

CURRICULUM VITAE

Irfan Ali, Ph.D.
Assistant Professor (TTS)
General Secretary, Biotechnology Society of Pakistan (BSP)®
Plant Transformation lab
Centre of Agricultural Biochemistry and Biotechnology (CABB)
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Career Objective

Sustainable pest control in industrial ecosystem focusing on whitefly management.

Education

- 2015** **Ph.D.**, Biotechnology from National Institute for Biotechnology and Genetic Engineering (NIBGE), Faisalabad affiliated with Pakistan Institute of Engineering and Applied Sciences (PIEAS) Islamabad.
- Dissertation:** "Potential of siRNAs and artificial microRNAs against *Cotton leaf curl Burewala virus* yielding resistance to geminiviruses"
- Supervisor:** Prof. Robert William Briddon, HEC Foreign Faculty Professor.
- 2004** **M.Phil.**, Quaid-I-Azam University (QAU) Islamabad, Pakistan
Dissertation: Effect of Effective Microorganism and Industrial waste water on the physiology of Soybean (*Glycine max* L. Merrill)
- 2001** **B.Sc.(Hons)**, Horticulture, University of Agriculture Faisalabad, Pakistan
- 1997** **HSSC** (Pre Medical), Board of Intermediate and Secondary Education, Gujranwala, Pakistan

Professional Appointments/ Research Experience

- 17th Feb, 2022** **Assistant Professor (TTS), Assistant Professor, Centre of Agricultural Biochemistry and Biotechnology, University of Agriculture, Faisalabad.**
Job Responsibilities:
Teaching courses of Biotechnology Sciences
Supervising students in research
Library Incharge
Plant transformation lab
- 24th October, 2018 – 2020** **Assistant Professor, Centre of Agricultural Biochemistry and Biotechnology, University of Agriculture, Faisalabad.**
Job Responsibilities:
Teaching courses of Biotechnology Sciences
Supervising students in research
- 24th October, 2017- 23rd October, 2018** **Assistant Professor (IPFP), Centre of Agricultural Biochemistry and Biotechnology, University of Agriculture, Faisalabad.**
Job Responsibilities:

Teaching courses of Biology and Biotechnology
Supervising students

**10th Sept.,
2015 to 23rd
October, 2017**

Assistant Professor and Head of Academics, Akhuwat-Faisalabad Institute of Research Science and Technology, Faisalabad.

Job Responsibilities:

Teaching courses of Biology and Biotechnology
Supervising undergraduate students
Correspondence with University of Health Sciences and other organizations
Academic management of Institute
Upgradation of Academic infrastructure and curriculum
Start of new degree programs
Community development programs

**October 2013
to Jan, 2015**

Researcher, National Institute for Biotechnology and Genetic Engineering, Faisalabad in International Cotton productivity Enhancement project under ICARDA and USDA

Job Responsibilities

Cloning of virus and alphasatellite components
Absolute quantification of virus and satellite components from different cultivars grown at different research centres of Pakistan.
Budgeting and report writing
Record maintenance

**Sep 2012 to
Sep 2013**

Vice Principal, Faisalabad Institute of Research Science and Technology (FIRST), affiliated with University of Health Sciences (UHS) Lahore, Pakistan.

Job Responsibilities:

- Maintenance and up-gradation of labs
- Co-ordination with UHS Lahore, Pakistan
- Taught courses: Biotechnology basics; Recombinant DNA technology, Biotechnology of Plants

**June 2007 -
Aug 2008**

Researcher, NIBGE, Faisalabad (Pakistan)

Job Responsibilities:

- Designing of RNAi constructs
- Formation of transgenic plants of *Nicotiana benthamiana*, *Nicotiana tabaccum*
- Analysis of transgenic plants

Patent

2009

Shahid Mansoor, **Irfan Ali**, Muhammad Khurshid, Imran Amin, Javeria Qazi, Muhammad Saeed, Muhammad Arshad, Shaheen Aftab, Yusuf Zafar, Zafar M. Khalid and Kauser A. Malik. 2009. Silencing of V2 gene of monopartite begomoviruses for broad-spectrum resistance against cotton leaf curl disease complex and other related viruses. **Patent filed vide application No. 1207/2009 dated 30-12-2009**

Publications & Abstracts Presented in Scientific Conferences and Meetings

Research Publications

- 1 Naqvi T A, N A kanhar, **I Ali**, S Ahmed and A Bano. Role of biofertilizers in accumulation of nickel in sunflower (*Helianthus annuus* L) and the effect of nickel accumulation on endogenous level of hormones in sunflower. Pakistan Journal of Biotechnology **2006**, 3: 25-32.
- 2 **Ali, I.**, F Hadi and A Bano. Microbial assisted Phyto-extraction of metals and growth of Soybean (*Glycine Max* L. Merrill) on industrial waste water contaminated soil. Pakistan Journal of Botany. 2012, 44(5): 1593-1599.
- 3 **Ali I**, A H Malik and S Mansoor. First report of *tomato leaf curl Palampur virus* on bittergourd (*Memordica charantia* L.) in Pakistan. Plant Disease **2010**; 94(2):276.
- 4 **Ali I**, I Amin, R W Briddon and S Mansoor. Artificial microRNA mediated resistance against monopartite begomovirus *Cotton leaf curl Burewala virus*. Virology Journal **2013**,10:231.
- 5 Islam F, T Yasmeen, M S Arif, M Riaz, S M Shehzad, Q Imran and **I Ali**. Combined ability of chromium (Cr) tolerant plant growth promoting bacteria (PGPB) and stress alleviator (salicylic acid) in attenuation of chromium stress in maize plants. Plant Physiology and Biochemistry 2016,DOI.org/10.1016/j.plaphy.2016.08.014.
- 6 Masood S, A Yousafzai, M Asif, KN Ahmad, **I Ali**, N Sultan, AQadir and A Malik. Prevalence of hypothyroid disease a cross sectional study Among Male and Female Population of Balochistan, Pakistan. International Journal of Biosciences **2016**, 9(4): 305-314.
- 7 Iqbal Z, M Shafiq, **I Ali**, S Mansoor and R W Briddon. Maintenance of cotton leaf curl Multan betasatellite by *Tomato leaf curl New Dehli virus* – analysis by mutation. Frontiers in Plant Science. 2017, doi: 10.3389/fpls.2017.02208.
- 8 Shafiq M, Z Iqbal, **I Ali**, Q Abbas, I Amin, S Mansoor, and R W Briddon. Real-time quantitative PCR assay for the quantification of virus and satellites causing leaf curl disease in cotton in Pakistan. Journal of Virological Methods. **2017**,248:54-60.DOI: 10.1016/j.jviromet.2017.05.012.
- 9 Munir S, Z Iqbal, M Hussain, M N Sattar, **I Ali**, ARehman and M Khurshid. First report of a polyphyletic and recombinant *Pedilanthus leaf curl virus* and Tobacco leaf curl betasatellite infecting turnip (*Brassica rapa*) in Pakistan. Journal of Plant Pathology **2018**, doi.org/10.1007/s42161-018-0079-x.

- 10 Asif M, A Hussain, A Wali, N Ahmad, N Sajjad, M Amir, **I Ali**, P N Pushparaj and M Rasool. A rare case of three-way complex variant translocation in chronic myeloid leukemia t(6;9;22)(p21;q34;q11): A case report. Biomedical reports **2017**, DOI: 10.3892/br.2017.967.
- 11 Manzoor H, H Naheed, K Ahmad, S Iftikhar, M Asif, J Shuja, N Sultan, **I Ali**, S Inayatullah and Y H Khan. Pattern of gynaecological malignancies in south western region of Pakistan: An overview of 12 years. Biomedical Reports, 7: 487-491.
- 12 Khan Y H, S I Agha, M Shafee, S Ahmed, M Asif, A H Mastori, M Yaqoob, N Ahmed, S Akbar, M Umer and **I Ali**. *Staphylococcus Aureus* associated with Bovine Mastitis in Quetta, Pakistan. International Journal of Biosciences. **2017**, 11(1): 457-463.
- 13 Rasool M, A Malik, A Basit, G Parveen; S Iqbal, **I Ali**, M H Qazi, M Asif, K Kamran, A Iqbal, S Iram, S Khan, M Z Mustafa, A Zaheer, R Shaikh, H Choudhry and M S Jamal. Evaluation of Matrix Metalloproteinases, Cytokines and Their Potential Role in the Development of Ovarian Cancer. PLoS ONE **2016**, DOI: 10.1371/journal.pone0167149).
- 14 Iqbal M A, R Zafar, R Saif, A Bibi and **I Ali**. Exploiting heterosis and combining ability of sunflower at seedling stage. Global Journal of Plant Breeding and Genetics. 2017, 4(6): 389-393.
- 15 Sultan N, **I Ali***, S A Bukhari, S M Baig, M Asif*, M Qasim and M Rasool. Novel mutation in RDH5 causing *Retinitis Pigmentosa* in consanguineous Pakistani family. Gene and Genomics. 2018. DOI: 10.1007/s13258-018-0657-5.
- 16 Sultan N, S A Bukhari, **I Ali**, M Asif, Z Umar and M S H Akash. Zika virus: A critical analysis and pharmaceutical perspectives. Critical reviews in Eukaryotic Gene Expression. 2018. DOI: 10.1615/CritRevEukaryotGeneExpr.2018025061.
- 17 Riaz R, S Qadeer, R Azeem, I Ali and M S Khan. Tuberculosis and HIV Complex: A New Health Challenge in South Asian Countries. CPQ Microbiology. 2018, 1(6): 1-9.
- 18 **Ali I***, M Khurshid, Z Iqbal, M. Shafiq, I Amin, R W Briddon and S Mansoor. 5' end of Antisense V2 confers resistance against monopartite begomovirus *Cotton leaf curl Multan virus Burewala strain*. Acta Virologica. **2019**, 63(1):3-12.
- 19 Asif M, A Hussain, A Wali, N Ahmed, **I Ali**, Z Iqbal, M Amir, M Shafiq, M Rasool. Molecular cytogenetic, and hematological analysis of Chronic Myeloid Leukemia patients and discovery of two novel translocations. **2021**. Analytical Cellular Pathology. DOI: [10.1155/2021/4909012](https://doi.org/10.1155/2021/4909012)
- 20 Parveen S, M I Ali, M Aslam, **I Ali**, A Jamal et al., Optimizing biocatalytic potential of *Dipodascus austreliensis* M-2 for degrading lignin under laboratory conditions. Microbiological Research. **2022**, 265: 127179.
- 21 Asif M, A Hussain, **I Ali**, Z Baloch, M Rasool, NM Achakzai. Cytogenetical and hematological analysis of chronic myelogenous leukemia patients with a novel case 52XX, t

- (1;9;22) (q23.3; q34; q11.2), +6, +8, i(9)(q10;q10), +18,+19,+21+der22 t(9;22)(q34;q11). *Medicine* **2022**;101:45(e31670).
- 22 **Ali I.**, and S Ume-Farwa. Nanobody-GroEL Interaction in endosymbiontes of whitefly: exploration and implications for pest and disease management. *Journal of Plant Disease and Protection*. 2023. <https://doi.org/10.1007/s41348-023-00842-5>
 - 23 Iqbal Z, M Shafiq, MN Sattar, **I Ali**, M Khurshid, U Farooq, and M Munir. Genetic diversity, evolutionary dynamics, and ongoing spread of *Pedilanthus* leaf curl virus. *Viruses*. 2023. 15(12): 2358.
 - 24 Rasool T, M Ansar, **I Ali**, MI Ali, ... Performance evaluation of gravity-driven bioreactor (GDB) for simultaneous treatment of black liquor and domestic wastewater. *Environmental Science and Research*. 2024. 31(5), 7043-7057.
 - 25 Iqbal Z, M Asim, U A Khan, **I Ali***. Computational electrostatic engineering of nanobodies for enhanced SARS- CoV-2 receptor binding domain recognition. *Frontiers in Molecular Biosciences*. 2025. 12, doi.org/10.3389/fmolb.2025.1512788

C. Chapter/Book/Manual

Ali I*, M S Khan, G Mustafa, N Sultan, Z Iqbal and M Shafiq. Resistance Strategies against microbial Plant Pathogens. 2018. Open Access books (ISBN: **978-93-87500-01-3**).

Ijaz S, N Sultan and **I Ali**. Practical Manual of Biochemistry. 2015.

Sultan N, S Javed and **I Ali**. A practical Notebook of Enzymology. 2017.

Ali I, F A Joyia, G Mustafa, and S A Mirza. Emerging trends to improve tropical plants: Biotechnological interventions. 2022. IntechOpen

Ali I., A Jamal, Z Saqib, MI Ali, and A B Masood. Introduction of biosurfactants and its classification. 2023. Elsevier

Rehman R, A Jamal, **I Ali**, M Quddus, and A Rehman. Role of biosurfactants in improving target efficiency of drugs and designing novel drug delivery systems. 2023. Elsevier

D. Published Abstracts/Research paper in conferences

1. Poster Presentation: **Ali I** and RW Briddon. Artificial microRNA mediated broad spectrum resistance against single stranded DNA plant viruses. Abstract Book of International conference on Advancements in Biotechnology: 30th– 31st March, 2016.
2. Poster Presentation: **Ali I**, I Amin, RW Briddon and S Mansoor. Transgenic *Nicotiana benthamiana* plant expressing antisense N- terminal of AV2 gene confer resistance against *Cotton leaf curl Burewala virus* (CLCuBuV). National conference on Development and Commercialization of Biotechnology Products held at National Institute for Biotechnology and Genetic Engineering Faisalabad and organized by National Commission on Biotechnology, 19-20th Jun, 2009. Faisalabad, Pakistan.
3. Presentation: **Ali I*** and A Bano. Isolation of *Azospirillum* from Industrial waste water and its effect on Cadmium accumulation and growth of Soybean. International Conference on Environmental challenges, Department of Environmental Sciences, University of Peshawar, Peshawar, Pakistan. 11-13th March, 2004.

- 2003** Merit Scholarship from Quaid-i-Azam University, Islamabad (Pakistan) for outstanding performance in M.Phil.
- 2008** Fellowship for PhD studies from Higher Education Commission (HEC), Pakistan
- 2010** Scholarship for training at University of Basel, Switzerland, funded by International Research support Initiative Program (IRSIP) of Higher Education Commission (HEC), Pakistan

Professional Skills

Molecular Biology

- DNA extraction (plant and animal tissues) and quantitation, polymerase chain reaction (PCR)
- RNA extraction.
- SDS PAGE
- Northern blot hybridization
- Southern blot hybridization
- Bacterial transformation

Plant Tissue Culture

- Callus culture, shooting and rooting of *Nicotiana benthamiana*, *Nicotiana tabaccum*, *Lycopersicum esculentum*
- Co-cultivation, screening and analysis of transgenic plants

Students Supervised

Students Supervised

Type	Role	No. of Students Supervised	No. of Students in Progress
M. Phil.	Supervisor/Co-Supervisor	04	10
M. Phil.	Member	20	10
Ph.D.	Supervisor	-	0
Ph.D.	Member	-	1

Membership in Professional and Academic societies

2024- Date	General Secretary, Biotechnology Society of Pakistan (BSP)
2014	Reviewer of African Journal of Biotechnology
2018	Pakistan Journal of Agricultural Sciences
2008 to date	NIBGE Blood donor society
2003 to date	Biochemical society of Pakistan

Professional Development and International Visits

27-28th March, 2018	Next generation sequencing (NGS), Genome Assembly/Exome Analysis at Comsat Institute of Information Technology University, Islamabad.
31st July, 2017	International workshop on Application of Computational Biology in Biotechnology at NIBGE, Faisalabad.
24th November, 2016	Pre-Conference workshop on Applications of Medical Biotechnology of 1 st UHS International conference on Allied Health Sciences (AHS) & Nursing; Bridging the gap in Healthcare: Improving Patient Care Outcomes 24 th -26 th November, 2016.
30th-31st March 2016	Chief organizer of "1st International Conference on Advancements in Biotechnology" at Govt. College Women University Faisalabad and Akhuwat-Faisalabad Institute of Research Science and Technology
2015	Second National student conference of biological sciences, NIBGE, Faisalabad; Pakistan
Dec 2010- June 2011	Training of research at Botanical Institute, University of Basel, Switzerland, funded by International Research Support Initiative Programme (IRSIP) of Higher Education Commission, Pakistan
25th March 2009	One day symposium on Insect Genomics: Applications and Potential for Pest Control at NIBGE. Faisalabad, Pakistan.
19-20th June 2009	National Conference on and Commercialization of Biotechnology Products. NIBGE. Faisalabad, Pakistan.
October 2009	Green Super Rice (GSR)–Hybrid Rice Seed Production Training Course. NIBGE. Faisalabad, Pakistan.
2006 - 2007	Post graduate diploma in computer science from Essex college London.
11-13th March 2003	Worked as member of organizing committee for "International Conference on Environmental Challenges" held at Higher Education Commission, Pakistan organized by Quaid-i-Azam University; Islamabad, Pakistan

International Conferences/workshops Arranged as Chief Organizer

- 3rd December, 2024** 1. HIV Awareness walk and Seminar on the evolving landscape of HIV. “Addressing complexities and Treatment. 3rd December, 2024. University of Agriculture, Faisalabad; Pakistan. (Secretary)
- 14th -15th June, 2022** 2nd International training workshop on biotechnology, bioinformatics and biochemistry.
June 14-15, 2022 University of Agriculture, Faisalabad; Pakistan. (Focal Person)
- 24th November, 2016** Pre-Conference workshop on Applications of Medical Biotechnology of 1st UHS International conference on Allied Health Sciences (AHS) & Nursing;
Bridging the gap in Healthcare: Improving Patient Care Outcomes 24th-26th November, 2016
- 30th-31st March, 2016** 1st International Conference on Advancements in Biotechnology. AKHUWAT Faisalabad Institute of Research Sciences and technology, Pakistan

National Conferences/workshops Arranged as Chief Organizer/Secretary/Focal Person

- 22nd April, 2017** One day training workshop on “Organize your research by integrating Turnitin and Endnote Library” with collaboration of University of Health Sciences, Lahore.

Computer Skills

- Good working knowledge of MS Word, MS Excel, Power Point, and Corel Draw
- **Bioinformatics tools:** Editseq, mapdraw, clustalx, Megalign, Mega5,
- **Endnote:** Experience to manage and update the endnote library

References

Will be provided on demand