

DR. AISHA NAZIR

Assistant Professor (TTS-19; HEC Approved Research Supervisor)

CAREER OBJECTIVE

Contributing to the creation of demand-driven knowledge and innovations in Pakistan as an Academician and Researcher respectively

HIGHEST QUALIFICATION

PhD Thesis Title: ROLE OF AUTOCHTHONOUS FUNGI IN PHYTOEXTRACTION OF HEAVY METALS FROM TOXIC TANNERY SOLID WASTE

Specialization: Applied Phytotechnologies for Environmental Sanitation

CURRENT STATUS

Serving as Assistant Professor (TTS-19) at Institute of Botany, University of the Punjab Lahore since May 15, 2019 till date

PREVIOUS POSITIONS HELD (Total Post-PhD Experience: Over 5-Years)

- Assistant Professor (BPS-19) in Dept. of Botany, University of the Punjab since Nov 30th, 2015 till June 5th, 2018
- Assistant Professor (BPS-19) in College of Earth and Environmental Sciences (CEES), University of the Punjab since June 05, 2015 till Nov 29, 2015
- Teaching Assistant (TA) in College of Earth and Environmental Sciences (CEES), University of the Punjab since Sep 12, 2013 till June 04, 2014
- Research Associate in HEC Funded Research Project No.1032 (2008-2011) (worth 4.8 Million PKR) in Environmental Biotechnology Lab, Department of Botany, University of the Punjab, since 2008 till 2011.

PRESTIGIOUS RESEARCH & ACADEMIC AWARDS

1. "National First Runner Up Award" winner (Co-Inventor); Global Cleantech Innovation Program (GCIP 2016) run by UNIDO Pakistan Level, for developing a patentable product "SAVOR" and earning US\$15000.00 as Prize Money and Mentorship Services in Silicon Valley California.
2. Finalist Award from Global Cleantech Innovation Program (GCIP 2015) for developing a patentable product 'Solar Biogasifier' at UNIDO Pakistan Level.
3. Award from HEC, International Research Support Initiative Programme (IRSIP), during PhD for advance collaborative research in Cornell University NY, USA
4. Scholarship Award from HEC Indigenous Program Batch VII. (PIN ID 117-5568-BM7-109).
5. Merit Scholarship from Department of Botany, University of the Punjab Lahore. (Year 2003, 2004, 2005, 2006).
6. Award for securing 3rd position in Workshop on 'Identification and Conservation of Micromycetes' held in Aug 2007 at Institute of Mycology and Plant Pathology (Current: Institute of Agricultural Sciences), University of The Punjab Lahore.

EXPERIENCE AS RESEARCH SUPERVISOR

PHD RESEARCH SUPERVISION

1. **Hajira Younas.** PhD Synopsis title “Management of Tannery Solid Waste through Biochar Formation and its Application to Ornamental Plants”.
2. **Samreen Fatima.** PhD Synopsis under development.
3. **Muntaha Munir.** PhD Synopsis under development.
4. **Um e Laila:** PhD Synopsis under development.

MS/MPHIL RESEARCH THESIS SUPERVISED

Currently Continued:

1. **Amina Sultan (2021).** Tracing heavy metal spatial pollution spread in the vegetables cultivated with wastewater of Nullah Saim Gujranwala. Session 2019-21
2. **Adnan Hussain (2021).** Characterization and soil application of biochar composites derived from rice straw and waste bones. Session 2019-21
3. **Sonal Chaudhry (2021).** Nickel phycoremediation with *Arthrospira platensis* Gomont. Session 2019-21
4. **Farwa Iqbal (2021).** Using aquatic weed biomass as feedstock for biochar production and its application in soil Session. 2019-21

Completed:

1. **Sana Nadeem (2020).** Bacterial-assisted phytoextraction of heavy metals from tannery solid waste-derived biochar. Session 2018-20.
2. **Shazia Manzoor (2020).** Phytoextraction of Heavy metals from rainwater diluted combined effluents of River Ravi by some selected hydrophytes. Session 2018-20.
3. **Amna Saher (2020).** Rhizospheric microbial community dynamics of co-cultivated plants irrigated with different type of wastewater. Session 2018-20.
4. **Javeria Afzal (2020).** Fungal assisted phytoextraction of heavy metals from tannery solid waste by *Helianthus annuus* L. Session 2018-20.
5. **Saneela Mehtab (2020).** Effect of rain water diluted tannery effluent on heavy metal removal potential of *Phragmites australis* L. and some algae (*Oedogonium* and *Pithophora*). Session 2018-20.
6. **M. Farhan Farooq (2020).** Optimizing sowing date of wheat cultivar Fakher e Bhakkar using DSSAT CERES wheat. Session 2017-19.
7. **Zain Akhtar (2020).** Impact of some indigenous fungi on seed germination of some ornamental plants irrigated with tannery effluent from Kasur. Session 2018-20.
8. **Fatimah A. (2016).** Effect of Cotton Crop Residue on Wheat Crop in Soil of Hasilpur. Session 2014-16.
9. **Khan R.I. (2016).** Rice Crop Residue Management Practices and its Impacts on Soil Productivity and Wheat Crop Yield in Lahore. Session 2014-16.
10. **Shauket T. (2015).** Hierarchical Chromium Biomagnification Study around Kasur Tannery Waste Water Management Agency. Session 2013-15.
11. **Naseem T. (2015).** Landfill site Management of Hazardous Tannery Solid Waste through Ornamental Plants. Session 2013-15.
12. **Latif S. (2014).** Evaluation of Health Hazards in Tannery Workers on the basis of Selected Health Indicators. Session 2012-14.

BS/M.SC RESEARCH THESIS SUPERVISED

Currently Continued:

1. **Isha Shakoor. (2021).** Isolation of autochthonous fungal spp. from banaspati ghee industry effluent and its and screening for Ni tolerance. Session 2019-21
2. **Tabinda Rohee (2021).** Biostimulation effects of selected *Trichoderma* spp. on Cr phytoextraction of *Helianthus annuus* L. Session 2019-21
3. **Faiza Yahya (2021).** Potential role of *Pistia stratiotes* L. in the phytoremediation of tannery solid waste leachate and residue biochar on the growth of *Cucumis sativus* L. and *Abelmoschus esculentus* (L.) Moench Session 2019-21

Completed:

1. **Ushna Saleem (2020).** Management of weeds collected from housing societies of Gujranwala by making its biochar and utilizing it as soil amendment. MSc Session 2018-20.
2. **Khadija Kausar (2020).** Management of weed biomass collected from agricultural fields of Gujranwala through biochar and its application as soil amendment. MSc Session 2018-20.
3. **Fariha Safdar (2020).** Use of weeds collected from agricultural fields of Gujrat District as feedstock for biochar and its potential application for the growth of some vegetables. MSc Session 2018-20.
4. **Aymen (2020).** Management of noxious weeds through biochar and its applications to improve soil quality. MSc Session 2018-20.
5. **Fatima Waheed (2020).** Effect of different types of composts on npk availability in soil. BS Session 2016-20.
6. **Manzoor S. (2018).** Management of Cotton Gin Trash through Composting, Biochar and Co-Composting of Biochar. Session 2014-18.
7. **Shakil S. and Farwa U. (2016).** Characterization of Tannery Waste Water during Tanning Process and after Treatment at KTWMA Kasur. Session 2012-16.
8. **Farooq M., Ijaz W. and Anwar A. (2016).** Animal Biodiversity Loss due to Road Mortalities on Selected National Highways and Motorways. Session 2012-16.
9. **Butt A.S. (2015).** Component Analysis and Characterization of Tannery Solid Waste Collected for Kasur. Session 2011-15.

RESEARCH FOCI

- Phytoremediation of polluted soils especially with heavy metals arising from different industries such as tannery.
- Management of hazardous solid waste by using bioremediation approaches
- Mycoremediation of heavy metals
- Isolation of autochthonous fungi from contaminated media such as tannery effluent and tannery solid waste
- Synergistic effects of fungi and plants for phytoremediation of heavy metals

RESEARCH PROJECTS COMPLETED AS PRINCIPAL INVESTIGATOR (PI)

1. Research Project No. 24 (Fiscal Year 2019-20) titled Managing Tannery Solidwaste through Biochar, its Characterization & application as soil amendment. under PURC Grant Program of University of the Punjab, worth grant 0.015 million PKR.

2. Research Project No. 136 (Fiscal Year 2017-18) titled "Effect of Tannery Solid Waste Based Biochar on Soil Chemical and Physic-Chemical Properties and Growth Traits of Sunflower. under PURC Grant Program of University of the Punjab, worth grant 0.015 million PKR.
3. Research Project No. 01 (Fiscal Year 2015-2016) titled 'Microbial community based soil productivity transition from rice harvest to wheat cultivation in PU fields', funded under PURC Grant Program of University of the Punjab, worth grant 0.015 million PKR.
4. Research Project No. 09 (Fiscal Year 2014-15) titled 'Assessment of health hazards in tannery laborers on the basis of selected health indicators', funded under PURC Grant Program of University of the Punjab, worth grant 0.015 million PKR.

PUBLICATIONS IN PEER REVIEWED RESEARCH JOURNALS/CONFERENCE PROCEEDINGS

1. **Nazir, A.**, Shafiq, M., Bareen F. (2021). Fungal biostimulant-driven phytoextraction of heavy metals from tannery solid waste contaminated soils. *International Journal of Phytoremediation*. (Accepted Manuscript-BIJP-2019-0520-R1). (Impact Factor = 2.528).
2. Younis, H., **Nazir, A.**, Bareen, F. (2020). Management of Tannery Solid Waste (TSW) through Pyrolysis and Characteristics of Its Derived Biochar. *Polish Journal of Environmental Studies*. DOI: <https://doi.org/10.15244/pjoes/117662>. (Impact factor = 1.120).
3. Bareen, F., Rafiq, K., Shafiq, M., **NAZIR, A.** (2019). Uptake and Leaching of Cu, Cd, and Cr after EDTA Application in Sand Columns Using Sorghum and *Pearl Millet*. *Polish Journal of Environmental Studies*. 28: 4. 2065-2077. (Impact factor = 1.120).
4. Shafiq M, Shaukat T, **NAZIR A**, Firdaus-e- Bareen, (2017). Modeling of Cr contamination in the agricultural lands of three villages near the leather industry in Kasur, Pakistan, using statistical and GIS techniques. *Environmental Monitoring Assessment*. 189:423. pp1-18. (Impact factor = 1.687).
5. **NAZIR A**, Bareen F, (2011). Synergistic effect of *Glomus fasciculatum* and *Trichoderma pseudokoningii* on *Heliathus annuus* to decontaminate tannery sludge from toxic metals. *African Journal of Biotechnology*, Vol. 10 (22), pp. 4612-4618, ISSN 1684-5315 Available online at <http://www.academicjournals.org/AJB>. (Impact factor = 0.73).
6. Bareen F, **NAZIR A**, Ahmad S, (2011). Role of live autochthonous fungi in removing toxic metals from tannery and textile effluents. *African Journal of Biotechnology*, Vol. 10 (32), pp. 6072-6081, Available online at <http://www.academicjournals.org/AJB>. (Impact factor = 0.73).
7. Bareen F, **NAZIR A**, 2010. Metal decontamination of tannery solid waste using *Tagetes patula* in association with saprobic and mycorrhizal fungi. *Environmentalist*, 30: 45-53 DOI 10.1007/s10669-009-9241-5.
8. Shafiq M, **NAZIR A**, Bareen F, 2010. Effect of Composting on Phytoextraction of Heavy Metals from Tannery Solid Waste Amended Soil. *Journal of Solid Waste Technology & Management*. Vol. 36 Issue 3, p739. Accession #53919380.
9. **NAZIR A**, Bareen, F. 2008. Plant biodiversity and its associated fungal flora in soil polluted with tannery wastes In: Proceedings of the 2nd International Seminar on Medicinal Plants: Applications of Medicinal Plants in Pharmaceuticals, Environment and Industries?. (ISMP-2010) (Jan 14-16, 2010), held at Lahore College for Women University, Lahore.

10. **NAZIR A**, Bareen, F. 2008 Role of *Helianthus annuus* and associated rhizosphere fungi in uptake of heavy metals from solid waste amended soil. *P. J. Phytopathol.* 20 (88-97).
11. **NAZIR A**, Bareen, F. 2008. Tannery waste: a potential environmental risk. *In: Proceedings of the 1st International Conference on Role of Chemistry for Environmental Preservation (RCEP 2008) held on June 14, 2008.* (Hussain, M. ed.) 38-43 pp.
12. **NAZIR A**, Bareen, F. 2008. Phytoextraction of Heavy metals from Tannery Solid Waste amended soil using *Spinacia oleracea* L. and associated rhizosphere fungi. *In: Proceedings of the 1st International Seminar on Medicinal plants Isolation and Applications (ISMP-2008) held on May 21-23, 2008.* 92-100 pp.

ORAL PRESENTATIONS (INTERNATIONAL/NATIONAL CONFERENCE)

1. Shafiq, M., **AISHA NAZIR**, Mubeen, R. Zubair, F., Batool, S., Lodhi, S.K., Khan, F. (2019). Managing on and off field Biomass of *Parthenium hysterophorus*: brain waving future configuration of UAV with UGV. *In: Technical Workshop on Remote Sensing of Parthenium in Pakistan organized by Centre for Agriculture and Bioscience International (CABI) UK, Islamabad Pakistan Office at Ramada Islamabad on Oct 09-10th, 2019.*
2. Younas, H., **AISHA NAZIR**, Bareen, F. (2019). Metal immobilization and uptake potential of tannery solid waste derived biochar and its effect on the growth of *Helianthus annuus* L. *In: International Conference on Smart Plantation “An Ultimate Solution to Climate Change” (ICSP 2020) held on 2-4 March, 2020 at Lahore College for Women University (LCWU), Lahore, Pakistan.*
3. **AISHA NAZIR**. Variation in the rhizospheric microbial community of co-cultivated plants irrigated with different type of wastewater. *In: International Conference on Smart Plantation “An Ultimate Solution to Climate Change” (ICSP 2020) held on 2-4 March, 2020 at Lahore College for Women University (LCWU), Lahore, Pakistan.*
4. **AISHA NAZIR**, Asma Imtiaz, Muhammad Shafiq and Firdaus-e-Bareen. (2017). Biofungicidal Application of Crude Algal (*Microspora* sp.) Extracts Against *Fusarium* wilt in tomato. *In: the 7th International Conference on Algal Biomass, Biofuels and Bioproducts on June 18-21, 2017 Miami FL USA.*
5. Maryam Shuja, **AISHA NAZIR**, Firdaus-e-Bareen and Muhammad Shafiq. Potential Of Biotic And Abiotic Positive Reinforcers For Enhancing Heavy Metal Mobility In Complex Tannery Waste Medium. *Presented In: International Conference on Emerging Trends in Life Sciences for Sustainable Development, 9-10 Oct 2014, at Forman Christian College (A Chartered University) Lahore.*
6. **AISHA NAZIR**, Firdaus-e-Bareen, Janice E. Thies and Muhammad Shafiq. Selected Fungal Biostimulants And Their Role In Heavy Metal Phytoextraction From Tannery Solid Waste Contaminated Soils. *Presented In: International Conference on Plant Sciences, 22-24 Sep, 2014, At Government College University Lahore.*
7. Muhammad Shafiq, **AISHA NAZIR** and Firdaus-e-Bareen. Suitability Of Tannery Waste Polluted Soils For Harnessing Bioenergy Crops Along With Heavy Metal Phytoextraction. *Presented In: International Conference On Environment And Sustainable Development, 16-17, Dec 2014, At Government College University, Lahore.*

8. **AISHA NAZIR**, Suitability Of Tannery Waste Polluted Soils For Harnessing. Bioenergy Crops Along With Heavy Metal Phytoextraction in International Conference on Environment and Sustainable Development 16-17, Dec 2014 At Government College University, Lahore.
9. **AISHA NAZIR**, Role of *Helianthus annuus* L. and associated rhizosphere fungi in uptake of heavy metals from tannery solid waste amended soil in the 3rd International Conference on Plant Pathology and 7th Biennial Meeting of Pakistan Psychopathological Society.(19-21 Nov. 2007), held at Department of Mycology and Plant Pathology.Punjab University Lahore.
10. **AISHA NAZIR**, Role of Rhizosphere fungi in Enhancement of Metal Uptake from Tannery Sludge Amended soil by *Brassica juncea* L. International Conference of Plant Scientists. (10th National Meeting of Plant Scientists) held on 21-24 April, 2008 at Department of Botany, University of Agriculture, Faisalabad.
11. **AISHA NAZIR**, Phytoextraction of Heavy metals from tannery solid waste amended soil using *Spinaciaoleracea* L. and associated rhizosphere fungi. *In: The 1st International Seminar on Medicinal Plants: Isolation and Applications (ISMP-2008)* held on May 20-023, 2008 at Lahore College for Women University, Lahore.
12. **AISHA NAZIR**, Plant biodiversity and its associated fungal flora in soil polluted with tannery wastes. *In: The 2nd International Seminar on Medicinal Plants: Applications of Medicinal Plants in Pharmaceuticals, Environment and Industries (ISMP-2010)* held on Jan 14-16, 2010 at Lahore College for Women University, Lahore.

POSTER PRESENTATIONS (INTERNATIONAL/NATIONAL CONFERENCES)

1. **Aisha Nazir**. Displayed Poster and Product on “Organic PGRs (Plant Growth Regulators / Plant Growth Promoting Substances)” in the National Exhibition on NATURAL & ORGANIC PRODUCT held on March 30-31, 2021 by Department of Botany, University of Okara, Okara.
2. **Aisha Nazir**, Tannery waste: A potential environmental risk in the 1st International Conference on Role of Chemistry for Environmental Preservation (RCEP 2008) June 2008 Organized By: The Royal Society of Chemistry UK & THE ENVIRON MONITOR. To be held at Hotel Ambassador, Lahore.
3. **Aisha Nazir**, In Vitro interaction studies between different resistant fungal strains isolated from tannery waste in the International Research Conference: *Sponsored Jointly by Pakistan Academy of Sciences Lahore Chapter and University of South Asia.*

SCIENTIFIC / PROFESSIONAL WORKSHOPS ATTENDED

1. Four-Week Online Faculty Development Program under Quality Enhancement Cell, University of the Punjab Lahore held online on Feb 03-26, 2021.
2. Online Live Training Webinar on “Dissecting the scholarly publishing process - An overview and guidance on publishing” organized by Wiley Publishing on Jan 27, 2021.
3. Online Live Training Webinar on “Strengthening Research Planning using Elsevier Tools–Scopus, Science Direct & Mendeley” held online by Elsevier on Oct 22nd, 2020.
4. Technical Workshop on “Remote sensing of *Parthenium* in Pakistan” organized by Centre for Agriculture and Bioscience International (CABI) UK Pakistan Islamabad Office at Ramada Islamabad on Oct 09-10, 2019.

5. One Day Training Presentation on “QS University Ranking” by Mr. Ashwin Jerome Fernandes, Director QS Ranking Services held on August 28th, 2019 at Al-Raazi Hall, Centre for Undergraduate Studies, Q.A. Campus Lahore, Pakistan.
6. One Day Workshop on “Approaching towards Comprehensive Reduction and Elimination of Persistent Organic Pollutants (POPs) in Pakistan” under the project titled “Comprehensive Reduction and Elimination of Persistent Organic Pollutants (POPs) Funded by United Nations Development Programme (UNDP) and Global Environment Facility (GEF) in collaboration of with Ministry of Climate Change Islamabad Pakistan on Sep 12, 2017 at Hospitality Inn Lahore.
7. Two Day HEC Workshop on “Supervising and Mentoring Research Students” held at CIIT Lahore on Nov 21-22, 2015.
8. The 3rd Faculty Training Program at Department of Microbiology & Molecular Genetics, University of the Punjab, Lahore, in collaboration with Learning Innovative Division of Higher Education Commission (HEC) Pakistan, held on November 17-21, 2014.
9. One Day Workshop on Fluorescent Microscopy on September 24, 2011 at Department of Microbiology and Molecular Genetics, University of the Punjab Lahore.
10. Workshop on 'IDENTIFICATION AND CONSERVATION OF MICROMYCETES' held on Aug. 20-25, 2007 in Department of Mycology and Plant pathology - currently Institute of Agricultural Sciences (IAGS), Punjab University Lahore.

Recognition: Secured 3rd Position in conclusive evaluation of the workshop

MEMORANDUM OF UNDERSTANDING (MOU) SIGNED (AS FOCAL PERSON)

1. As Focal Person from Department of Botany, an MoU was signed (2015-16) with Water and Sanitation Agency (WASA) Faisalabad on Apr 10, 2017 for 2-years to collaborate in applied research about constructed wetland technology for industrial effluent treatment.

SUBJECTS TAUGHT

Since 2014, I have been teaching following subjects to students of MS and BS Environmental Sciences; M.Sc. Applied Hydrology and BS Biochemistry and Biotechnology:

1. Waste Pollution; its Management and Control (Theory and Lab to M.Sc. Applied Hydrology)
2. Waste Pollution; its Management and Control (Theory and Lab to BS Environmental Sciences)
3. Biodiversity & Systematics (Theory and Lab to BS Environmental Sciences)
4. Environmental Biology (Lab to BS Environmental Sciences)
5. Hazards of Heavy Metals (Theory to BS Environmental Sciences)
6. Synecology (Lab to M.Sc. Botany)
7. Autecology (Lab to M.Sc. Botany)
8. Environmental Biotechnology (Theory to BS Biochemistry and Biotechnology)
9. Environment and Ecosystem (Theory and Lab to BS Biochemistry and Biotechnology)
10. Plant Anatomy (Theory and Lab to BS Botany)

TRAVEL GRANTS FOR INTERNATIONAL CONFERENCES/TRAININGS

- ★ Travel Grant by University of the Punjab Lahore for Oral Presentation in “the 7th Elsevier’s International Conference on Algal Biomass, Biofuels and Bioproducts held on June 18-21, 2017; Hyatt Regency Miami FL USA.
- ★ Travel Grant by Higher Education Commission (HEC) Islamabad for availing IRSIP Program in Cornell University NY USA on Oct 05, 2011 till Aug 15, 2012.

MEMBERSHIP OF SCIENTIFIC SOCIETIES

1. Pakistan Botanical Society (Since 2008)
2. Mycops: Institute of Mycology and Plant Pathology, University of the Punjab, Lahore 54590 Pakistan.

ACADEMIC CAREER

Degree / Certificate	Name of Institution	Year of Completion	Division / Grade / CGPA	Percentage (%)	Subjects
Ph.D.	Department of Botany University of the Punjab Lahore During PhD, worked in Cornell University as PhD Fellow (Oct 2011-Aug 2012)	2014			Specialization: Applied Phytotechnologies for Environmental Sanitation PhD Thesis Title: Role of Autochthonous Fungi in Phytoextraction of Heavy Metals from Toxic Tannery Solid Waste
MS (2-years)	Department of Botany University of the Punjab Lahore	2008	1 st / A / (3.65/4)	83.55%	Botany
B.Sc. (Hons) (4-years)	Department of Botany University of the Punjab Lahore	2006	1 st / B ⁺ / (3.66/4)	76.36%	Botany
HSSC / F.Sc.	Lahore College for Women, Jail Road, Lahore.	2000	1 st / A	71.36%	Pre-Medical
SSC/ Matric	Mansoor Model Girls High School, Lahore	1997	1 st / A	77.17%	Science

AWARDS IN CURRICULAR ACTIVITIES

- Award from Vice Chancellor, University of the Punjab, Lahore as captain of cricket winner team (Girls), Department of Botany, University of the Punjab, Lahore. (2006)
- Award from Vice Chancellor University of the Punjab Lahore on account of securing 1st position in Badminton Competition (Singles), Department of Botany, University of the Punjab, Lahore. (2006)

- Award from Vice Chancellor University of the Punjab Lahore for 1st position in Cricket Double Wicket, Department of Botany, University of the Punjab, Lahore. (2005)

COMPUTER SKILLS

Proven skills in:

- Microsoft Office (MS Word, Excel, Power point, Front page)
- Internet Surfing / Browsing; Email correspondence; Spreadsheet; Windows based many other programs; Microsoft Outlook

COUNTRIES VISITED

- United States of America (USA) including States NY, NC, FL and PA

PROFESSIONAL REFEREES

- **Dr Firdaus-e-Bareen**
Professor
Department of Botany
University of the Punjab, Quaid-i-Azam Campus Lahore-54590, Pakistan
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Tel: +92 42 7024999
- **Dr. Janice E. Thies**
International Professor/ Associate Professor (Soil Ecology)
Department of Crop and Soil Sciences
Cornell University, NY USA
722 Bradfield Hall
Tel: +1 607 255 5099
Email: jet25@cornell.edu
- **Dr. Javed Iqbal**
Meritorious Professor
Institute of Biochemistry and Biotechnology
University of the Punjab, Quaid-i-Azam Campus Lahore-54590, Pakistan
Director
School of Biological Sciences
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Note: The reference letters available if required.