 348-354. (I.F. 890).**

14. Firdaus-e-Bareen, Sarwat Saeed and Humera Afrasiab. (2017). Differential mobilization and metal uptake versus leaching in multi-metal soil columns using EDTA and three metal bioaccumulators. *International Journal of Phytoremediation*. DOI. Org. 10.1080/15226514.2017.1328391. **(I.F. 2.528)**.
15. Arshad, N., Mehreen, A., Liaqat, I., Arshad, M. and **Afrasiab, H.** (2017). *In vivo* screening and evaluation of four herbs against MRSA infection. *BMC Complementary and Alternative Medicine*. **17**:498-505. DOI 10. 1186/s 12906-017-2001-z. **(I.F. 3.02)**.
16. Riazuddin, S. Husnain T., Malik, T., **Farooqi, H.** and Abbas, T. (1988). Establishment of callus tissue cultures and the induction of organogenesis in chickpea (*Cicer arietinum*, L.). *Pakistan Journal of Agricultural Research*. **9**: 339-345. **(HEC Recognized)**.
17. **Farooqi, H.**, Malik, T., Islam, R. Haider, T. and Riazuddin, S. (1994) Tissue culture of chickpea and its transformation by *A. tumefaciens*. *Pakistan Journal of Agricultural Research*. **15**(1): 317-319. **(HEC Recognized)**.
18. **Afrasiab, H.** Nasir, I. A. and Riazuddin, S. (1996). *In vitro* regeneration and plant establishment of Amaryllis (*Hippeastrum hybrida*). *Journal of Biosciences*. 4:57-62. **(HEC Recognized)**.
19. Nasir, I. A., **Afrasiab, H.** and Riazuddin, S. (1996). Plant regeneration of Gladiolus through *in vitro* technique. *Journal of Biosciences*. 4:165-169. **(HEC Recognized)**.
20. Ali, A., **Afrasiab, H.**, Saeed, M. and Iqbal, J. (2004). An *in vitro* study of regeneration and micropropagation of *Mentha arvensis*. *International Journal of Biology and Biotechnology*. 1(4): 519-528. **(HEC Recognized)**.
21. Ali, N., **Afrasiab, H.** and Anwar, S. (2019). Antibacterial activity of leaf extracts of seven grape cultivars against six strains of bacteria. *Advancements in Life Sciences*. **6**(4) 159- 164. **(HEC recognized)**.
22. Tariq, A., **Afrasiab, H.** and Farhat, F. (2020). *In vitro* culturing of *Citrullus colocynthis* L.: an endangered medicinal plant. *Advancements in Life Sciences*. 8(1): 52-58. **(HEC recognized)**.
23. Naseem, R. Latif, Z. and **Afrasiab, H.** (2021). Characterization of bacterial strains from rotten fruits treated with harmful preservatives.

Advancements in Life Sciences.8(3): 0-0. Accepted for publication in May 2021.

24. Batool, N., Afrasiab, H. and Latif, Z. (2021). Induction of salinity tolerance in Basmati rice varieties by in vitro step up NaCl treatment method. *Advancements in Life Sciences*.8(3): 0-0. Accepted for publication in May 2021.
25. Islam, R., Farooqi, H. and Riazuddin, S. (1999). Improved efficiency in Chickpea tissue culture: Effects of pre-soaking and age of the explants on *in vitro* shoot proliferation. *International Chickpea and Pigeon pea Newsletter*. 6: 36-37.
26. Akram, M., Afrasiab, H., Shahid, M. and Aftab, F. (2007). Monoterpene contents of *in vitro* and field grown plants of mint (*Mentha arvensis* L.). *Pak. J. Biochem. Mol. Biol.*; 40(2): 74-79.
27. Arif, M., Rauf, S., Khan, A., Rauf, M. and Afrasiab H. (2014). High frequency plant regeneration from leaf derived callus of *Dianthus caryophyllus* L. *American Journal of Plant Sciences*. 5(15): 2454-2463. DOI 10.4236/ajps.2014.515260.
28. Mumtaz, K., Akram. M. and Afrasiab, H. (2016). *In vitro* plant regeneration and microtuberization of potato (*Solanum tuberosum* L.) variety Lady Rosetta. *Journal of Innovative Sciences*. 2(1): 1-9.
29. Ali, N., Afrasiab, H. and Anwar, S. (2017). Micropropagation and acclimatization of European varieties of grapes (*Vitis vinifera* L.). *International Journal of Advances in Biology*.4(1/2/3): 1-11.
30. Ali, N., Afrasiab, H. and Jabeen, F. (2018). Antioxidant activity of methanolic extracts of indigenous and European varieties from Pakistan. (2018). *Indo American Journal of Pharmaceutical Sciences*. 5(9): 9431- 9439. DOI.org/10.5281/zenodo.1443424.
31. Anwar, S., Afrasiab, H. and Ali, N. (2019). Evaluation of antioxidant and antibacterial activity of methanolic extracts of indigenous garlic cultivars from Pakistan. *Indo American Journal of Pharmaceutical Sciences*. 6(4):7377-7384.
32. Afrasiab, H. and Khalid, A. (2019). Micropropagation and callogenesis of *Pisum sativum* L. cultivars, Climax and Janass. *Journal Plantarum*. 1(1): 12-16.

Abstracts:

1. Riazuddin, S., Malik, T. **Farooqi, H.** and Haider, T. (1988) Transformation of chickpea by *A. tumefaciens* and *A. rhizogenes*. Abstract in 16th International Congress of Genetics, August 20-27, Toronto, Canada. **Genome** Vol 30, Supp 1. Page 478. **(I.F. 1.709)**.
2. Riazuddin, S., Khan, E., Husnain, T., Karim, S., Makhdoom, R., Khanum, F., **Farooqi, H.** and Fatima, T. (1994). Transformation of Indica rice and cotton with Bt pesticidal genes. Abstract no. 492. 7th International Symposium on Molecular Plant-Microbe Interaction. University of Edinburgh, Scotland. June 26- July 01.
3. Iqbal, J. and **Afrasiab, H.** (2003). *In vitro* microtuberization in *Solanum tuberosum* L. cvs. Johar, Sante, Kiran and Raja. Abstract in 7th International Conference on “Trends in Biochemistry and Molecular Biology” held at Institute of Biochemistry and Biotechnology, University of the Punjab Lahore. April 02 – April 05.

Poster/Paper Presentation:

1. Naila Ali and **Humera Afrasiab.** (2012). *In vitro* germination and callogenesis of Safflower (*Carthamus tinctorius* L.). PPBB34. At 12th National and 3rd International Conference of Botany. Quaid-e-Azam University Islamabad. Sept 01-03, 2012).
2. Sabahat Anwar and **Humera Afrasiab** (2012). Effect of different growth regulators and Media on callus induction in Amla (*Emblica officinalis*). PPBB44. At 12th National and 3rd International Conference of Botany. Quaid-e-Azam University Islamabad. Sept 01-03, 2012).
3. Sadia Intzaar, Muhammad Akram and **Humera Afrasiab** (2012). Micropropagation and shoot proliferation of Pygmy Groundcherry (*Physalis minima* L.): A threatened medicinal herb. At 12th National and 3rd International Conference of Botany. Quaid-e-Azam University Islamabad. Sept 01-03, 2012).
4. Maimoona Ilyas and **Humera Afrasiab.** (2018). Effect of growth regulators on tissue culturing, antioxidant, and antibacterial activity of

Lemon grass (*Cymbopogon citratus* DC.) Stapf. At Plant Sciences Conference held at Government College University, Lahore, Pakistan, from 6-8 Dec. 2018.

Research Grants:

- 1989: "Transfer and expression of BT genes in Tobacco," Third World Academy of Sciences (TWAS). (US\$ 5000).
- 2004: "Development of disease-free, high quality turmeric plants/seeds through tissue culture technology," University of the Punjab. (Rs. 1,60,000).
- 2009-10: "Establishment of tissue culture conditions for callogenesis and regeneration of medicinal plant Periwinkle (*Catharanthus roseus*)," University of the Punjab, Lahore. (Rs. 1,25,000).
- 2010-11: "Effects of 2, 4-D (2, 4-Dichlorophenoxyacetic acid) and TIBA (2,3,5-Triiodobenzoic acid) on callogenesis and regeneration from different explants of Rice (*Oryza sativa* L) cultivars IRRI9 and Bas-386," University of the Punjab, Lahore. (Rs. 1,50,000).
- 2011-12: "Effect of plant growth regulators on callogenesis and regeneration of Rosemary," University of the Punjab, Lahore. (Rs. 1,50,000).
- 2012-13: "Callogenesis and micropropagation of medicinal plant Safflower (*Carthamus tinctorius* L.)", University of the Punjab, Lahore. (Rs. 1,50,000).
- 2013-14. "Microtuberization of potato (*Solanum tuberosum* L) variety Lady Rosetta". University of the Punjab, Lahore. (Rs. 1,50,000).
- 2014-15: Micropropagation of hybrid papaya (*Carica papaya* L.) (Rs. 1,50,000).
- 2015-16: Tissue culture studies of lemon grass (*Cymbopogon citratus* L) (Rs. 1,50,000).
- 2009-10. Lumpsum Provision for Research. University of the Punjab, Lahore. (Rs. 5,60,000).
- 2010-11. Lumpsum Provision for Research. University of the Punjab, Lahore. (Rs. 11,50,000).
- 2013-14. Lumpsum Provision for Research. University of the Punjab, Lahore. (Rs. 5,30,000).
- 2015-16. Lumpsum Provision for Research. University of the Punjab, Lahore. (Rs. 7,44,000)

Research Supervision at Post-Graduate Level:

i) M.Sc.

1. Salinity tolerance studies in *in vitro* grown *Solanum tuberosum* (cvs. Cardinal and Diamant). (Adeela Haroon, M.Sc., 2002).
2. *In vitro* regeneration and micropropagation of *Mentha arvensis* (Japanese mint). (Misbah Saeed, M.Sc., 2003).
3. Micropropagation and hardening of Aloe vera. (*Aloe barbadensis* Mill.) (Perveen, M.Sc., 2003)
4. Micropropagation and callogenesis of carnation (*Dianthus caryophyllus* L.). (Mamoona Rauf, M.Sc., 2004).
5. *In vitro* micropropagation and callogenesis of *Mentha arvensis* (Japanese mint). (Samina Sarwar, M.Sc., 2004).
6. *In vitro* micropropagation and callogenesis of *Dracaena* (*Dracaena deremensis* L.). (Sidra Iqbal, M.Sc, 2008).
7. *In vitro* micropropagation and callogenesis of Grape. (*Vitis vinifera* L.). (Tehmina Yasmeen, M.Sc. 2008).
8. Callogenesis and regeneration of *Oriza sativa* L cvs Super Basmati and IRRI-6 (Rabia Jafar, M.Sc 2009).
9. Effects of TIBA (2, 3, 5-Triiodobenzoic acid) on germination, callus induction and regeneration in different varieties of rice (*Oryza sativa* L). Saadia Sarwar, (M.Sc, 2010).
10. *In vitro* callogenesis and organogenesis in *Withania somnifera*. Shazia Khanum (M.Sc, Session 2009-2011)
11. Callogenesis and plant regeneration in *Datura innoxia*. Fatima Ishrat (M.Sc, Session 2009-2011).
12. Callogenesis, regeneration and microtuberization of potato (*Solanum tuberosum* L.) cv. Lady Rosetta. Komal Mumtaz (M.Sc. Session 2010-2012).
13. Tissue culture and plant regeneration of Sweet Alyssum (*Lobularia maritima* L.) Ruba Arshad (M.Sc. Session 2011-13).
14. Tissue culture conditions of endangered medicinal plant *Citrullus colocynthis* L. (Arneeb Tariq, M.Sc Session 2011-13).
15. Micropropagation and callogenesis of *Chrysanthemum* sp. Bushra Ahmed (M.Sc Session 2012-14).
16. Micropropagation and callogenesis of *Vitis vinifera*. Nazia Arshad (M.Sc Session 2013-15)
17. Micropropagation and callogenesis of *Verbena x hybrida* L. Iqra Rafiq (M.Sc session 2013-15)

18. Micropropagation and callogenesis of indigenous and exotic garlic (*Allium sativum* L.) cultivars. Ambreen Munawwar (M.Sc Session 2013-15).
19. Micropropagation, Callogenesis and Regeneration of some cultivars of Potato (*Solanum tuberosum* L.) Seeman (Session 2014-16)
20. Tissue culture studies on *Lilium ledebourii* (Baker) Boiss. Hina Rukhsar (Session 2014-16)
21. Effect of growth regulators on callogenesis and regeneration of pea cultivars and evaluation of their antifungal activity. Ammara Khalid (Session 2016-18).
22. *In vitro* studies of two *Pisum sativum* L. cultivars, Lina Pak and Ronaldo and evaluation of their antibacterial activity in field. Kalsoom Bano (Session 2016-2018).

ii) **MS/M.Phil.**

1. Effect of Sodium azide on *in vitro* regeneration potential in potato (*Solanum tuberosum* L) cv. Desiree and its biochemical analysis. (Nusrat Batool, M.Sc (Hons.), 2006).
2. Callogenesis, regeneration and study of alkaloids in *Peganum harmala* (Sehar Fatima, MS, 2010).
3. Establishment of tissue culture conditions for callogenesis and somatic embryogenesis in Rosemary (*Rosmarinus officinalis*). (Noreen Aman, MS 2010).
4. Establishment of tissue culture conditions and production of different alkaloids from callus cultures of Periwinkle (*Catharanthus roseus*, (L) G. Don.) (Aidah Liaqat, MS, 2010).
5. Comparison of castor oil production from *in vitro* cultures and seeds of Castor bean (*Ricinus communis*) (Samrina Sarfaraz, M.Phil. 2010).
6. *In vitro* plant regeneration via callogenesis in safflower (*Carthamus tinctorius* L.), Naila Ali (M.Phil Session 2009-2011)
7. Effect of different growth regulators and media on callus induction in Amla (*Emblica officinalis*). Sabahat Anwar (M.Phil, Session 2009-2011)
8. Establishment of tissue culture conditions for callogenesis and regeneration in clove. (*Syzygium aromaticum* L.) Romana Asad (MS, Session 2009-2011)
9. *In vitro* propagation and regeneration of *Physalis minima* L. Sadia Intzar (MS Session, 2010-2012).
10. Establishment of tissue culture conditions for micropropagation, callogenesis and plant regeneration in *Solanum nigrum* L. Nadia Rasheed (M.Phil Session 2010-2012)

11. Effect of different growth regulators and culture conditions on callogenesis in clove (*Syzygium aromaticum* L.) Ammara Mukhtar (MS Session 2011-13).
12. *In vitro* micropropagation and callogenesis of marigold (*Tagetes erecta* L.) Iqra Javed (MS, Session 2011-13).
13. Establishment of tissue culture conditions for callogenesis and regeneration in Gerbera (*Gerbera jamesonii* L. Kousar Latif (M.Phil, Session 2011-13).
14. *In vitro* micropropagation, callogenesis and regeneration of hybrid papaya (*Carica papaya* L.) Afshan Shehzadi (M.Phil, Session 2011-13)
15. Tissue culture studies of *Hippeastrum hybrida* L. Fatima Ishrat (MPhil, Session 2013-14)
16. Tissue culture studies of Lemon grass (*Cymbopogon citratus* L.) Asma Arif (MS, Session 2013-14).
17. Effect of growth regulators on callogenesis and antioxidant activity of Lemon grass (*Cymbopogon citratus* L.) Maimoona Ilyas (Session 2014-16)
18. *In vitro* propagation and estimation of antibacterial and antioxidant activities of *Cymbopogon citratus* (D.C.) Stapf. Sunila Hameed (Session 2014-16)
19. Tissue culture studies of *Verbena x hybrida* and evaluation of its antioxidant and antibacterial activities Komal Mumtaz (Session 2014-16)

iii) **PhD**

1. Molecular diversity among *in vitro* and field grown Grapevine cultivars from Pakistan (Naila Ali) (**Degree notified in 2020**).
2. *In vitro* propagation and antioxidant activity of indigenous garlic cultivars from Pakistan and their molecular characterization. (Sabahat Anwar) (**Thesis submitted**).
3. Comparison of *in vitro* strep up NaCl treatment and gamma irradiation for induction of salt tolerance in basmati rice varieties (Naveeda Batool). (**Thesis submitted**).
4. Effect of elicitation on steviol glycosides production, antioxidant activity and transcriptional gene expression in *Stevia rebaudiana* Bertoni. (Afshan Shahzadi) (**Research work and thesis write-up in progress**).
5. Morphological, Biochemical and Molecular characterization of Pea cultivars under salt and heavy metal stress. Fatima Ishrat (**Research work and thesis write-up in progress**).

Research Interests:

Plant Tissue Culture, Secondary Metabolite production, Plant Transformation, Stress Biology, Antioxidant and Antibacterial properties of plants, Molecular Biodiversity, Biochemical and Molecular characterization.

Courses taught at Graduate, Post-graduate level and PhD level:

1. Cell and Molecular Biology (Course code: Bot-504)
2. Biostatistics.
3. Plant Tissue Culture (Course code: Bot-3651& 3652)
4. Plant Tissue Culture and its agricultural applications (Course code: Bot-H-18)
5. Plant Tissue Culture and its role in crop improvement (Course code: Bot-Sp-18)
6. Plant Transformation (Course code: Bot-505)
7. An introduction to Horticulture (Course code: Bot-507)

Training courses attended.

1. Participated in a three- week training course on "Recombinant DNA Techniques" at CAMB, University of the Punjab, Lahore (Feb. 10-28, 1986).
2. Participated in a one- week training course in "Protein Techniques" at CAMB, University of the Punjab, Lahore (April 5-12, 1986).
3. Participated in Orientation Program for New Faculty 2002. Organized by Human Resource Development Centre, Institute of Administrative Sciences, University of the Punjab, Lahore (Jan 22- Feb 14, 2002).
4. Participated in Workshop on Self-Assessment Manual. Organized by University of the Punjab, Lahore. (Dec 18, 2006).
5. Participated in Workshop on Innovations in Assessment. Organized by University of the Punjab, Lahore. (Jan 15, 2007).
6. Participated in Workshop on Development of Sustainable and Collaborative Research Networks. Organized by Lahore College for Women University, Lahore. 13-14, Dec. 2010.
7. Participated in 2nd International Seminar on Medicinal Plants. Organized by British Council, University of Portsmouth, at Lahore College for Women University, Lahore, January 14-16, 2010.
9. Attended Workshop on Biosafety and Risk Assessment. Organized by Biosafety

- and Bioresource Committee, University of the Punjab, Lahore. April 19, 2014.
10. Participated in Indigenous on-Campus Training Program for Management Team. Dec. 08-12, 2014, organized by the University of the Punjab in collaboration with HEC.

Training courses arranged.

1. Member organizing committee and Instructor of Second Regional Training Course on "Recombinant DNA Techniques used in Plant Genetic Engineering" at CAMB, University of the Punjab. (Sept. 26 - Oct. 15, 1987).
2. Member organizing committee and Instructor of "Third Regional Training Course on Plant Biotechnologies" at CAMB, University of the Punjab (Dec. 10-31, 1988).

Conferences/Symposia/Seminars/Workshops attended.

1. Second National Conference of Plant Scientists 25-28 Nov. 1984, Botany Department, University of the Punjab, Lahore, Pakistan.
2. Twenty Third National Science Conference, 27 Dec. 1985-Ist Jan.1986. University of the Punjab, Lahore, Pakistan.
3. One day International Mini-Symposium, Oct. 21, 1986, Centre for Advanced Molecular Biology, University of the Punjab, Lahore, Pakistan.
4. International Symposium Workshop on the "Applications of Genetic Engineering to Basic Biology and Agriculture" March 29-April 2, 1987, at CAMB, University of the Punjab, Lahore, Pakistan.
5. Second International Symposium Workshop on the "Applications of Genetic Engineering" Oct. 18-22, 1987, at the Centre for Advanced Molecular Biology, University of the Punjab, Lahore, Pakistan.
6. International Symposium Workshop on "DNA Technology in the Improvement of Oil Seed Crops" Nov. 7-8, 1989. National Agricultural Research Centre, Islamabad, Pakistan.
7. National/International Telecommunication Symposium on Plant Biotechnology, Aug. 16-19, 1990 at Pakistan Agricultural Research Council, NARC, Islamabad, Pakistan.
8. SAARC Symposium Workshop on the "Biological Control of Agriculturally Important Plant Pests" Dec. 16-18, 1991 at CAMB, University of the Punjab, Lahore, Pakistan.
9. Third International Symposium Workshop on "The Applications of DNA

- Technology to Agriculture and Health" Oct. 25-28, 1992 at CEMB, Punjab University, Lahore, Pakistan.
10. Fourth International Symposium Workshop on the "Applications of Molecular Biological Research in Agriculture, Health and Environment". April 8-11, 1995 at CEMB, University of the Punjab, Lahore, Pakistan.
 11. Fifth International Symposium-Workshop on the "Applications of Molecular Biological Research in Agriculture, Health and Environment". October 14-15, 1997 at CEMB, University of the Punjab, Lahore, Pakistan.
 12. International Symposium-workshop on "Genomics and Computational Analysis". October 16- 18, 1997, at CEMB, University of the Punjab, Lahore, Pakistan.
 13. Seventh National Conference of Plant Scientists. Nov. 14-16, 2000. Department of Botany, University of the Punjab, Lahore.
 14. Seventh International Conference on "Trends in Biochemistry and Molecular Biology". April 2- 5, 2003. Institute of Biochemistry and Biotechnology, University of the Punjab, Lahore.
 15. Attended Seminar on "Developing inocula of EM fungi for the Plantation industry" by Dr. Klem Kuek, Australian mycologist, at the Department of Botany, University of the Punjab, on January,11, 2007.
 16. Attended Third International Conference of Plant Pathology on "Future Food Security" held at the Department of Mycology and Plant Pathology, University of the Punjab from 19-21, November 2007.
 17. Attended Second International Conference of Plant Scientists. February 22-24, 2011, Biology Block, Govt. College University Lahore.
 18. Participated in 12th National and 3rd International Conference of Botany, at Quaid-e-Azam University Islamabad, Sept 1-3, 2012.
 19. Attended One Day Seminar on "World Environment Day" organized by Punjab Forest Department, June 05, 2012.
 20. Attended One Day Seminar on "World Environment Day" organized by Punjab Forest Department, at Jallo Park, March 21, 2013.
 21. Attended One Day Seminar on "World Environment Day" organized by Punjab Forest Department, at Jallo Park, March 21, 2014.
 22. Attended 1st International Seminar on Soil Health Reclamation Approaches. Organized by the College of Earth and Environmental Sciences, University of the Punjab, Lahore. June 11, 2014.

Community Services.

In addition to Research and Teaching, I have also performed the following:

Advisory and Administrative services.

a) At University level:

1. Member, Board of Faculty of Life Sciences.
2. Member, Annual Review Committee
3. Member, Book Fair Committee
4. Member, Convocation Committee
5. Technical Member, Punjab University Seed Centre.
6. Member, Committee for selection of candidates against Reserved seats on the basis of Co-curricular activities, University of the Punjab.

b) At Institutional level:

1. Member, Board of Studies in Botany.
2. Member Departmental Doctoral Program Committee, Department of Botany.
3. Coordinator, MS, M.Phil., PhD Program, Department of Botany.
4. Member, Departmental Purchase Committee, Department of Botany.
5. Member Program Team for Implementation of Self-Assessment Manual.
6. Member, Departmental Examination Committee, Department of Botany.
7. Member, Departmental Council for Considering Disciplinary cases of University Students, Department of Botany.
8. Member, Admission Committee, Department of Botany.
9. Member Anti dengue/Anti-measles Task Force, Department of Botany.
10. Member, Departmental Equivalence Committee, Department of Botany.
11. Member, Scholarship Committee, Department of Botany.
12. Member, Departmental Technical Review Committee, Department of Botany.

c) Miscellaneous

1. Member, Standing Committee on Horticulture, Lahore Chamber of Commerce, and Industries.
2. Member, Botanical Society of Pakistan.
3. Reviewer for Pakistan Journal of Botany.

4. Approved Supervisor, Higher Education Commission, Pakistan.
 5. Worked as External Examiner and Paper setter for different Universities and Colleges of Pakistan.
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