

# Muhammad Ali

## PERSONAL INFORMATION

<b>Gender</b>	Male	<b>Nationality</b>	Pakistani
<b>Languages</b>	English, Pushto, Urdu	<b>Scopus Author ID</b>	55587388500
<b>ORCID</b>	0000-0002-3393-6222	<b>ResearcherID</b>	B-8143-2016
<b>H-index</b>	14	<b>i10-index</b>	16
<b>RG Score</b>	22.6	<b>EOBI</b>	3100A650173 (31/08/2017)
<b>Member</b>	a. World Society for Virology (Full Membership) b. American Society for Microbiology (Membership No. 40756774) c. The American Phytopathological Society (Membership No. 233009)		
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## CAREER HISTORY (HEC-Pakistan Approved Supervisor APP\_ID 31906)

<b>Jan 2024 – To present</b>	<b>Associate Professor</b> , Department of Life Sciences, School of Sciences, University of Management and Technology (UMT), Lahore, Pakistan
<b>Sep 2017 – Dec 2023</b>	<b>Assistant Professor</b> , Department of Life Sciences, School of Sciences, UMT, Lahore, Pakistan
<b>Apr 2013 – Oct 2013</b>	<b>Visiting Scholar/Researcher (HEC initiative)</b> at McGill University, Montreal, Québec, Canada
<b>Jul 2008 – Mar 2009</b>	<b>Teaching Assistant (HEC Awardee; PC No. 4233)</b> under the initiative “Support to Scientific Talent”, taught courses of <b>rDNA Technology</b> and <b>Bioinformatics</b> to MS and BS classes, respectively, in the Institute of Biotechnology and Genetic Engineering, The University of Agriculture, Peshawar.
<b>Jul 2007 – Jun 2008</b>	<b>Instructor of Statistics</b> at Agricultural Training Institute (ATI) Peshawar, under National Internship Program.
<b>Jan 2007 – Jun 2007</b>	<b>Research Associate</b> in HEC funded project entitled as “Cross-adaptation and in vitro Development of Salt Tolerant Lines of Rice” at <i>In Vitro</i> lab, Institute of Biotechnology and Genetic Engineering, The University of Agriculture, Peshawar

## ACADEMIC QUALIFICATION

Degree	Session	Date of Award	Marks (%)	Division / Grade	Major	Board / University
<b>Matric</b>	1999	Aug. 30, 1999	75	1 <sup>st</sup> / A	Science	BISE Peshawar
<b>F Sc</b>	2000-01	Aug. 30, 2001	65	1 <sup>st</sup> / B	Pre-Medical	BISE Peshawar
<b>B Sc (Hons)*</b>	2002-05	Apr. 10, 2006	83	1 <sup>st</sup> / A	Plant Breeding and Genetics	The University of Agriculture, Peshawar
<b>M Phil</b>	2006-07	Sep. 15, 2008	85	1 <sup>st</sup> / A	Biotechnology and Genetic Engineering	The University of Agriculture, Peshawar
<b>Ph D</b>	2009-12	Jan. 04, 2017 [PCD# 15933]	90	1 <sup>st</sup> / A	Virology and Immunology	National University of Sciences and Technology (NUST), Islamabad

\* Four-year degree

## SCHOLARSHIP / AWARD / DISTINCTION (Total No. 9)

- 2019** Selected as **Best Employee of the 1<sup>st</sup> Quarter**, University of Management and Technology (UMT), Johar Town, Lahore, Pakistan
- 2012-15** HEC-Pakistan indigenous scholarship (PIN 2BM1-331) for **PhD studies** at NUST, Islamabad
- 2013** Six months (April-October) **PhD studies** training at McGill University, Quebec, Canada under IRSIP HEC-Pakistan fellowship (PIN IRSIP-20-BMS-14)
- 2009-11** Merit scholarship (MoST/NUST, Islamabad) for **PhD Studies** at NUST, Islamabad
- 2008-09** Awardee of HEC-Pakistan initiative “**Support to Scientific Talent**” (PC No. 4233)
- 2007-08** Awardee of President of Pakistan initiative “**National Internship Program**”
- 2006-07** Educational stipend holder of National Bank of Pakistan (NBP) for 2 years; **M.Phil**
- 2002-05** Merit scholarship holder of NWFP Agricultural University Peshawar for **B.Sc (Hons)**
- 2000-01** Educational stipend holder of National Bank of Pakistan (NBP) for 2 years; **F.Sc studies**

## RESEARCH GRANT (Total No. 1)

- 2018** SRGP Grant No. 21-1876; worth Pkr. 0.5 Million; **Molecular characterization of begomoviruses infecting cultivated and non-cultivated plants in Punjab and Khyber Pukhtunkhwa** (Principal Investigator)

## SELECTED PUBLICATIONS (Total No. 34; IF 166.8; Citation 1,178)

- 2025** Meerab Khalid, Rana Muhammad Mateen, Mohsin Javed, **Muhammad Ali**, Mohammed Arif Nadeem Saqab, Rukhsana Parveen, Ahmed Asimov, Safura Bibi, Ali Bahadur, Shahid Iqbal, Sajid Mahmood, Salah Knani, Abeer Ahmed Alghamdi, Randa A. Althobiti & Lamiaa Galal Amin. In-silico analysis of potential phytochemicals targeting mitogen activating protein kinase-14 (MAPK14) gene in colorectal cancer. **Scientific Reports**. 15: 20361. <https://doi.org/10.1038/s41598-025-05807-2> [IF 3.9] **2045-2322** (July 01) - Research Article
- 2025** Muhammad Hammad Mustafa, Fayyaz-ur Rehman, **Muhammad Ali**, Mohsin Javed, Nazir Ahmad, Tayyaba Shafique, Ammar Zidan, Ali Bahadur, Shahid Iqbal, Sajid Mahmood, Abd-ELAzim Farouk, Ibrahim Jafri. *In silico* analysis of Moringaceae derived potential drug-like compounds against Newcastle disease virus **Steroids**. 219: 109628. <https://doi.org/10.1016/j.steroids.2025.109628> [IF 2.1] **1878-5867,0039-128X** (May 09) - Research Article
- 2025** Muhammad Awais, **Muhammad Ali**, Mohsin Javed, Faisal Hanif, Muhammad Nouman, Ammar Zidan, Ali Bahadur, Shahid Iqbal, Sajid Mahmood, Abd-ELAzim Farouk, Ibrahim Jafri. Citrus phytochemicals as potential therapeutics against asiatic citrus psyllid and Candidatus Liberibacter asiaticus: targeting the tripartite interaction. **Journal of Plant Pathology**. <https://doi.org/10.1007/s42161-025-01853-x> [IF 2.2] **2239-7264,1125-4653** (Jan 15) - Research Article
- 2025** Sana Malik, Faiza Akram, **Muhammad Ali**, Mohsin Javed, Rana Muhammad Mateen, Ammar Zidan, Ali Bahadur, Shahid Iqbal, Abd-ELAzim Farouk, Salman Alouf. Unveiling quorum sensing mechanisms: computational docking and dynamics of bacterial receptors and ligands. **Journal of Molecular Structure**. <https://doi.org/10.1016/j.molstruc.2024.140730> [IF 4.0] **1872-8014,0022-2860** (Feb 25) - Research Article
- 2024** Tayyaba Shafque, Mohsin Javed, **Muhammad Ali**, Shahid Iqbal, Muhammad Faizan, Ammar Zidan, Ali Bahadur, Sajid Mahmood, Fadi Jaber, Khalid M. Alotaibi, Matar Alshalwi. *In silico* analysis of *Calotropis procera*-derived phytochemicals targeting 3CL protease of SARS-CoV-2. **Molecular Biotechnology**. <https://doi.org/10.1007/s12033-024-01253-z> [IF 2.4, HJRS X] **1559-0305,1073-6085** (Aug 23) - Research Article
- 2023** Sofia Mishkar, Muhammad Yahya, **Muhammad Ali**, Muhammad Nouman. Vigilance and action needed around lumpy skin disease. **The Veterinary Record**. 193(3): 116-117. <https://doi.org/10.1002/vetr.3339> [IF 2.2, HJRS X] **2042-7670** (Aug 4) - Opinion
- 2022** Aamir Lal, Eui-Joon Kil, Thuy Thi Bich Vo, I Gusti Ngurah Prabu Wira Sanjaya, Muhammad Amir Qureshi, Bupi Nattanong, **Muhammad Ali**, Malik Nawaz Shuja, Sukchan Lee. Interspecies recombination-led speciation of a novel geminivirus in Pakistan. **Viruses**. 14: 2166 <https://doi.org/10.3390/v14102166>. [IF 5.82, HJRS W] **1999-4915** (Sept 30) - Research Article

- 2022** Malik Nawaz Shuja, Hasan Riaz, **Muhammad Ali**, Muhammad Qasim, Muhammad Anees, Stephan Winter, Sabry Hassan, Mohamed M. Hassan, Mohsen Mohamed Elsharkawy. Molecular characterization and identification of bhendi yellow vein mosaic virus with satellite DNAs infecting okra plants of district Mardan, Pakistan. **Egyptian Journal of Biological Pest Control**. 32(49) <https://doi.org/10.1186/s41938-022-00550-6>. [IF 2.05, HJRS X] 2536-9342 (May 06) - Research Article
- 2022** Rana Muhammad Mateen, Asma Tariq, Muhammad Sohail Afzal, **Muhammad Ali**, Imran Tipu, Mureed Hussain, Mahjabeen Saleem, Muhammad Naveed. TULP3 NLS inhibition: an *in silico* study to hamper cargo transport to the nucleus. **Journal of Biomolecular Structure and Dynamics**. 1-9. <https://doi.org/10.1080/07391102.2022.2070283>. [IF 5.24, HJRS W] 0739-1102/1538-0254 (May 05) - Research Article
- 2021** Abdul Ahad, Sabahat Mahnoor, Muhammad Zaid, **Muhammad Ali\***, Muhammad Sohail Afzal. *Ebolavirus*: Infection, vaccination and control. **Molecular Genetics, Microbiology and Virology**. 36 (Supp 1): S55-S64 <https://www.doi.org/10.3103/So891416821050037>. [IF 0.49, HJRS Y, Citation 2] 0891-4168 (Feb 21, 2022) - Review Article
- 2021** Jaedeok Kim, Eui-Joon Kil, Aamir Lal, Hae-Ryun Kwak, Hwan-Su Yoon, Hong-Soo Choi, Mikyeong Kim\*, **Muhammad Ali\***, Sukchan Lee\*. Adaptation and codon-usage preference of apple and pear-infecting apple stem grooving viruses. **Microorganisms**. 9(6): 1111 <https://www.doi.org/10.3390/microorganisms9061111> [IF 4.93, HJRS W, Citation 6] 2076-2607 (May) - Research Article
- 2020** Rana Muhammad Mateen, Asma Tariq, **Muhammad Ali**, Muhammad Sohail Afzal, Zahoor Qadir Samra, Muhammad Amin Athar. Cloning and heterologous expression of Hepatitis B virus pre-surface antigen 1. **Molecular Genetics, Microbiology and Virology**. 35(2): 112-116 <https://www.doi.org/10.3103/So89141682002007X> [IF 0.49, HJRS Y] 0891-4168 (Sep) - Research Article
- 2020** Aleena Haqqi, Muhammad Khurram, Maryam Salah Ud Din, Muhammad Nauman Aftab, **Muhammad Ali**, Haroon Ahmed, Muhammad Sohail Afzal. COVID-19 and *Salmonella typhi* co-epidemics in Pakistan: a real problem. **Journal of Medical Virology**. <https://www.doi.org/10.1002/jmv.26293> [IF 20.69, HJRS W, Citation 18] 1096-9071 (Jul)
- 2020** Aleena Haqqi, Usman Ayub Awan, **Muhammad Ali**, Muhammad Arif Nadeem Saqib, Haroon Ahmed, Muhammad Sohail Afzal. COVID-19 and dengue virus co-epidemics in Pakistan: A dangerous combination for the overburdened healthcare system. **Journal of Medical Virology**. <https://www.doi.org/10.1002/jmv.26144> [IF 20.69, HJRS W, Citation 42] 1096-9071 (Jun)
- 2020** Aamir Lal, Eui-Joon Kil, Kainat Rauf, **Muhammad Ali**, Sukchan Lee. First report of Papaya leaf curl virus associated with leaf curl disease in *Cestrum nocturnum* in Pakistan. **Plant Disease**. 104(11): 3089 <https://www.doi.org/10.1094/PDIS-12-19-2681-PDN> [IF 4.61, HJRS W, Citation 1] 0191-2917 / 1943-7692 (Nov) - Research Article
- 2020** **Muhammad Ali**, Muhammad Zaid, Muhammad Arif Nadeem Saqib, Haroon Ahmed, Muhammad Sohail Afzal. SARS-CoV-2 and the Hidden Carriers – Sewage, Feline, and Blood Transfusion. **Journal of Medical Virology**. 92(11): 2291-2292. <https://www.doi.org/10.1002/jmv.25956> [IF 20.69, HJRS W, Citation 11] 1096-9071 (Apr)
- 2020** Aamir Lal, Eui-Joon Kil, Thuy Thi Bich Vo, Chairina Fadhila, Phuong Thi Ho, Malik Nawaz Shuja, **Muhammad Ali**, Sukchan Lee. First Report of Dura leaf curl virus infecting *Ficus viruens* showing leaf curl symptoms in Pakistan. **Plant Disease**. 104(7): 2034. <https://doi.org/10.1094/PDIS-12-19-2719-PDN> [IF 4.61, HJRS W, Citation 3] 0191-2917 / 1943-7692 (July) - Research Article
- 2019** Muhammad Sohail Afzal, Warda Hussain, Muhammad Mateen, Muhammad Khurram, Muhammad Zaid, **Muhammad Ali**, Haroon Ahmed. Prevalence and future prospects of HIV in Pakistan. **Asian Pacific Journal of Tropical Medicine**. 12(Suppl 1): 20 <https://www.doi.org/10.4103/1995-7645.268165> [IF 3.04, HJRS X] 1995-7645 (Oct)
- 2019** Aleena Haqqi, Rimsha Munir, Muhammad Khalid, Muhammad Khurram, Muhammad Zaid, **Muhammad Ali**, Zaheer Hussain Shah, Haroon Ahmed, Muhammad Sohail Afzal. Prevalence of hepatitis C virus genotypes in Pakistan: current scenario and review of literature. **Viral Immunology**. 32(9): 402-413. <https://www.doi.org/10.1089/vim.2019.0058> [IF 2.26, HJRS Y, Citation 21] 0882-8245 / 1557-8976 (Nov) - Research Article

- 2019** Muhammad Zaid, **Muhammad Ali**, Muhammad Sohail Afzal. HIV outbreaks in Pakistan. **Lancet HIV**. [https://www.doi.org/10.1016/S2352-3018\(19\)30180-8](https://www.doi.org/10.1016/S2352-3018(19)30180-8) [IF 16.07, HJRS W Citation 25] 2352-3018 / 2352-3018 (Jul) - Correspondence
- 2019** Malik Nawaz Shuja, **Muhammad Ali**, Taj Ali, Baharullah Khattak, Muhammad Qasim, Stephan Winter. First Report of *Catharanthus yellow mosaic virus*, *Pedilanthus leaf curl virus* and Tomato leaf curl betasatellite infecting *Duranta erecta* in Pakistan. **Plant Disease**. 103(5): 1049 <https://www.doi.org/10.1094/PDIS-08-18-1308-PDN> [IF 4.61, HJRS W] 0191-2917 / 1943-7692 (Mar) - Research Article
- 2019** Muhsin Jamal, Saadia Andleeb, Fazal Jalil, Muhammad Imran, Muhammad Asif Nawaz, Tahir Hussain, **Muhammad Ali**, Sadeeq ur Rahman, Chythanya Rajanna Das. Isolation, characterization and efficacy of phage MJ2 against biofilm forming multidrug resistant *Enterobacter cloacae*. **Folia Microbiologica**. 64: 101-111. <https://www.doi.org/10.1007/s12223-018-0636-x> [IF 2.63, HJRS X, Citation 22] 0015-5632 / 1874-9356 (Aug 2018) - Research Article
- 2019** Muhsin Jamal, Sayed M.A.U.S. Bukhari, Saadia Andleeb, **Muhammad Ali**, Sana Raza, Muhammad A Nawaz, Tahir Hussain, Sadeeq ur Rahman, Sayed SA Shah. Bacteriophages: an overview of the control strategies against multiple bacterial infections in different fields. **Journal of Basic Microbiology**. 59(2): 123-133. <https://www.doi.org/10.1002/jobm.201800412> [IF 2.65, HJRS Y, Citation 50] 1521-4028 (Nov 2018) - Review Article
- 2018** Taskeen Raza, Saadia Andleeb, Sidra Rahmat Ullah, Muhsin Jamal, Khalid Mehmood, **Muhammad Ali**. Isolation and characterization of a phage to control vancomycin resistant *Enterococcus faecium*. **Open Life Sciences**. 13: 553-560. <https://www.doi.org/10.1515/biol-2018-0066> [IF 1.31, HJRS X, Citation 3] 2391-5412 (Dec) - Research Article
- 2018** Ayesha Zafar, Muhammad Imran, Sarmad Zahoor, Zaheer Hussain Shah, **Muhammad Ali**, Muhammad Sohail Afzal. Prevalence and treatment of untypable HCV variants in different districts of Punjab, Pakistan. **Viral Immunology**. 31(6): 426-432. <https://www.doi.org/10.1089/vim.2017.0167> [IF 2.26, HJRS Y, Citation 8] 0882-8245 / 1557-8976 (Jul) - Research Article
- 2018** Muhammad Yousaf Khan, Rumesha Riaz, Salman Akbar Malik, **Muhammad Ali**, Muhammad Sohail Afzal. Association of CTLA-4 polymorphism and autoimmune type-1 diabetes mellitus susceptibility in Pakistani population. **Turkish Journal of Biochemistry**. 43(2): 173-175. <https://www.doi.org/10.1515/tjb-2017-0079> [IF 0.48, HJRS Y, Citation 2] 1303-829X (Mar) - Correspondence
- 2018** **Muhammad Ali**, Sidra Anwar, Malik Nawaz Shuja, Rajiv Kumar Tripathi, Jaswinder Singh. The genus *Luteovirus* from infection to disease. **European Journal of Plant Pathology**. 151(4): 841-860 <https://www.doi.org/10.1007/s10658-018-1425-8> [IF 2.22, HJRS W, Citation 12] 1573-8469 / 0929-1873 (Jan) - Review Article
- 2018** Muhsin Jamal, Wisal Ahmad, Saadia Andleeb, Fazal Jalil, Muhammad Imran, Muhammad Asif Nawaz, Tahir Hussain, **Muhammad Ali**, Muhammad Rafiq, Muhammad Atif Kamal. Bacterial biofilm and associated infections. **Journal of the Chinese Medical Association**. 81: 7-11 <https://www.doi.org/10.1016/j.jcma.2017.07.012> [IF 3.40, HJRS , Citation 874] 1726-4901 - Review Article
- 2017** Muhsin Jamal, Saadia Andleeb, Fazal Jalil, Muhammad Imran, Muhammad Asif Nawaz, Tahir Hussain, **Muhammad Ali**, Chythanya Rajanna Das. Isolation and characterization of a bacteriophage and its utilization against multi-drug resistant *Pseudomonas aeruginosa*-2995. **Life Sciences**. 190: 21-28 <https://www.doi.org/10.1016/j.lfs.2017.09.034> [IF 6.78, HJRS W, Citation 22] 0042-3205 (Dec) - Research Article
- 2017** **Muhammad Ali**, Muhammad Tahir, Shahid Hameed. Phylogenetic and genome-wide pairwise distance analysis of the genus *Luteovirus*. **Pakistan Journal of Agricultural Sciences**. 54(2): 363-371. <https://www.doi.org/10.21162/PAKJAS/17.4590> [IF 0.86, HJRS X, Citation 3] 0552-9034 / 2076-0906 (Jun) - Research Article
- 2016** **Muhammad Ali**. Towards a coherent nomenclature of plant viruses. **Virologica Sinica**. 31(3): 197-198. <https://www.doi.org/10.1007/s12250-016-3741-5> [IF 6.95, HJRS X, Citation 2] 1674-0769 / 1995-820X - Correspondence

- 2014** **Muhammad Ali**, Shahid Hameed, Muhammad Tahir. *Luteovirus: insights into pathogenicity*. **Archives of Virology**. 159(11): 2853-2860. <https://www.doi.org/10.1007/s00705-014-2172-6> [IF 2.57, HJRS X, Citation 33] 0304-8608 / 1432-8798 (Aug) - Review Article
- 2013** **Muhammad Ali**, Muhammad Tahir, Shahid Hameed, Muhammad Ashraf. Coat protein based molecular characterization of *Barley yellow dwarf virus* isolates identified on oat plants in Pakistan. **Acta Virologica**. 57(3): 383-385. [https://www.doi.org/10.4149/av\\_2013\\_03\\_383](https://www.doi.org/10.4149/av_2013_03_383) [IF 1.16, HJRS X, Citation 5] 0001-723X / 1336-2305 (Jan) - Research Article
- 2010** Malik Nawaz Shuja, Dure-Nayab, **Muhammad Ali**, Aqib Iqbal, Iftikhar Hussain Khalil. Evaluating the response of wheat genotypes to forage clipping. **International Journal of Agriculture and Biology**. 12(1): 111-114 [IF 0.82, HJRS Y, Citation 18] 1814-9596 / 1560-8530 (Jan) - Research Article

#### NON-IMPACT FACTOR PUBLICATIONS (Total No. 13; Citation 66)

- 2024** Muhammad Umer Farooq, Chaudhry Ahmed Shabbir, Ramna Zia, Muhammad Zaid **Muhammad Ali\***, Imran Bodlah, Muhammad Imran. Analysis of the tripartite interaction among the whitefly, the host plant and the begomovirus. **IPSJ Transactions on Bioinformatics**. x(x): xx-xx. [HJRS Y, Q3] 1882-6679 (xxx-xx) - Research Article
- 2023** Arooj Arshad, Tayyaba Shafique, Maria Wahid, **Muhammad Ali\***, Rehan Zafar Paracha, Muhammad Sohail Afzal. Analysis of Meliaceae derived phytochemicals targeting RNA dependent RNA-polymerase of flavivirids through computer aided protocols. **Journal Plantarum**. 5(S1): 77-94. [HJRS Y] 2710-4079; 2710-4087 (September 29) - Research Article
- 2023** Adil Ali, **Muhammad Ali**, Zonaira Nisar, Syed Muhammad Ali Shah, Imtiaz Mustafa, Jaweria Nisar and Rizwan Asif. Antibacterial activity of economically important medicinal plants in Pakistan against different bacterial strains. **Bioinformatics and Biology Insights**. 17: 1-6. <https://doi.org/10.1177/11779322231189374>. [HJRS Y] 1177-9322 (July 31) - Research Article
- 2023** Saba Sajjad, Imran Tipu, **Muhammad Ali**, Muhammad Irfan Fareed, Rana Muhammad Kamran Shabbir, Faiza Samrez, Fareeha Ahmed, Wasiq Ikram, Rubina Dad, Mureed Hussain, Rana Muhammad Mateen, Rukhsana Parveen, Muhammad Sohail Afzal. Prevalence and Frequency Distribution of HLA-A, HLA-B and HLA-C Alleles in the Punjab, Pakistan. **LGU Journal of Life Sciences**. 7(3):173-185. <https://doi.org/10.54692/lgujls.2023.0702259> [HJRS Y] 2519-9404 (Jun) - Research Article
- 2022** Muhammad Khurram, Rana Muhammad Mateen, Ghulam Murtaza, Muhammad Irfan Fareed, **Muhammad Ali**, Imran Tipu, Muhammad Sohail Afzal, Rukhsana Parveen, Mureed Hussain. Prevalence of pulmonary and extrapulmonary tuberculosis in the Punjab population of Pakistan. **The Journal of Microbiology and Molecular Genetics**. 3(3):219-228. <https://doi.org/10.52700/jmmg.v3i3> [HJRS Y] 2707-6431 (Dec) - Research Article
- 2021** **Muhammad Ali\***, Riaz Ahmad Afridi, Sadiq Ali, Manahal Sarooj, Malik Nawaz Shuja, Hasan Riaz. *Parthenium hysterophorus*, an emergent weedy plant species, expanded its geographical range in Pakistan. **BioScientific Review**. 3(3):85-87. <https://www.doi.org/10.32350/BSR.0303> [HJRS Y] 2663-4201 (Sept) - Editorial
- 2018** Waqar Hussain, **Muhammad Ali**, Muhammad Sohail Afzal, Nouman Rasool. Penta-1,4-Diene-3-One oxime derivatives strongly inhibit the replicase domain of Tobacco mosaic virus: elucidation through molecular docking and density functional theory mechanistic computations. **Journal of Antivirals and Antiretrovirals**. 10(3):28-34. <https://www.doi.org/10.4172/1948-5964.1000177> [SJR, HJRS, Citation 15] 1948-5964 (Oct) - Research Article
- 2017** Muhammad Imran, Yasir Waheed, Ayesha Ghazal, Sajjad Ullah, Sher Zaman Safi, Muhsin Jamal, **Muhammad Ali**, Muhammad Atif, Muhammad Imran, and Farman Ullah. Modern biotechnology-based therapeutic approaches against HIV infection (Review). **Biomedical Reports**. 7(6): 504-507. <https://www.doi.org/10.3892/br.2017.1006> [SJR, Master Journal List, HJRS Y] 2049-9434 / 2049-9442 (Oct) - Review Article
- 2016** **Muhammad Ali**, Muhammad Tahir, Shahid Hameed. Genetic transformation of an elite commercial wheat variety through *Agrobacterium tumefaciens*. **International Journal of**

**Biosciences**. 8(1): 17-24. <https://www.doi.org/10.12692/ijb/8.1.17-24> [Master Journal List, HJRS] 2220-6655 / 2222-5234

- 2013** Muhsin Jamal, Inam-ur-Rahman, Muhammad Asif Nawaz, Tahir Hussain, Sami Ullah, **Muhammad Ali**, Muhammad Shuaib. Physiochemical and nutritional evaluation of selected Pakistani wheat varieties. **ARPN Journal of Agricultural and Biological Science**. 8(2): 152-159 [Master Journal List, HJRS, Citation 1] 1990-6145
- 2011** Farhad Ali, Jehan Bakht, Saleem Khan, Muhammad Ali, Tahir Hussain, **Muhammad Ali**, Wajid Khan, Bilal Muhammad Khan, Muhammad Maroof Shah. Polymerase chain reaction (PCR) based molecular characterization of popular wheat varieties of Khyber Pukhtunkhwa (KP) region of Pakistan. **African Journal of Biotechnology**. 82(10): 18958-18964 [HJRS, Citation 1] 1684-5315
- 2010** **Muhammad Ali**, Malik Nawaz Shuja, Muhammad Zahoor, Ishtiaq Qadri. Phytic acid: how far have we come? **African Journal of Biotechnology**. 9(11): 1551-1554 [HJRS, Citation 42] 1684-5315
- 2009** Muhammad Zahoor, Zakia Javaid, **Muhammad Ali**, Saleem Khan, Farhad Ali, Zahoor Ahmad Swati. Lectin status, protein contents, and ammonium assimilating enzymatic activity of two indigenous cultivars of mulberry species, *Morus alba* and *Morus nigra*. **African Journal of Biotechnology**. 8(22): 6379-6382 [HJRS, Citation 3] 1684-5315
- 2007** **Muhammad Ali**, Fida Mohammad, Sultan Akbar, Farhad Ahmad. Genotypic performance of segregating wheat populations at Kaghan. **Sarhad Journal of Agriculture**. 23(4): 981-984 [HJRS Y, Citation 4] 1016-4383 - Research Article

#### BOOK CHAPTERS PUBLISHED (Total No. 3; Citation 1)

- 2021** Ramna Zia, Malik Nawaz Shuja, **Muhammad Ali\***, Muhammad Sohail Afzal (June 29). Plant Probiotics: Technical Challenges and Emerging Solutions for Enhancing Food Crops. Pp. 370-405 (Chapter 13) [https://doi.org/10.1007/978-3-030-73507-4\\_13](https://doi.org/10.1007/978-3-030-73507-4_13) In Book: **Soil Microbiomes for Sustainable Agriculture. Sustainable Development and Biodiversity**, vol 27 Ed. Ajar Nath Yadav. ISBN: 978-3-030-73507-4, Springer International Publishing, Springer Nature Switzerland AG.
- 2020** Kainat Rauf, Rabia Rahman, Adeena Saeed, **Muhammad Ali\***, Fatima Noureen, Rabia Amir, Alvina Gul (Apr 15). Next-generation sequencing in bread wheat. Pp. 311-320 (Chapter 22) doi: 10.1016/B978-0-12-819527-7.00022-4 In Book: **Climate Change and Food Security with Emphasis on Wheat**. Eds. Munir Ozturk and Alvina Gul. ISBN: 978-0-12-819527-7, Academic Press, Elsevier [Citation 1]
- 2020** Nida Liaqat, Ayesha Liaqat, **Muhammad Ali**, Zuhra Qayyum, Rabia Amir, Raffia Siddique, Alvina Gul\*, Hikmet Budak (Apr 15). Wheat genomics and genome editing. Pp. 331-346 (Chapter 24) doi: 10.1016/B978-0-12-819527-7.00024-8 In Book: **Climate Change and Food Security with Emphasis on Wheat**. Eds. Munir Ozturk and Alvina Gul. ISBN: 978-0-12-819527-7, Academic Press, Elsevier

#### GENBANK SUBMISSIONS (Total No. 22)

SN	Virus Genus	Isolate Description	Accession No.
1.	<i>Luteovirus</i>	BYDV-PAV-Pakistan-Charsadda-M14-wheat-2012	HE985229 (Complete genome)
2.	<i>Luteovirus</i>	BYDV-PAV-Pakistan-Islamabad-M40-2-millet-2015	KR259156 (Coat protein gene)
3.	<i>Luteovirus</i>	BYDV-PAV-Pakistan-Islamabad-M40-1-millet-2015	KR259157 (Coat protein gene)
4.	<i>Luteovirus</i>	BYDV-PAV-Pakistan-Rawalpindi-M16-oat-2015	KT198986 (Coat protein gene)
5.	<i>Luteovirus</i>	BYDV-PAV-Pakistan-Rawalpindi-M17-wheat-2015	KT198985 (Coat protein gene)
6.	<i>Luteovirus</i>	BYDV-PAV-Pakistan-Rawalpindi-M18-wheat-2015	KT198984 (Coat protein gene)
7.	<i>Luteovirus</i>	BYDV-PAV-Pakistan-Islamabad-M20-wheat-2015	KT198983 (Coat protein gene)
8.	<i>Luteovirus</i>	BYDV-PAV-Pakistan-Islamabad-M21-barley-2015	KT198982 (Coat protein gene)
9.	<i>Luteovirus</i>	BYDV-PAV-Pakistan-Islamabad-M24-grass sp.-2015	KT198981 (Coat protein gene)
10.	<i>Luteovirus</i>	BYDV-PAV-Pakistan-Chakwal-M26-grass sp.-2015	KT198980 (Coat protein gene)
11.	<i>Luteovirus</i>	BYDV-PAV-Pakistan-Peshawar-M38-maize-2015	KT198979 (Coat protein gene)
12.	<i>Luteovirus</i>	BYDV-PAV-Pakistan-Lahore-M53-maize-2015	KT198978 (Coat protein gene)
13.	<i>Luteovirus</i>	BYDV-PAV-Pakistan-Hazara-M56-iris sp.-2015	KT198977 (Coat protein gene)
14.	<i>Luteovirus</i>	BYDV-PAV-Pakistan-Islamabad-M19-wheat-2015	KT198976 (Coat protein gene)
15.	<i>Luteovirus</i>	BYDV-PAV-Pakistan-Islamabad-M15-wheat-2015	KT198975 (Coat protein gene)

16.	<i>Luteovirus</i>	BYDV-PAV-Pakistan-Islamabad-Mo7-oat-2011	HE584721 (Coat protein gene)
17.	<i>Luteovirus</i>	BYDV-PAV-Pakistan-Peshawar-M12-oat-2011	HE584722 (Coat protein gene)
18.	<i>Begomovirus</i>	Chenopodium leaf distortion virus-Pakistan-2019	MN423112 (Complete genome)
19.	<i>Begomovirus</i>	Chilli leaf curl India virus-Lahore-2019	MN494099 (Complete genome)
20.	<i>Begomovirus</i>	Chilli leaf curl virus-WA19-Carica papaya-2018	MN839535 (Complete genome)
21.	<i>Begomovirus</i>	Papaya leaf curl virus-WA1-Cestrum nocturnum-2018	MN839534 (Complete genome)
22.	<i>Begomovirus</i>	Duranta leaf curl virus-DLCV/Lahore-2019	MN537564 (Complete genome)

### RESEARCH SUPERVISED (MS-Thesis 38; BS-Thesis 06)

SN	Level (Program)	Year, Month	Candidate (Institution)	Title
1.	MS (Biotechnology)	2019	Kainat Rauf (UMT)	<i>Characterization of weeds infecting begomovirus(es) from area surrounding Lahore</i>
2.	MS (Biotechnology)	2019	Rabia Rahman (UMT)	<i>Isolation and characterization of begomovirus(es) infecting vegetables and other related plants grown in Lahore</i>
3.	MS (Biochemistry)	2019	Aleena Qadeer (UMT)	<i>Analysis of the prevailing classification system of Hepacivirus C</i>
4.	MS (Biochemistry)	2019	Muhammad Shoaib (UMT)	<i>Comparison of the effectiveness of ABSI and its z-score in predicting the prevalence of dyslipidemia</i>
5.	MS (Biotechnology)	Feb 2020	Arooj Arshad (UMT)	<i>In silico identification of anti-flavivirid phytochemicals in the family Meliaceae</i>
6.	MS (Biochemistry)	Feb 2020	Iqra Shakoore (UMT)	<i>Estimation of physiochemical properties and trans-fat in bakery products</i>
7.	MS (Biochemistry)	Feb 2020	Anam Asghar (UMT)	<i>Estimation of physiochemical properties and trans-fat in vegetable ghee</i>
8.	MS (Biotechnology)	Jul 2020	M. Masroor Mumtaz (UMT)	<i>Effect of Sub-continental Conditions on the health of Holstein Friesian Cow</i>
9.	MS (Biotechnology)	Oct 2020	Ayesha Liaqat (UMT)	<i>Evaluation of polymorphic forms of cholesteryl ester transfer protein (CETP) associated with plasma lipid level aberrations</i>
10.	MS (Biotechnology)	Jan 2021	Kaynat Rasheed (UMT)	<i>In silico sequence analysis of members of the genus Lentivirus</i>
11.	MS (Biotechnology)	Jun 2021	Adil Ali (UMT)	<i>Evaluation of antibacterial activity of economically important medicinal plants</i>
12.	MS (Biotechnology)	Jun 2021	Sana Tariq (UMT)	<i>In silico identification of anti-flavivirus Aceraceae phytochemicals</i>
13.	MS (Biochemistry)	Jul 2021	Sana Munir (UMT)	<i>In silico analysis of anti foot-and-mouth-disease virus (FMDV) phytochemicals derived from Zingiber officinale</i>
14.	MS (Biochemistry)	Jul 2021	Tayyaba Naseem (UMT)	<i>Computational analysis of Nigella sativa derived phytochemicals against beak and feather disease virus (BFDV)</i>
15.	MS (Biochemistry)	Sept 2021	Ayaz Mustafa (UMT)	<i>In silico identification of family Poaceae derived phytochemicals against coronaviruses</i>
16.	MS (Biochemistry)	Sept 2021	Sardar Muhammad Shoaib Akhter (UMT)	<i>In silico analysis of anti-flaviviridae polygonaceae derived phytochemicals</i>
17.	MS (Biochemistry)	Sept 2021	Faiza Akram (UMT)	<i>In silico analysis of rabies lyssavirus nucleoprotein interaction with genomic RNA</i>
18.	MS (Biochemistry)	Sept 2021	Sana Malik (UMT)	<i>In silico analysis of Quorum Sensing receptor-ligand interactions</i>
19.	MS (Biotechnology)	Nov 2021	Mubeen Nasir (UMT)	<i>In silico analysis of anti-Hepatitis B virus phytochemicals derived from Silybum marianum (L.) Gaertn</i>

20	<b>MS</b> (Biochemistry)	Nov 2021	Amna Sajjad (UMT)	<i>Analysis of alignment and alignment-free similarity methods using Archaeobacterial sequences</i>
21	<b>MS</b> (Biochemistry)	Nov 2021	Ms. Manahil (UMT)	<i>In silico interaction analysis of oleaceae derived phytochemicals co-inhibiting corona and dengue viruses</i>
22	<b>MS</b> (Biochemistry)	Jan 2022	Iqra Noor Ahmad (UMT)	<i>In silico analysis of co-variants of spike protein of SARS-CoV-2</i>
23	<b>MS</b> (Biotechnology)	Feb 2022	Muhammad Umer Farooq (UMT)	<i>Analysis of tripartite interaction among whitefly, the whitefly and the begomovirus</i>
24	<b>MS</b> (Biotechnology)	Apr 2022	Alisha Malik (UMT)	<i>Interaction analysis of Ficus religiosa plant with the begomovirus.</i>
25	<b>MS</b> (Biotechnology)	Sept 2022	Maleeha Saeed (UMT)	<i>In silico interaction analysis of olive and black seed derived phytochemicals against lumpy skin disease virus.</i>
26	<b>MS</b> (Biochemistry)	Dec 2022	Asifa Roohi (UMT)	<i>In silico analysis of Levivirus MS2 capsid protein interaction with its genomic RNA</i>
27	<b>MS</b> (Biochemistry)	Jan 2023	Aqsa Muhammad Nazeer (UMT)	<i>In silico functional analysis of TMPRSS2 polymorphism in human</i>
28	<b>MS</b> (Biotechnology)	April 2023	Sidra Shabbir (UMT)	<i>In silico interaction analysis of Toll like receptor 9 protein with mitochondrial DNA</i>
29	<b>MS</b> (Biotechnology)	July 2023	Rehana Shaheen (UMT)	<i>Impact of lactation stages on somatic cell count and milk components on Nilli-Ravi and Kundi breeds</i>
30	<b>MS</b> (Biotechnology)	Sept 2023	Muhammad Awais (UMT)	<i>In silico tripartite interaction analysis of bacterium, insect and plant in citrus greening or Huanglongbing disease</i>
31	<b>MS</b> (Biotechnology)	Oct 2023	Ramsha Hameed (UMT)	<i>Machine learning based approach for rapid detection of lung cancer using histopathological images</i>
32	<b>MS</b> (Biotechnology)	Jan 2024	Sana Nasim (UMT)	<i>Computational analysis of potential repellents against economically important insects</i>
33	<b>MS</b> (Biotechnology)	Aug 2024	Aqsa Shehzadi (UMT)	<i>In Silico analysis of intrinsically disordered regions in SARS-CoV-2</i>
34	<b>MS</b> (Biotechnology)	Oct 2024	Amina Munir (UMT)	<i>Computational analysis of toxins as therapeutic agents against tumor associated antigens</i>
35	<b>MS</b> (Biotechnology)	Oct 2024	Sadaf Ali (UMT)	<i>In Silico analysis of RNA and protein interaction in hantavirus virion formation</i>
36	<b>MS</b> (Biotechnology)	Nov 2024	Maimoona Ghulam Muhammad (UMT)	<i>In Silico interaction analysis of measles morbillivirus encoded structural and non-structural proteins</i>
37	<b>MS</b> (Biotechnology)	Dec 2024	Aqeel Ahmed	<i>In silico analysis of SNPs pathogenicity in the human BUD13 gene in the type 2 diabetes</i>
38	<b>MS</b> (Biotechnology)	Dec 2024	Aimen Jamil	<i>In silico characterization of dengue virus-encoded NS3 protein as an RNA silencing suppressor during infection</i>

SN	Level (Program)	Year, Month	Candidate (Institution)	Title
1.	<b>BS</b> (Biotechnology)	2018	Syeda Kissa Ali Gardezi (UMT)	<i>Isolation and characterization of begomovirus(es) infecting uncultivated plants</i>
2.	<b>BS</b> (Biochemistry)	2019	Muhammad Kashif Rehman (UMT)	<i>Analysis of the common region between begomoviral cognate DNA-A and DNA-B genomic components</i>
3.	<b>BS</b> (Biotechnology)	2019	Fatima Abbas (UMT)	<i>Optimization of rolling circle amplification for the detection of circular phytopathogenic DNA virus(es)</i>
4.	<b>BS</b> (Biotechnology)	2020	Khizar Hayat (UMT)	<i>Computational sequence analysis of DNA-A and DNA-B components of begomoviruses infecting vegetables</i>
5.	<b>BS</b> (Biotechnology)	2020	Muhammad Saqlain (UMT)	<i>Genome-wide sequence analysis of the genus Tombusvirus</i>

6.	<b>BS</b> (Biotechnology)	2022	Faiqa Fatima, Kainat Ahmad, Inshal Aamer, Fareen Khurram (UMT)	<i>Computational analysis of phytochemicals against beak and feather disease virus isolates</i>
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#### RESEARCH CO-SUPERVISED (MS-Thesis 04; BS-Thesis 01)

S/N	Level (Program)	Year, Month	Candidate (Institution)	Title
1.	<b>MS</b> (Biotechnology)	Nov 2020	Muhammad Mutasim Khalid (UMT)	<i>Development of herbicide resistant DMO gene construct and Agrobacterium mediated transformation in cotton</i>
2.	<b>MS</b> (Chemistry)	Aug 2021	Tayyaba Shaffique (UMT)	<i>In silico analysis of Calotropis procera derived phytochemicals against M<sup>pro</sup> of SARS-CoV-2</i>
3.	<b>BS</b> (Zoology)	Sept 2022	Iqra Saher, Rabiya Latif, Sadaf Ali (UMT)	<i>In silico analysis of Pseudomonas aeruginosa lytic bacteriophage PA1Φ with the bacteria</i>
4.	<b>MS</b> (Biotechnology)	Sept 2022	Zaryab Mehmood (UMT)	<i>In silico interaction analysis of phytochemical against low density lipoprotein receptor</i>
5.	<b>MS</b> (Biotechnology)	Nov 2022	Fatima Nadeem (UMT)	<i>Synthesis of polyhydroxyalkanoates (PHAs) utilizing molasses as carbon source by Proteus mirabilis</i>

#### THESIS EXTERNAL EXAMINER (MS Thesis 15; BS Thesis 13)

SN	Level (Program)	Year, Month	Candidate (Institution)	Title
1.	<b>MPhil</b> (Microbiology)	Jul 2020	Ali Shah (Kohat University of Science and Technology, Khyber Pakhtunkhwa)	<i>Molecular characterization of begomovirus satellites infecting Spinacia oleraceae and Capsicum annuum plants in Kohat</i>
2.	<b>MPhil</b> (Botany)	Nov 2021	Attia Dildar (Minhaj University Lahore, Punjab)	<i>Evaluation of phosphorous and oxalic acid supplementation on maize (Zea mays L.)</i>
3.	<b>MS</b> (Forensic Science)	Nov 2021	Rida Rabbani (Department of Chemistry, GC University, Lahore, Punjab)	<i>Synthesis and characterization of transition metal complexes for antimicrobial activity</i>
4.	<b>MPhil</b> (Botany)	Feb 2022	Sabiha Yousaf (Minhaj University Lahore, Punjab)	<i>Improving phosphorus in wheat plant using oxalic acid integrated with inorganic phosphorus fertilizers under cadmium stress conditions</i>
5.	<b>MPhil</b> (Microbiology)	Aug 2022	Jasim Khan (AWKUM Khyber Pakhtunkhwa)	<i>Improving phosphorus in wheat plant using oxalic acid integrated with inorganic phosphorus fertilizers under cadmium stress conditions</i>
6.	<b>MPhil</b> (Botany)	Sept 2022	Saba Bashir (Minhaj University Lahore, Punjab)	<i>Evaluation of phosphorous and oxalic acid supplementation using hybrid maize (Zea mays L.)</i>
7.	<b>MPhil</b> (Chemistry)	Nov 2022	Muhammad Ramzan (Department of Chemistry, GC University, Lahore, Punjab)	<i>Physiochemical modification of cellulose extracted from wheat straw for industrial applications</i>
8.	<b>MPhil</b> (Chemistry)	Nov 2022	Zunaira (Department of Chemistry, GC University, Lahore, Punjab)	<i>Synthesis of metal complexes employing oxygen donor ligands and their biological activities</i>
9.	<b>MPhil</b> (Botany)	Dec 2022	Nabiha Iftikhar (Minhaj University Lahore, Punjab)	<i>Amelioration of phosphorus uptake in wheat plant by application of citric acid amended phosphate fertilizer</i>
10.	<b>MPhil</b> (Botany)	Feb 2023	Bashir Ahmad (Minhaj University Lahore, Punjab)	<i>Evaluation of biochemical parameters of maize plants as affected by lead toxicity</i>

11.	<b>MPhil</b> (Botany)	May 2023	Syeda Mahnoor Janat (Minhaj University Lahore, Punjab)	<i>Enhancing nitrogen use efficiency through impregnation of metallic nanoparticles of Azadirachta indica on urea</i>
12.	<b>MPhil</b> (Botany)	May 2023	Ayesha Fatima (Minhaj University Lahore, Punjab)	<i>Combined effect of Zinc and Biochar on carotenoid content and productivity in oat</i>
13.	<b>MPhil</b> (Biological Sciences)	Aug 2023	Khadija Yaqoob (SBS, University of the Punjab, Lahore)	<i>Investigating the effect of SUMO fusion on solubility and stability of amylase catalytic domain from Pyrococcus abyssi</i>
14.	<b>BS</b> (Chemistry)	Sept 2023	Daud Aftab (Department of Chemistry, GC University, Lahore)	<i>Use of low quality coal to form combustible product</i>
15.	<b>BS</b> (Chemistry)	Sept 2023	Mahnoor Aniq (Department of Chemistry, GC University, Lahore)	<i>Ternary transition metal (Cu,Ni,Co) phosphide synthesis and catalytic applications</i>
16.	<b>BS</b> (Chemistry)	Sept 2023	Ghulam Ali (Department of Chemistry, GC University, Lahore)	<i>Association of liver and kidney functions with dengue fever</i>
17.	<b>BS</b> (Chemistry)	Sept 2023	Muhammad Umer (Department of Chemistry, GC University, Lahore)	<i>Computational study of perovskite type hydrides <math>\text{EuXH}_3</math> (<math>X=\text{Pd}, \text{Pt}</math>) for hydrogen storage applications</i>
18.	<b>BS</b> (Chemistry)	Sept 2023	Muhammad Moawaiz (Department of Chemistry, GC University, Lahore)	<i>A comparison of liver function and lactate dehydrogenase profiles for early detection of dengue fever</i>
19.	<b>BS</b> (Chemistry)	Sept 2023	H. Farman Naseem (Department of Chemistry, GC University, Lahore)	<i>Recycling of spent Li ion batteries for recovery</i>
20.	<b>BS</b> (Chemistry)	Sept 2023	Hassam Akram Khan (Department of Chemistry, GC University, Lahore)	<i>Exploring the potential of hemicellulose based bioadhesives</i>
21.	<b>BS</b> (Chemistry)	Sept 2023	Saqiba Safdar (Department of Chemistry, GC University, Lahore)	<i>Preparation of spinnable regenerated cellulosic fibers from wheat straw for textile use</i>
22.	<b>BS</b> (Chemistry)	Sept 2023	M. Shoaib Safdar (Department of Chemistry, GC University, Lahore)	<i>Preparation of hemicellulose-based bioplastic extracted from sugarcane bagasse</i>
23.	<b>BS</b> (Chemistry)	Sept 2023	Hamza Tariq (Department of Chemistry, GC University, Lahore)	<i>Extraction of elemental silicon from silica (<math>\text{SiO}_2</math>)</i>
24.	<b>BS</b> (Chemistry)	Sept 2023	Hafsa Safdar (Department of Chemistry, GC University, Lahore)	<i>Regenerated cellulosic fiber from rice straw in cuprammonium solution</i>
25.	<b>BS</b> (Chemistry)	Sept 2023	M. Talha Rehman (Department of Chemistry, GC University, Lahore)	<i>Sustainable approach to recover zinc from foundry exhaust wastes</i>
26.	<b>MS</b> (Biosciences)	Aug 2024	Iqra Shaheen Sumera (Capital University of Science and Technology, Islamabad)	<i>A study on antioxidant and alpha amylase inhibitory attributes of Adhitoda vasica leaf extract</i>

27.	<b>MS</b> (Biosciences)	Aug 2024	Mishal Imtiaz (Capital University of Science and Technology, Islamabad)	<i>Effect of Abelmoschus esculentus leaf polyphenols on sensitivity of IRS1 protein: an in silico study</i>
28.	<b>BS</b> (Chemistry)	Sep 2024	Rimsha (Department of Chemistry, GC University, Lahore)	<i>Extraction of Chitosan from Ganoderma lucidum (Linghzi mushroom)</i>

### PROFESSIONAL OUTREACH (Resource Person 9)

- 2025** External jury member in the **10<sup>th</sup> Final Year Projects Exhibition, Open House Job Interviews and Bioinformatics Posters Competition** (February 4) organized by the Department of Biotechnology, Faculty of Science and Technology (FoST), University of Central Punjab (UCP), Lahore
- 2024** **Certificate Course, “Experimental Methods in Microbiology”** (May 24-25) held at the Department of Life Sciences, School of Science, University of Management and Technology, Johar Town, Lahore
- 2024** **Certificate Course, “Experimental Methods in Molecular Biology”** (May 31 - June 01) held at the Department of Life Sciences, School of Science, University of Management and Technology, Johar Town, Lahore
- 2024** **3rd Training Workshop in Life Sciences, “R Basics and Data Visualization”** (May 18) held at the Department of Life Sciences, School of Science, University of Management and Technology, Johar Town, Lahore
- 2024** **Course on, “Harnessing Generative AI for Higher Education”** (April 17 to May 15) held at University of Management and Technology, Johar Town, Lahore
- 2023** **Certificate course on, “NGS, Data Analysis and Drug Design”** (May 15 to June 17) held at University of Management and Technology, Johar Town, Lahore
- 2023** External jury member in the **7<sup>th</sup> Molecular Models and Bioinformatics Posters Competition** (July 6) organized by the Department of Biotechnology, Faculty of Science and Technology (FoST), University of Central Punjab (UCP), Lahore
- 2023** External jury member in the **6<sup>th</sup> Molecular Models and Bioinformatics Posters Competition; A Gateway to Entrepreneurship** (January 31) organized by the Department of Biotechnology, Faculty of Science and Technology (FoST), University of Central Punjab (UCP), Lahore
- 2019** **1<sup>st</sup> Training Workshop in Life Sciences, “Techniques in Molecular Biology”** (November 23-24) held at the Department of Life Sciences, School of Science, University of Management and Technology, Johar Town, Lahore

### PROFESSIONAL TRAINING COURSE AND WORKSHOP ETC. (Organized 10)

- 2025** **2<sup>nd</sup> UMT International Conference on Life Sciences: Translating Research into Impactful Solutions** (April 10-12) organized by Department of Life Sciences, School of Science, University of Management and Technology, Johar Town, Lahore [Role as Conference Secretary]
- 2025** **SSC FEST-2025** (Jan 21), ‘Innovating for a Greener Tomorrow: Advancing Sustainable Technologies’ organized by the School of Science, University of Management and Technology, Johar Town, Lahore [Role as FEST Secretary]
- 2024** **SSC FEST-2024** (Apr 04), ‘Sustainable Ways of Energy Production’ organized by the School of Science, University of Management and Technology, Johar Town, Lahore [Role as FEST Secretary]
- 2023** **1<sup>st</sup> UMT International Conference on Life Sciences: Exploring the Frontiers in Biological Research** (Dec 13-14) organized by Department of Life Sciences, School of Science, University of Management and Technology, Johar Town, Lahore [Role as Conference Secretary]
- 2019** **2<sup>nd</sup> One Day Training Workshop on “Artificial Intelligence with Python”** (Dec 19) jointly organized by Department of Mathematics and Department of Life Sciences, School of Science, University of Management and Technology, Johar Town, Lahore
- 2018** **1<sup>st</sup> National Workshop, “Forensic Science: from Crime Scene to Court of Law** (Dec 04) held at the Department of Life Sciences, School of Science, University of Management and Technology, Johar Town, Lahore
- 2018** **Scientific Writing, Research Methodology and the Use of Endnote** (Sep 05) workshop held at the Department of Life Sciences, School of Science, University of Management and Technology, Johar Town, Lahore

- 2017** **2<sup>nd</sup> UMT International Conference on Pure and Applied Sciences** (Oct 05-07) held at School of Science, University of Management and Technology, Johar Town, Lahore
- 2015** Three days (Mar 25-27) workshop on **Omics of Begomoviruses and their Impact on National Economy** organized at ASAB, NUST, Islamabad, under USDA-ICARDA project
- 2011** **First Annual HCV Management Symposium** (Feb 10-11) held at NUST Center of Virology and Immunology (NCVI), NUST, Islamabad

## **PROFESSIONAL DEVELOPMENT (Participated Total No. 50)**

### **ONLINE (30)**

- 2025** Participation in a webinar '**Recent Trends and Applications of Metabolomics in Food Analysis, Authentication, Process Monitoring and Gut Interactions**' (June 12) organized by **COMSTECH, Islamabad, Pakistan**
- 2024** Participation in '**Author Workshop - Latest Developments in Scientific Publishing Landscape & Publishing ethics**' (December 12) organized by **Researchers Academy, Elsevier, at HEC Pakistan**
- 2024** Participation in '**Refresher - How to Effectively use using ScienceDirect, Read Quality Publish Quality**' (November 6) organized by **Researchers Academy, Elsevier**
- 2024** Participation in '**How to use Paperpal's AI academic editing to write and edit like a pro**' (April 8) organized by **Paperpal, Cactus Communications**
- 2023** Participation in '**Marburg virus disease**' (April 24) organized by **Health Emergencies Programme, World Health Organization**
- 2022** International symposium on '**Role of basic sciences for sustainable development**' (October 13) organized by **COMSTECH secretariat, Islamabad**
- 2022** Virtual participation (September 13-15) in **Kazakhstan - Pakistan - Türkiye; Youth Forum on Biotechnology** organized by **COMSTECH, IOFS and ICYF**
- 2022** Webinar (August 26) on **Questionnaire Framing** organized by **A2Z EduLearningHub LLP**
- 2022** Webinar (July 29) on **Long COVID: The Knowns and Unknowns** organized by **The Scientist**
- 2022** COMSTECH-NTD Network Joint Lecture Series on **Genome organization of the Trypanosoma cruzi complex** by Prof. Dr. Carlos Robello organized by **COMSTECH, Islamabad** (March 22)
- 2022** Webinar (March 10) on **Open Science** organized by **COMSTECH, UNESCO and PAS, Islamabad**
- 2022** Webinar (February 23) on **Shrinking Indus Delta: Current status and way forward** organized by **COMSTECH, Islamabad**
- 2022** Webinar (January 25) on **Epigenetics, the immortal kiss of our grandparents** organized by **COMSTECH, Islamabad**
- 2021** Webinar (August 26) on **Citation management by using Mendeley software** organized jointly by **Learning Resources Center, University of Management and Technology, Sialkot Campus**
- 2021** Online certificate course (February 25) on **How to publish in and optimize resources for ground breaking journals** organized jointly by **Researchers Academy, Elsevier**
- 2021** Online certificate course (February 16-17) on **Basic Plant Tissue Culture Techniques** organized jointly by **COMSTECH Secretariat, Islamabad** in collaboration with **International Center for Chemical and Biological Sciences (ICCBS), University of Karachi**, and **Pakistan Biotechnology Information Center (PABIC), Pakistan**
- 2021** BioPlex Webinar #6 **Immunological Response Factors to SARS-CoV-2 in Acquired Immunity** on February 09, 2021 organized by **BIORAD**
- 2021** Online certificate course (Jan 11-12) on **Molecular Biology Techniques** organized by **COMSTECH Secretariat, Islamabad** in collaboration with **International Center**

*for Chemical and Biological Sciences (ICCBS), University of Karachi, Pakistan*

- 2020** Webinar (Dec 18) on **CRISPR/Cas-enabled plant genome editing and precision breeding** conducted by **Prof. Yinong Yang, Penn State University, USA** organized by **Dr. AQ Khan Institute of Biotechnology and Genetic Engineering (KIBGE), University of Karachi, Pakistan**
- 2020** One day (Oct 10) virtual symposium on **Antiviral drug design and discovery** conducted by **Bioorganic and Medicinal Chemistry (BMC) Group, Department of Chemistry and Chemical Engineering, Syed Babar Ali School of Science and Engineering, Lahore University of Management Sciences (LUMS), Lahore**
- 2020** One hour training (Oct 14) on **HEC digital library collections for your next scholarly research** offered by **ProQuest** in partnership with **Higher Education Commission Pakistan**
- 2020** Certificate course (Sep 10) on **Light and Polymers** organized by **COMSTECH Secretariat, Islamabad**
- 2020** A virtual seminar (Sep 29) on **Saline Agriculture – Solution to Global Food Security** organized by **COMSTECH Secretariat, Islamabad**
- 2020** Training (Sept 23) on **ProQuest Ebook Central Advanced Training** offered by **ProQuest** in partnership with **Higher Education Commission Pakistan**
- 2020** Certificate course (Sep 09) on **Intellectual property for scientists** organized by **COMSTECH Secretariat, Islamabad** in collaboration with **International Center for Chemical and Biological Sciences (ICCBS), Karachi** and **Sindh Innovation, Research and Education Network (SIREN), Karachi, Pakistan**
- 2020** One-hour webinar and Q&A session (Sep 18) on **Investigating traditional and modern approaches to antimicrobial susceptibility testing** Offered by **SelectScience**
- 2020** Certificate course (Aug 18-20) on **Diagnosis of COVID-19: sample collection, RNA extraction, PCR and data interpretation** organized by **COMSTECH Secretariat, Islamabad** in collaboration with **International Center for Chemical and Biological Sciences (ICCBS), Karachi, Pakistan**
- 2020** Webinar and Q&A session (Aug 29) on **Discovery of druggable pocket in SARS-CoV-2 spike: new avenue to defeat COVID-19?** Offered by **SelectScience** in partnership with **Max Planck Bristol Center for Minimal Biology**
- 2020** Training (Aug 17) on **How to Manage Your References Using RefWorks** offered by **ProQuest** in partnership with **Higher Education Commission Pakistan**
- 2019** Eight weeks (Aug 12 - Oct 13) course, **PH125.1x: Data Science: R Basics** offered by **HarvardX**, an online learning initiative of **Harvard University**

#### **FOREIGN (3)**

- 2013** One day (May 31) training on **Workplace Hazardous Materials Information System (WHMIS)** organized by **Environmental Health and Safety, McGill University, Montreal, Quebec, Canada**
- 2013** One day (Jul 08) training on **Introduction to Biosafety** organized by **Environmental Health and Safety, McGill University, Montreal, Quebec, Canada**
- 2013** Graduate Seminar Series aimed at **Improving Research Management and Dissemination**, held from 27 to 30<sup>th</sup> May, organized by **MyResearch** at **McGill University, Montreal, Quebec, Canada**.

#### **LOCAL (17)**

- 2025** Four days (Mar 17-20) **Advanced MS/M.Phil & PhD Research Supervision Course** organized by **Center for Teaching and Learning (CTL), UMT, Lahore**
- 2024** One day (Sep 11) **Good to Great: Best Practices for Journal Excellence** organized by **Knowledge and Research Support Services (KRSS), UMT, Lahore**
- 2024** One day (Jan 18) **Use of Generative Artificial Intelligence in Higher Education** organized by **Punjab Higher Education Commission (PHEC), Lahore**
- 2020** Two days (Jan 07-08) **National Data Science workshop using Python (Hands-on)** organized at **Department of Computer Sciences, University of Management and Technology, Johar Town, Lahore**
- 2018** One day (Mar 15) workshop on **Data Science Workshop Hands-on Using Python** organized at **Department of Computer Sciences, University of Management and Technology, Johar Town, Lahore**

- 2015** One day (Mar 31) workshop on **Use of bioinformatics in high throughput sequencing, genomics, proteomics and transcriptomics** organized at **National Institute for Biotechnology and Genetic Engineering (NIBGE)**, Faisalabad
- 2014** Two days (Mar 18-19) training on the **Development and testing of transgenics for Cotton leaf curl virus (CLCuV) disease resistance** organized by CEMB, **University of the Punjab**, Lahore, under USDA-ICARDA project
- 2011** **Disability Training Workshop** held on May 19 (resource person: Muhammad Atif, president Special Training Exchange Program), organized by Youth for Peace (YFP), at **NUST**, Islamabad.
- 2011** Three days international workshop on **Frontiers in Molecular Biology and Biotechnology** (Mar 28-30), Organized by **COMSTECH** (OIC Standing Committee on Scientific and Technological Cooperation), Islamabad.
- 2009** Two days national-workshop (Mar 11-12) **Advance Research Techniques and Research Management in Life Sciences** held at **The University of Agriculture**, Peshawar under joint higher education links program.
- 2008** Twelve days training course **Use of Nuclear and Other Techniques in Food and Agricultural Research** (Nov 3-14), organized by **Nuclear Institute for Food and Agriculture** (NIFA), Peshawar.
- 2008** Three days international workshop (May 27-29) **Basic Techniques in Research, Dissertation and Scientific Paper Writing**, organized by Department of Zoology, **Kohat University of Sciences & Technology** (KUST), Kohat, in collaboration with HEC-Pakistan.
- 2008** One day (Apr 23) workshop on **Nanomaterials & Regional meeting of Nanomaterial Forum**, organized by NCN, Pakistan Institute of Engineering and Applied Sciences & CRL, Department of Physics, **University of Peshawar**, Peshawar.
- 2008** Seven days international thematic workshop on **Bio-fertilizer Technology** (Jan 22-28), in Islamabad, organized by **COMSTECH** and HEC-Pakistan.
- 2007** Three days' training course (Sep 26-28) **Cultivation Systems, Cultivation Techniques and Nursery** regarding Olive growing, organized by Pakistan Oil Seed Development Board (**PODB**), Peshawar.
- 2007** Two days' workshop (Jul 20-21) **Training of Trainers in Conservation Strategies for Plant Biodiversity of Pakistan** organized by 'The Centre of Plant Biodiversity' **University of Peshawar**, Peshawar.
- 2007** Two days' workshop (Jun 19-20) **Non-destructive analysis of agricultural products** jointly organized by Department of Plant Breeding and Genetics, **The University of Agriculture, Peshawar** and NIFA, Peshawar.

#### **COMPUTER CERTIFICATES (Total No. 3)**

- MS-Office
- Hardware Engineering
- E-Commerce

#### **LANGUAGE CERTIFICATES (Total No. 2)**

- Two months certificate course in **Arabic Language** from the Department of Arabic, University of Peshawar
- Two months of IELTS **coaching** taken from St. John's Cathedral English Language Centre, Peshawar.

#### **MISCELLANEOUS (Total No. 1)**

- Two year **Bachelors of Arts (BA)** degree, with major in **Political Science** and **International Relations**, as an external candidate from University of Peshawar

#### **CONFERENCE PRESENTATION (Total No. 6)**

- 2024** **Muhammad Ali. In Silico Analysis of Intrinsically Disordered Regions in Proteins - A Pilot Study.** In: 3<sup>rd</sup> Two-days International Conference of Zoology on Zoological Emerging Scientific Trends, Organized by the Department of Zoology, University of Education, Lahore, Punjab, Pakistan (October 16-17) [Invited Speaker].
- 2023** Arooj Arshad, Tayyaba Shafique, Maria Wahid, Rehan Zafar Paracha, **Muhammad Ali**, Muhammad Sohail Afzal. **Screening Meliaceae derived phytochemicals against RNA dependent RNA polymerase of flavivirids through computer-aided protocols.** In: 2<sup>nd</sup> International Conference on Recent Approaches in Plant Sciences

- (RAPS-2023), Organized by the University of Education, Lahore, Punjab, Pakistan (May 4-5) [Oral Presentation].
- 2022** Muhammad Umer Farooq, **Muhammad Ali**, Imran Bodlah. **Analysis of the tripartite interaction among the whitefly, the plant host and the begomovirus.** In: 5<sup>th</sup> International Conference on Advances in Bioscience, bridging the gap between research and sustainable development goal, Organized by the University of Swat, KP, Pakistan (May 24-26) [Poster Presentation].
- 2021** Tayyaba Shafiq, Mohsin Javed and **Muhammad Ali\*** (May 30). **In silico analysis of Calotropis procera derived phytochemicals against M-pro of SARS-CoV-2.** In: Glob-Fist, Minhaj University Lahore [Oral Presentation].
- 2016** Participation in **FICS (Finding Innovative & Creative Solutions for Society)** stage 2 (Apr 05) at National University of Sciences and Technology (NUST), Islamabad [Idea Competition].
- 2014** “**Stress Biology and Biotechnology: Challenges & Management**” at Institute of Agricultural Sciences, University of the Punjab, Lahore (May 21-23) [Poster Presentation].

#### EDITORIAL BOARD MEMBER (Total No. 2)

- **BioScientific Review** [An official journal of the University of Management and Technology (UMT), Lahore 54770, Pakistan] *Editor*, <https://journals.umt.edu.pk/index.php/BSR/about/editorialTeam>
- **Current Trend in Omics** [An official journal of the University of Management and Technology (UMT), Lahore 54770, Pakistan] *Associate Editor*, <https://journals.umt.edu.pk/index.php/CTO/Editorial-Team>

#### MANUSCRIPTS REVIEWED (Total No. 11)

- 2024** August 12 - Forensic Science International - **IF 2.2**
- 2022** July 31 - mSystems [msystems00582-22]– **IF 7.3**
- 2021** August 7 - Australasian Plant Pathology – **IF 1.6**
- 2021** July - Forensic Science International - **IF 2.39**
- 2021** Pakistan Journal of Agricultural Research
- 2020** Forensic Science International – **IF 2.39**
- 2020** Viral Immunology – **IF 1.42**
- 2018** Australasian Plant Pathology – **IF 1.6**
- 2018** International Journal of Virology and Current Research; Biotechnology Journal International; Asian Journal of Agriculture and Biology; Pakistan Journal of Agricultural Research

#### RESEARCH TECHNIQUES COVERED

- Nucleic Acid Isolation
- **PCR / RT-PCR / RCA / Tail PCR / Adapter Ligation-PCR**
- **RNAi Techniques (PDR / amiRNA / shRNA)**
- DNA Sequencing
- Tissue Culture (Semi-Solid Cultures / Suspension Cultures / Hydroponics)
- Genetic Transformation
- Genome tagging using Ac/Ds system
- **Protein Expression in *E. coli***
- **ELISA / SDS-PAGE**
- *In Silico* Sequence Analysis Tools (**BLAST / FinchTV / Clustal / DNA-Star / CLC Sequence Viewer / MEGA / Geneious / Network / Sequence Demarcation Tool / Recombination Detection Program / Simplot / Plotcon / MFOLD / Modeller / DFT / CAFE / Chimera & Auto-Doc Vina**)
- Endnote / RefWorks / Corel Draw / Adobe Photoshop
- R Basics / Python Basics

#### COURSES TAUGHT [LEVEL; SESSION] (Total No. 46)

1. **Advances in Biochemistry** [MS F2018 feedback >90%]
2. **Advanced Bioinformatics** [MS F2019 feedback >90%; S2022 feedback 84.7%]
3. **Advances in Biotechnology** [MS F2018 feedback >90%; MS F2024 feedback 89.32%]
4. **Advances in Cell and Molecular Biology** [MS S2020 feedback 82%]

5. **Agricultural Biotechnology** [BS F2017 feedback >90%]
6. **Analytical Techniques in Biotechnology / Biochemistry / Microbiology / Biological Techniques** [BS S2021 feedback 88%; BS F2021 feedback 85%; BS S2023 feedback 87%; BS S2024 feedback 93.52%; BS F2024 feedback 90.58%]
7. **Biodiversity of Plants / Botany-II** [BS S2019 feedback >90%]
8. **Biochemistry I** [BS S2018 feedback >90%]
9. **Bioinformatics** [BS S2018 feedback >90%; S2021 feedback 85%; S2022 feedback 87.42%; F2022 feedback 93%; BS F2024 feedback 93.04%]
10. **Cell Biology** [BS F2018; F2019 feedback >90%]
11. **Cell Signaling & Signal Transduction** [MS F2017 feedback >90%]
12. **General Virology** [BS S2021 feedback 82%; BS F2021 feedback 89%; BS F2022 feedback 87%; BS F2023 feedback 89%; BS S2024 feedback 89.14%; BS F2024 feedback 89.38%]
13. **Genetics** [BS F2017 feedback >90%]
14. **Genetic Engineering** [BS F2020 >90% Feedback]
15. **Introduction to Botany / Botany-I** [BS F2018 feedback >90%]
16. **Molecular Biology I** [BS F2022 feedback 95%; BS F2023 feedback 91%]
17. **Molecular Biology II** [BS S2020 feedback 82%; F2020 feedback >80%; S2022 feedback 83.7%; BS F2022 feedback 97%]
18. **Protein Structure and Function Engineering** [MS F2021 feedback 89%; MS S2024 feedback 84.37%]
19. **Proteomics and Genomics** [BS F2020 feedback 83%; BS F2023 feedback 90%; BS S2024 feedback 80.12%]
20. **Recombinant DNA Technology** [MS F2008; MS F2020 feedback 83%]
21. **Seminar in Biotechnology / Biochemistry / Zoology / Microbiology** [BS S2021 feedback 88%; BS S2023 feedback 91%]
22. **Statistics** [Diploma Course Session 2007-08]

#### ACADEMIC REFEREES

- **Dr. Muhammad Sajjad Khattak**  
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