

**DR. ...WAJID KHAN....**

**Assistant Professor**

**Centre for Biotechnology and Microbiology**

**University of Swat**

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## **ACADEMICS CREDENTIALS**

1. Doctor of Philosophy (PhD, Biotechnology) with a GPA of 3.83 on a 4.0 scale.  
Institute of Biotechnology and Genetic Engineering, The University of Agriculture Peshawar.
2. M. Phil (Biotechnology) with a GPA of 3.72 on a 4.0 scale.  
Institute of Biotechnology and Genetic Engineering, The University of Agriculture Peshawar.
3. Bachelor of Science (BS 4-Year, Biotechnology) with 73% marks.  
University of Malakand, Khyber Pakhtunkhwa, Pakistan.
4. Master in Economics with 57.16 % marks.  
University of Malakand, Khyber Pakhtunkhwa, Pakistan.
5. M. Ed. with 71.33% marks  
Sarhad University of Science and Information Technology Peshawar, Pakistan.

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## **AWARDS**

1. Awarded full-funded indigenous scholarship for PhD.
2. Awarded 6-month research fellowship (IRSIP) to Michigan State University USA.

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## **TEACHING and RESEARCH EXPERIENCE**

1. SST..... from March 2006 to April 2007 at Shaheen Public High School and College, Dist. Dir.
2. Research Associate..... from Aug 2007 to Aug 2008 at Institute of Biotechnology and Genetic Engineering, the University of Agriculture Peshawar.
3. Lecturer..... from Sep 2010 to Oct 2011 at Gandahara College of Science and Technology. Julagram.

4. Assistant Professor.... from 12-10-2015 to 27-03-2016 at the Department of Biotechnology and Microbiology, Abasyn University Peshawar.
5. Present (from March 28, 2016, to till date): Assistant Professor at the Department of Biotechnology, University of Swat.

#### **ADDITIONAL RESPONSIBILITIES IN THE UNIVERSITY**

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1. Departmental Laptop focal person for PM laptop scheme from Aug 2016 to till date at the University of Swat.
2. Member of M.Phil. Supervisory Committee from 12-10-2015 to 27-03-2016 at the Department of Biotechnology and Microbiology, Abasyn University Peshawar

#### **RESEARCH PROJECT SUPERVISION**

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1. Start-up Research Grant Program (SRGP), a 0.5 million research grant from Higher Education Commission Pakistan (HEC) for a project entitled "Bioactivities and Conservation of endangered medicinal plants of district Swat" has been completed.

#### **STUDENTS AND SCHOLAR SUPERVISION**

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##### **a) BS& Msc Students**

- Rizwan Ullah and Zainul Wahab (2013-2017). Antibacterial activity of *Verbascum Thapsus* crude extracts and its fractions.
- Maria Saif (2013-2017). Molecular detection of Brucellosis in human and animal population of District Swat.
- Sohail Khan, Muhammad Abbas and Sheraz Khan (2014-2018). Evaluation of Antibacterial Efficacy of the different extracts of roots of *Bistorta amplexicaulis* against pathogenic microorganisms.
- Nisar Ahmad, Dawood and Ishaq (2014-2016). Evaluation of anti-bacterial and anti-fungal efficacy of the *Ajuga bracteosa* Wall ex. Benth against humans and plants pathogenic microorganisms.
- Zainab and Huma (2014-2016). Antimicrobial Potential of different extracts of *Morchella Esculenta*
- Azeem Sarwar, Sajad Khan and Muhammad Imran (2013-2017). Prevalence and molecular identification of salmonella in poultry through PCR in District Swat.
- Ikram and Zia ul Islam (2013-2017). Antimicrobial activity of outer and inner peel of *Punica granatum*

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- Sohail khan, Fayaz Khan and Abdullah Shah (2013-2017) Molecular detection of Methicillin-resistant *Staphylococcus aureus* in bovine milk in District Swat.
  - Mohammad Iqbal and Ata Ullah (2016-2018). Evaluation of the antibacterial potential of different solvents extracts of *Ajuga parviflora*
  - Aneela Ali, Murad Ali and Mujeeb ur Rahman (2016-2018). Assessment of the antibacterial potential of different solvents extracted fractions of *Punica granatum* against bacteria.
  - Zakir Ullah and Dawood Khan (2016-2018). Screening the different parts of *P.chinensis* (leaves, bark, and fruit) and *C.microphyllus* (leaves, bark, and root) for their antimicrobial potential.
  - Noman Khan, Fawad Khan and Nasirullah (2015-2019). Detection of virulence-associated gene (virb) in *Brucella abortus* genome extracted from blood samples of cows and buffalos in district Swat.
  - Mehboob Ullah and Jatish Kumar (2015-2019). Isolation and identification of *Salmonella Typhimurium* from different parts of poultry chicken through PCR in district Swat”.
  - Asif Nawaz and Asad Ullah (2015-2019). Evaluation of antibacterial efficacy of white peel of *Citrus medica* against pathogenic microorganism.
  - Jannat Gul and Seed Ullah Babar (2015-2019). Evaluation of antibacterial efficacy of yellow peel of *Citrus medica* against pathogenic microorganism.
  - Jawad Ali, Hussain Ahmad, Abdul Kabir (2015-2019). Colored light-induced seed germination and biochemical parameters in economically important *Cedrus deodara*.
  - Antimicrobial and Antioxidant potential of Thiourea derivatives (2017-2019).
  - Abu Bakar (2017-2019). Evaluation of antioxidant activity and total polyphenol content of white and yellow peel of *Citrus medica* fruit.
  - Muhammad Ismael and Said Azam (2017-2019). Evaluation of antimicrobial, antioxidant activity and polyphenol content in different parts of *Pistacia Chinensis*.
  - Fazal Ullah (2017-2021). The antibiotic potential of herb extracts against *Klebsiella pneumoniae* and its molecular sequencing
  - Saira Nasib Rawan ( 2017-2021): Prevalence of urinary tract infection and antimicrobial sensitivity of isolated uropathogens

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**b) M. Phil Scholar**

- Jadoon Khan (2017). Analysis of Computer-Aided Comparative Interaction between NS1 of Different Dengue Serotypes and Host/Cellular Factors.
- Fazal Malik (2017). Investigation of the antimicrobial activity of *Taxus baccata* (Yew) against bacterial and fungal pathogens isolated from Peshawar.
- Nisar Ud Din (2018-2020): Application of Actinomycetes isolates for biotransformation of heavy metals accumulated through pesticides in Peach Orchards in Swat

**SEMINARS AND TRAINING COURSES ATTENDED**

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- Soft Skills Development Training: Twelve days soft skills development training course organized by Sarhad University under the USAID Pakistan Jobs Project (07 June to 18 June 2010).
- Training on Bio Risk Management: Three days of training on Bio Risk Management Organised by Relief international Pakistan (Sept 23-25, 2013).
- Biosafety Training: 3rd Biosafety training workshop for young scientists organized by American Society for Microbiology (Jan 28, 2014).
- Environmental Health and Safety (EHS) training offered by Michigan State University (USA) in hazardous chemicals handling and disposal, biological material handling and safety, gas cylinder safety, and cryopreservation and precautionary measures regarding the handling of liquid nitrogen, mandatory for all researchers working in the laboratory (June 18, 2014).
- Bio risk management training workshop organized by Relief International (Sept 5 to Sept 09, 2016).

**INVITED JOURNAL'S EDITORIAL REFEREE**

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- **International Journal of Human Genetics:** Reviewed research paper entitled "In-Silico Target Prediction for Hsa-Mir-27a and Identification of Genes Involved In Breast Cancer"
- **Pakistan Journal of Zoology:** Reviewed research paper entitled "Quantitative analysis of various virulence genes (PVL, LukED,  $\gamma$ -hemoliz) by Real-Time PCR of *Staphylococcus aureus* strains isolated from bovine mastitis".
- **Balkan Journal of Medical Genetics:** Reviewed research paper entitled Association of VDR gene variant (rs1544410) with 2 diabetes in a Pakistan cohort

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## INVITED EXTERNAL EXAMINER FOR M.PHIL EXAMINATION

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- Evaluation of Research Dissertation entitled “*Tagetes Patula*: A potential of phytochemicals and antimicrobial agents” of Mr. Shakir Ullah, M.Phil. Scholar, Department of Biotechnology and Microbiology, Abasyn University Peshawar.
- Evaluation of Research Dissertation of Mr. Muhammad Rabib M. Phil Scholar, Department of Biotechnology and Microbiology, Abasyn University Peshawar.
- Evaluation of Research Dissertation entitled “Etiology and resistance pattern of Ventilator-associated respiratory tract infections in tertiary care hospital of Peshawar” of Mr. Abdullah M. Phil Scholar Department of Biotechnology and Microbiology, Abasyn University Peshawar.

## PUBLICATIONS

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- **Khan W**, Gul B, Uddin MN, Khan BM, Attacha S, Zaman N. *Physalis ixocarpa*: new species of genus physalis to the flora of Pakistan from the mountainous region of district Shangla, Khyber Pakhtunkhwa Pakistan. Brazilian Journal of Biology. 2022 May 25; 84.
- **Wajid Khan**, Jatish Kumar, Mehboob Ullah, Muhammad Nazir Uddin, Jafar Khan<sup>1</sup>& Habib un Nabi. Targeting of FliC gene for the identification of Salmonella Typhimurium in Poultry chicken by PCR in District Swat. AJ Life Sci. 2021, 4 (2): 93-99.
- Suleman M, ul Qamar MT, Saleem S, Ahmad S, Ali SS, Khan H, Akbar F, **Khan W**, Alblihy A, Alrumaihi F, Waseem M. Mutational landscape of Pirin and elucidation of the impact of most detrimental missense variants that accelerate the breast cancer pathways: A computational modeling study. Frontiers in Molecular Biosciences. 2021; 8.
- Faisal S, Jan H, Shah SA, Shah S, Rizwan M, Zaman N, Hussain Z, Uddin MN, Bibi N, Khattak A, **Khan W**. Bio-catalytic activity of novel *Mentha arvensis* intervened biocompatible magnesium oxide nanomaterials. Catalysts. 2021 Jun 27; 11(7):780.
- Humayun F, Khan A, Ahmad S, Yuchen W, Wei G, Nizam-Uddin N, Hussain Z, **Khan W**, Zaman N, Rizwan M, Waseem M. Abrogation of SARS-CoV-2 interaction with host (NRP1) Neuropilin-1 receptor through high-affinity marine natural compounds to curtail the infectivity: A structural-dynamics data. Computers in Biology and Medicine. 2022 Feb 1; 141:104714.
- Khan BM, Zheng LX, **Khan W**, Shah AA, Liu Y, Cheong KL. Antioxidant Potential of Physicochemical characterized Gracilaria blodgettii Sulfated Polysaccharides. Polymers. 2021 Jan; 13(3):442.

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- Ali A, Shah SA, Zaman N, Uddin MN, Khan W, Ali A, Riaz M, Kamil A. Vitamin D Exerts Neuroprotection via SIRT1/Nrf-2/NF-kB Signaling Pathways against D-Galactose-induced Memory Impairment in Adult Mice. *Neurochemistry International*. 2020 Nov 4:104893.
  - Khan W, Ullah R, Wahab Z, Uddin MN. Antimicrobial effects of *Verbascum thapsus* L. leaf extracts. *Bangladesh Journal of Botany*. 2020 Dec 31;49(4):1119-25.
  - Khan S, Uddin MN, Rizwan M, **Khan W**, Farooq M, Shah AS, Subhan F, Aziz F, Rahman KU, Khan A, Ali S. Mechanism of Insecticide Resistance in Insects/Pests. *Polish Journal of Environmental Studies*. 2020 May 1; 29(3).
  - Khan W, Bibi Z, Uddin MN, Gul H, Khan H. Antimicrobial potential of different solvent extracts of *Morchella esculenta* (L.) Pers. *Bangladesh Journal of Botany*. 2019 Dec 31; 48(4):943-9.
  - Uddin M, Saifullah AM, **Khan W**, Khan B. Evaluation of *Pochonia chlamydosporia* (Goddard) isolates for suppression of *Meloidogyne incognita*, a root-knot nematode of tomato. *Journal of Agricultural Science*. 2019; 11(5):70-81.
  - Khan W, Bakht J, Khan BM, Naeem I, Uddin MN, Padder BA. Morphometric and genetic characterization of medicinally important accessions of *Physalis ixocarpa* Brot. *Bangladesh Journal of Botany*. 2019 Mar 31; 48(1):105-11.
  - Maria Saif , **Wajid Khan** , Fakhur Ul Islam, Khurshaid Anwar , Insanuddin , Habibun Nabi , Ihsanuddin , Syed Ishfaq Ahmad and Hanif Ur Rahman. The emerging trend of *Brucella Abortus* zoonotic incidence in both human and animal populations of District Swat Khyber-Pakhtunkhwa. *European Journal of Biomedical and Pharmaceutical Sciences ejbps*, 2019, Volume 6, Issue 1, 123-130.
  - **Khan W**, Bakht J, Nair MG, Uddin MN, Shafi M. Extraction and isolation of important bioactive compounds from the fruit of *Physalis ixocarpa*. *Pakistan Journal of Pharmaceutical Sciences*. 2018 Nov 1; 31(6).
  - Khan BM, Bakht J, **Khan W**. Antibacterial potential of a medicinally important plant *Calamus aromaticus*. *Pak. J. Bot.* 2018 Dec 1; 50(6):2355-62.
  - Uddin MN, Jabeen B. Qaisar khan, Shah Naeem, **Wajid Khan**, Saadat Mehmood, Muhammad and Muhammad Rizwan. Characterization of isolated bacteria from burn patients and its susceptibility against different antibiotics in district Swat. *Pure and Applied Biology*.
  - Muhammad Nazir Uddin, Ubaid ur Rahman, **Wajid khan**, Nisar Uddin and Muhammad Muhammad (2018). Effect of *Trichoderma harzianum* on tomato plant growth and its antagonistic activity against

- Bilal Muhammad khan, Jehan Bakht and **Wajid Khan**. Rhizome Extracts of *Acorus odoratus*: Antifungal, Anti-yeast, Antioxidant, and HPLC Quantification". *Bangladesh Journal of Pharmacology* (Bangladesh J Pharmacol 2017; 12: 44-50).
- **Khan W**, Bakht J, Khan BM. In vitro antifungal, antioxidant and HPLC analysis of the extracts of *Physalis philadelphica*. ||| *Bangladesh Journal of Pharmacology*|||. 2017 Aug 30; 12(3):313-8.
- Khan BM, Bakht J, **Khan W**. Latent role of Gallic acid in the antibacterial potential of fractions from the commercially available rhizome of *Calamus aromaticus*. *Anti-Infective Agents*. 2017 Aug 1; 15(2):105-14.
- Zhang CR, Khan W, Bakht J, Nair MG. New anti-inflammatory sucrose esters in the natural sticky coating of tomatillo (*Physalis philadelphica*), an important culinary fruit. *Food chemistry*. 2016 Apr 1; 196:726-32.
- **Khan W**, Bakht J, Shafi M. Evaluation of polyphenol content in different parts of *Physalis ixocarpa*. *Pakistan Journal of Botany*. 2016 Jun 1; 48(3):1145-51.
- **Khan W**, Bakht J, Shafi M. Evaluation of polyphenol content in different parts of *Physalis ixocarpa*. *Pakistan Journal of Botany*. 2016 Jun 1; 48(3):1145-51.
- **Khan W**, Bakht J, Shafi M. Antimicrobial potentials of different solvent extracted samples from *Physalis ixocarpa*. *Pakistan Journal of Pharmaceutical Sciences*. 2016 Mar 1; 29(2).
- **Wajid khan** and Jehan Bakht. Efficient and optimized protocol for rapid micropropagation of *Physalis ixocarpa*. *Pakistan Journal of Weed Science Research* Vol 21(82), pp. 381-391, 3 Nov, 2015)
- Malik Nawaz Shuja, **Wajid khan**, Aqib Iqbal , Ijaz Ali, Iqbal Munir, Dawood Ahmad, Inamullah, Shaheenshah, Gulzar Ahmad, M. Arif Khan and Zahoor Ahmad Swati. Maize breeding for marginal lands: Physiological and molecular approach to decipher response and selection of maize recombinant inbred lines. *African Journal of Biotechnology* Vol. 10(18), pp. 3521-3527, 2 May, 2011.
- Farhad Ali, Jehan Bakht, Saleem Khan, Muhammad Ali, Tahir Hussain, Muhammad Ali4, **Wajid Khan**, Bilal Muhammad Khan and Muhammad Maroof Shah. Polymerase chain reaction (PCR) based molecular characterization of popular wheat varieties of Khyber Pakhtunkhwa (KPK) region of Pakistan. *African Journal of Biotechnology* Vol. 10(82), pp. 18958-18964, 19 December, 2011
- Wajid Khan, Muhammad Nazir Uddin, Saifullah, Sher Hayat Khan, Musharaf Ahmad, Aqib Iqbal. Visualization of Interaction between *Pochonia Chlamydosporia* and *Meloidogyne incognita* and their Impact on Tomato Crop. *Journal of Agriculture Science* (In Press).

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- “Impact of extraction solvent system on the antimicrobial, antioxidant and total polyphenol content of the bark of *Pistacia chinensis*” Iheringia. Sére Botânica.( In Press)
  - Wajid Khan, Sohail khan, Muhammad Abbas, Muhammad Nazir Uddin. Impact of different extraction solvent systems on the antimicrobial and antioxidant potential of the root of *Bistorta amplexicaulis*. (Under Review in Bangladesh Journal of Botany).
  - Muhammad Nazir uddin, Wajid Khan, Taj ud Din, Ayaz ud Din, Adnan Shahzad, Fazal Akbar and Zafar Iqbal. Comparative overview of the effect of medicinal plant extracts and antibiotics on *Pseudomonas aeruginosa* isolated from burn patients. (Under Review in Journal of Tropical Medicine).

## REFERENCES

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1. Dr Jehan Bakht

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