

Personal information	Name: Firasat Hussain  Permanent Address: Railway line armour colony No.2 mohallah khatib khel, village Dheri katti khel Tehsil and District, Nowshera Khyber Pakhtunkhwa, Pakistan Current Address: Department of Microbiology, Cholistan University of Veterinary & Animal Sciences, Bahawalpur 63100, Punjab, Pakistan Mobile: +92 333-9038824 Email: firasathussain@cuvas.edu.pk and hussain_great19@yahoo.com Gender: Male																				
Education and training	<table border="1"> <tr> <td>Dates</td><td>Sep 2013-July 2017</td></tr> <tr> <td>Title of qualification awarded</td><td>PhD in Microbiology</td></tr> <tr> <td>Thesis Title</td><td>Cultivation-dependent and independent approaches to study bacterial diversity of four different deserts</td></tr> <tr> <td>Core Subjects Covered</td><td>Bacterial Diversity Exploration, Polyphasic Taxonomy, next-generation sequencing, Biochemical Analysis, Microorganism Screening, Extremophile Adaptation, Genome Mining</td></tr> <tr> <td>Name and type of organization providing education and training</td><td>Yunnan Institute of Microbiology, Yunnan University, Kunming, China</td></tr> <tr> <td>Dates</td><td>October 2008-September 2010</td></tr> <tr> <td>Title of qualification awarded</td><td>M.Phil. Microbiology.</td></tr> <tr> <td>Thesis Title</td><td>Effect of different physiochemical substances on the production Potential of phycocyanin from spirulina and its characterization</td></tr> <tr> <td>Core Subjects Covered</td><td>Microbial Genetics, Techniques in Molecular Biology, Fermentation Technology, Biotechnology, Gene Manipulating</td></tr> <tr> <td>Name and type of organization providing education and training</td><td>University of Veterinary and Animal Sciences Lahore-Pakistan</td></tr> </table>	Dates	Sep 2013-July 2017	Title of qualification awarded	PhD in Microbiology	Thesis Title	Cultivation-dependent and independent approaches to study bacterial diversity of four different deserts	Core Subjects Covered	Bacterial Diversity Exploration, Polyphasic Taxonomy, next-generation sequencing, Biochemical Analysis, Microorganism Screening, Extremophile Adaptation, Genome Mining	Name and type of organization providing education and training	Yunnan Institute of Microbiology, Yunnan University, Kunming, China	Dates	October 2008-September 2010	Title of qualification awarded	M.Phil. Microbiology.	Thesis Title	Effect of different physiochemical substances on the production Potential of phycocyanin from spirulina and its characterization	Core Subjects Covered	Microbial Genetics, Techniques in Molecular Biology, Fermentation Technology, Biotechnology, Gene Manipulating	Name and type of organization providing education and training	University of Veterinary and Animal Sciences Lahore-Pakistan
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	Dates September 2003-January 2008 Title of qualification awarded BS in Microbiology Thesis Title Antibacterial and antifungal activities of methanolic extracts of datura inoxial Core Subjects Covered Microbiology, Bio-Informatics, Microbial ecology, Mycology, Soil Microbiology, Virology, Bacterial Genetics, Antimicrobial Antiviral Agents Name and type of organization providing education and training Department of Microbiology, Kohat University of science and Technology, KPK, Pakistan
Work experience	Dates December 2018- T0 date Occupation or position held Assistant Professor Microbiology Main activities and responsibilities Teaching and Research Name and address of employer Cholistan University of Veterinary & Animal Sciences Bahawalpur-Pakistan Dates April 2018 to November 2018 Occupation or position held Assistant Professor Microbiology Main activities and responsibilities Teaching and Research Name and address of employer University of Swabi Dates September 2013 to June 2017 Occupation or position held Teaching Assistant/Research Associate Main activities and responsibilities Teaching and Research Aid for Undergraduate & Postgraduate Students Name and address of employer Yunnan University Kunming China Dates October 2011 to October 2012 Occupation or position held Microbiologist in Quality Control Main activities and responsibilities microbial testing, environmental monitoring Name and address of employer The Ferozsons Laboratories limited Nowshera Dates June 2009 to June 2010 Occupation or position held Microbiologist Main activities and responsibilities Detect, identify, and characterize microorganisms Name and address of employer The District Head Quarter, Hospital Nowshera Dates July 2007 to February 2008 Occupation or position held Research fellow Main activities and responsibilities Research Aid for Undergraduate Students Name and address of employer The Center of Biotechnology and Microbiology, Peshawar University

Research Interests	• Microbial diversity, physiology, and ecology in diverse environments • Taxonomy, identification, and characterization of novel microbial species • Molecular and genomic approaches for studying microbial communities and gene function • Antimicrobial resistance, pathogen detection, and microbial diagnostics • Industrial microbiology applications including enzyme discovery, fermentation, and metabolite production • Microbial adaptation mechanisms under environmental stress and extreme conditions • Biotechnology and genetic engineering tools for microbial strain improvement						
Technical skills	• Molecular Biology Techniques: Proficient in DNA, RNA, and plasmid extraction, PCR, RT-PCR, gel electrophoresis, and Western blotting. • Microbiological Techniques: Skilled in microbial culture preparation, sterilization, isolation, purification, and maintenance of pure cultures. • Protein Work: Experienced in protein extraction, purification, quantification, and SDS-PAGE analysis. • Microscopy and Staining: Competent in various staining methods and microscopy techniques for microbial identification. • Bioinformatics Tools: Familiar with sequence analysis and phylogenetics using software such as BLAST and MEGA. • Computer Applications: Proficient in data analysis and research documentation using Microsoft Office Suite and statistical tools.						
Language Proficiency	<table border="0"> <tr> <td style="text-align: right; padding-right: 10px;">Pashto</td><td style="border-left: 1px solid black; padding-left: 10px;">Mother tongue(s)</td></tr> <tr> <td style="text-align: right; padding-right: 10px;">Urdu, English, Pashto</td><td style="border-left: 1px solid black; padding-left: 10px;">Professional Level (writing, speaking, listening)</td></tr> <tr> <td style="text-align: right; padding-right: 10px;">Chinese</td><td style="border-left: 1px solid black; padding-left: 10px;">Fair level (speaking, listening)</td></tr> </table>	Pashto	Mother tongue(s)	Urdu, English, Pashto	Professional Level (writing, speaking, listening)	Chinese	Fair level (speaking, listening)
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Chinese	Fair level (speaking, listening)						
Research Projects	• P.I. Dr. Firasat Hussain, "Isolation and identification of bacteria from the desert of Cholistan and study of dominant genera in desert soil". Co-PI: Professor Dr. Imtiaz Ali Khan. SRGP. 0.5million • P.I. Professor Dr. Wen-Jun Li, "Diversity and ecological function of microbial resources in extreme environments in Western China and Saudi". Research Assistant Dr. Firasat						

	Hussain. Supported by Ministry of Science and Technology China, Nos. 2013DFA31980 and the National Natural Science Foundation of China Nos. 31470139 and 31560309).
National and International Publications	1. Sardar Ali, Firasat Hussain, Tehmeena Nousheen, Kashif Rahim, Hamid Majeed, Kamal Niaz and Muhammad Nadeem Khan. Evaluation of resistance modulation in MDR <i>Pseudomonas aeruginosa</i> and <i>Klebsiella pneumoniae</i> using peppermint oil nanoemulsion: integrating antibacterial assays and molecular modeling. <i>Frontiers in Microbiology</i>. Volume 16: P-1-11(2025). DOI 10.3389/fmicb.2025.1704938 2. Muhammad Rizwan, Waqas Ashraf, Muhammad Moazam Jalees, Rafia Anwar, Hafiz Muhammad Siddiq, Bushra Nizam, Firasat Hussain, Saleha Zafar, Noman Ahmed, Muhammad Hanzala Imran, Safdar Ali. A Study on Extended-Spectrum B-Lactamase Genes from Clinically Isolated Gram-Negative Bacteria in Bahawalpur. <i>Journal of Population Therapeutics & Clinical Pharmacology</i>. DOI: 10.53555/jptcp.v31i2.4571 ISSN: 1710-6222 E-ISSN:2561-8741 3. Muhammad Jiyad Khan, Shazia Sakhi, Naila Azam, Zakia Ahmad, Naila Hadayat, Bashir Ahmad, Fida Hussain, Muhammad Shuaib6, Shahid Khan, Firasat Hussain, Aqsa Qaddus Tahir, Baber Ali, Muhammad Tariq Mahmood, Abdel-Rhman Z. Gaafar. Effect of Chitosan and Gibberellic Acid on Fruit Yield and Production of Peach (<i>Prunus persica</i> L.). <i>Polish Journal of Environmental Studies</i>. DOI: 10.15244/pjoes/171982. Vol. 33, No. 1 (2024), 1-6. eISSN: 2083-5906 , ISSN:1230-1485 IF: 1.871 4. Rizwanullah, Abdur Rauf, Firasat Hussain, Ihsan Ali, Javed Muhammad, Alia Gul, Hazrat Hussain, Mushtaq Ahmad Gondal, Muhammad Ilyas, Mohammad Kamil, Rubywali Khan, Muhammad Romman, Rainaz Pervaiz, Naila Hadayat, Hamza Iftikhar, Muhsin Jamal, Ikramullah Khan, Muhammad Shuaib. Biological Investigation on Novel Natural Dye Extracted from the Bark of <i>Calligonum polygonoides</i> L. and Their Application on Cotton Fiber. <i>Polish Journal of Environmental Studies</i>.DOI: https://doi.org/10.15244/pjoes/143115. Vol. 31, No. 4 (2022), 1-8. eISSN: 2083-5906 , ISSN:1230-1485. Online publication date: 2022-05-30. IF: 1.871 (Association for Environmental Studies and Sciences (AESS)) 5. Inam Ullah Khan, Muhammad Saqib, Arshia Amin, Firasat Hussain, Li Li, Yong-Hong Liu, Bao-Zhu Fang, Iftikhar Ahmed, and Wen-Jun Li. <i>Noviherbaspirillum aridicola</i> sp. nov., isolated from an arid soil in Pakistan. <i>International Journal of Systematic and Evolutionary Microbiology</i>. 2022;72:005232. DOI 10.1099/ijsem.0.005232. ISSN: 1466-5026, E-ISSN: 1466-5034. IF: 2.689 6. M. Shuaib, Firasat. Hussain, A. Raufc, F. Jan, M. Romman , R. Parvez, , A. Zeb, S. Ali, S. Abidullah, S. Bahadur, A. A. Shah, N. Azam S. Dilbar K. Begum, H. Khan , S. Sajjad, I. Muhammad and N.A. Shah. Traditional knowledge about medicinal plant in the remote areas of Wari Tehsil, Dir Upper, Pakistan. <i>Brazilian Journal of Biology</i>. 2021 DOI: https://doi.org/10.1590/1519-6984.246803. ISSN 1519-6984 (Print), ISSN 1678-

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11. Kashif Rahim, Ihtesham ul Haq, **Firasat Hussain**, Waqas Ashraf, Abdul Basit, Muhammad Moazam Jalees, Mushtaq Ahmad Gondal and Muhammad Shuaib. Increasing prevalence rate and epidemiological study of Typhoid fever in Khyber Pakhtunkhwa, Pakistan. *BIOSCIENCE RESEARCH*, 2021 18(1): 221-228. DOI: www.isisn.org Print ISSN: 1811-9506 Online ISSN: 2218-3973.
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Districts of Punjab, Pakistan. *Hepatitis Monthly*. In Press (In Press): e58442 (2017). P 1-6 doi: 10.5812/hepatmon.58442. ISSN Print: 1735-143X Electronic: 1735-3408 IF: 1.810

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32. Neeli Habib, †Inam Ullah Khan, †**Firasat Hussain**, En-Min Zhou, Min Xiao, Lei Dong, Xiao-Yang Zhi and Wen-Jun Li. *Meiothermus luteus* sp. nov., a slightly thermophilic bacterium isolated from a hot spring. *International Journal of Systematic and Evolutionary Microbiology*. 2017, 67(8): p 2910 -2914. doi: 10.1099/ijse m. 0.002040. ISSN: 1466-5026, E-ISSN: 1466-5034, IF: 2.689
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**Oral
Presentations
and Published
Abstracts**

- Certificate of Appreciation as Speaker in conference on Emerging Technologies: **Innovation for sustainable Development Goals held in, Swat**. Organized by Department of Food Science and Technology, The University of Haripur (UOH). (**September 09-11, 2024**)
- Fazeela Fareed¹, Muhammad Mazhar Ayaz², Faisal Siddique¹, Rais Ahmed¹, Abdullah Saghir Ahmad², Kashif Rahim¹, Santosh Kumar³ and **Firasat Hussain^{*1}**. PHYSICO-CHEMICAL CHARACTERISTICS AND ANTIOXIDANT POTENTIAL OF DATE FRUIT ADDED DAHI (CBGP-11 Biotechnology). 43rd Congress of Zoology (International) at Department of Zoology University of Okara, Okara Punjab. April 22-24, 2025. P-21.
- Abdul Rehman¹, Muhammad Mazhar Ayaz², Faisal Siddique¹, Rais Ahmed¹, Kashif Rahim¹, Santosh Kumar³ and **Firasat Hussain^{*1}**. GENOMIC IDENTIFICATION, EVOLUTION, AND FUNCTIONAL CHARACTERIZATION OF HEAT-SHOCK PROTEIN GENES IN *THERMOMONAS HYDROTHERMALIS*. (CBGP-28 Cell and Molecular Biology). 43rd Congress of Zoology (International) at Department of Zoology University of Okara, Okara Punjab. **April 22-24, 2025**. P-32.
- Ayesha Tariq¹, Muhammad Mazhar Ayaz², Faisal Siddique¹, Rais Ahmed¹, Abdullah Saghir Ahmad², Kashif Rahim¹, Iman Tariq¹, Santosh Kumar³ and **Firasat Hussain^{*1}**. BRAIN TUMOR DETECTION USING ARTIFICIAL NEURAL NETWORKS: A SIMPLE AND FAST APPROACH FOR EARLY DIAGNOSIS. (CBGP-29 Cell and Molecular Biology). 43rd Congress of Zoology (International) at Department of Zoology University of Okara, Okara Punjab. **April 22-24, 2025**. P-33.
- Abdul Moez Qureshi¹, Faisal Siddique¹, Rais Ahmed¹, Hamid Majeed², Kashif Rahim¹, Santosh Kumar³ and **Firasat Hussain^{*1}**. THE POTENTIAL OF LEMONGRASS ESSENTIAL OIL NANOEMULSION IN RESISTANCE MODULATION OF MILK DERIVED *STAPHYLOCOCCUS AUREUS*. (CBGP-80 Microbiology). 43rd Congress of Zoology (International) at Department of Zoology University of Okara, Okara Punjab. **April 22-24, 2025**. P-69.
- Areesha Sagheer¹, Muhammad Mazhar Ayaz², Faisal Siddique¹, Rais Ahmed¹, Muhammad Adeel Hassan², Kashif Rahim¹, Santosh Kumar³ and **Firasat Hussain^{*1}**. QUANTITATIVE BACTERIOLOGICAL ANALYSIS AND ANTIBIOTIC RESISTANCE CHARACTERIZATION IN POWDERED INFANT MILKS (PIFMS). (CBGP-80 Microbiology). 43rd Congress of Zoology (International) at Department of Zoology University of Okara, Okara Punjab. **April 22-24, 2025**. P-69.
- Arooj Fatima¹, **Firasat Hussain^{*1}**, Muhammad Mazhar Ayaz², Rais Ahmed¹, Faiz-ul-Hassan³, Omer Naseer⁴ and Faisal Siddique^{*1}. GENOMIC EPIDEMIOLOGY AND CONTAMINATION COLISTIN-RESISTANT *KLEBSIELLA PNEUMONIAE*'S DEVELOPMENT IN LIVESTOCK AND POSSIBLE ZOONOTIC TRANSMISSION. (CBGP-82 Microbiology). 43rd Congress of Zoology (International) at Department of Zoology University of Okara, Okara Punjab. **April 22-24, 2025**. P-70.
- Duaa Hayat¹, **Firasat Hussain^{*1}**, Muhammad Mazhar Ayaz², Faisal Siddique¹, Omer Naseer³ and Rais Ahmed^{*1}. DEVELOPMENT AND ASSESSMENT OF AN INACTIVATED VACCINE FOR CONTROLLING LYMPHO DISEASE IN SMALL RUMINANTS. (CBGP-83 Microbiology). 43rd Congress of Zoology (International) at Department of Zoology University of Okara, Okara Punjab. **April 22-24, 2025**. P-71.

- Leman Tariq¹, Muhammad Mazhar Ayaz², Faisal Siddique¹, Ayesha Tariq¹, Abdullah Saghir Ahmad², Kashif Rahim¹, Santosh Kumar³ and **Firasat Hussain¹**. INTEGRATING ADVANCED SOUND ANALYSIS, CELLULAR BIOLOGY, AND EPIGENETICS TO INVESTIGATE THE THERAPEUTIC EFFECTS OF QURANIC RECITATION FREQUENCIES ON HUMAN AND MICROBIAL SYSTEMS. (CBGP-84 Microbiology). 43rd Congress of Zoology (International) at Department of Zoology University of Okara, Okara Punjab. April 22-24, 2025. P-71.
- Iqra Naeem¹, **Firasat Hussain¹**, Muhammad Mazhar Ayaz², Rais Ahmed, Faiz-ul-Hassan³ and Faisal Siddique^{1*}. MICROBIOME-TARGETED INTERVENTIONS FOR PREVENTING ZONOTIC DISEASE TRANSMISSION IN ANIMAL POPULATIONS. (CBGP-85 Microbiology). 43rd Congress of Zoology (International) at Department of Zoology University of Okara, Okara Punjab. April 22-24, 2025. P-72.
- Maria Nazir¹, **Firasat Hussain¹**, Muhammad Mazhar Ayaz², Faisal Siddique¹, Abdullah Saghir Ahmad² and Rais Ahmed^{1*}. MOLECULAR PROFILING OF *CORYNEBACTERIUM PSEUDOTUBERCULOSIS* ISOLATES AND VIRULENCE FACTORS ASSOCIATED WITH CASEOUS LYMPHADENITIS IN BAHAWALPUR. (CBGP-86 Microbiology). 43rd Congress of Zoology (International) at Department of Zoology University of Okara, Okara Punjab. April 22-24, 2025. P-73.
- Momina Malik¹, Muhammad Mazhar Ayaz², Faisal Siddique¹, Rais Ahmed¹, Kashif Rahim¹, Santosh Kumar³ and **Firasat Hussain¹**. EPIGENETIC REPROGRAMMING OF IMMUNE CELLS BY EPSTEIN-BARR VIRUS-A NOVEL APPROACH. (CBGP-87 Microbiology). 43rd Congress of Zoology (International) at Department of Zoology University of Okara, Okara Punjab. April 22-24, 2025. P-73.
- Muhammad Adnan¹, **Firasat Hussain¹**, Muhammad Mazhar Ayaz², Faisal Siddique¹, Abdullah Saghir Ahmad² and Rais Ahmed^{1*}. (CBGP-88 Microbiology). 43rd Congress of Zoology (International) at Department of Zoology University of Okara, Okara Punjab. April 22-24, 2025. P-74.
- Muhammad Moazzam Bhatti¹, Rizwana Sultan¹, Muhammad Mubashir Ishfaq¹, Abdul Moez Qureshi², Kashif Rahim², Santosh Kumar³ and **Firasat Hussain²**. PREVALENCE OF MALARIAL PARASITE IN BAHAWALPUR, PAKISTAN. (CBGP-89 Microbiology). 43rd Congress of Zoology (International) at Department of Zoology University of Okara, Okara Punjab. April 22-24, 2025. P-75.
- Munaza Rasheed¹, Muhammad Mazhar Ayaz², Faisal Siddique¹, Rais Ahmed¹, Muhammad Adeel Hassan², Kashif Rahim¹, Santosh Kumar³, **Firasat Hussain¹**. BIOFILMS IN PATHOGENESIS: A CRITICAL COMPONENT OF NEW AND EMERGING INFECTIOUS DISEASES. (CBGP-90 Microbiology). 43rd Congress of Zoology (International) at Department of Zoology University of Okara, Okara Punjab. April 22-24, 2025. P-75.
- Um E Rubab Zahra¹, **Firasat Hussain¹**, Rais Ahmed, Faiz-ul-Hassan² and Faisal Siddique^{1*}. PREVALENCE OF AVIAN INFLUENZA H9 VIRUSES IN COMMERCIAL BROILERS IN SOUTH PUNJAB, PAKISTAN. (CBGP-92 Microbiology). 43rd Congress of Zoology (International) at Department of Zoology University of Okara, Okara Punjab. April 22-24, 2025. P-77.
- Urwa Gill¹, **Firasat Hussain¹**, Muhammad Mazhar Ayaz², Rais Ahmed¹, Faiz-ul-

	Hassan³ and Faisal Siddique^{*1}. INVESTIGATING THE ANTIMICROBIAL POTENTIAL OF ESSENTIAL OIL AGAINST MULTIDRUG RESISTANT BACTERIA. (CBGP-93 Microbiology). 43rd Congress of Zoology (International) at Department of Zoology University of Okara, Okara Punjab. April 22-24, 2025. P-77. • Zarmish Habib¹, Muhammad Mazhar Ayaz², Faisal Siddique¹, Rais Ahmed¹, Kashif Rahim¹, Santosh Kumar³ and Firasat Hussain^{*1}. PREVALENCE OF TRICHOPHYTON VERRUCOSUM INFECTION IN FARM ANIMALS OF THE CHOLISTAN DESERT OF DISTRICT BAHAWALPUR, PAKISTAN. (CBGP-94 Microbiology). 43^{ed} Congress of Zoology (International) at Department of Zoology University of Okara, Okara Punjab. April 22-24, 2025. P-78. • Zarnisha Malik¹, Muhammad Mazhar Ayaz², Faisal Siddique¹, Rais Ahmed¹, Kashif Rahim¹, Santosh Kumar³ and Firasat Hussain^{*1}. RESPONSE TO COVID-19, RECENT DEVELOPMENTS, CHALLENGES AND A WAY OUT. (CBGP-95 Microbiology). 43rd Congress of Zoology (International) at Department of Zoology University of Okara, Okara Punjab. April 22-24, 2025. P-79. • Muhammad Hamza¹, Firasat Hussain¹, Muhammad Mazhar Ayaz², Rais Ahmed¹, Faiz-ul-Hassan³ and Faisal Siddique^{*1}. DIGESTIVE CHALLENGES FOR VERTEBRATE ANIMALS: MICROBIAL DIVERSITY, CARDIORESPIRATORY COUPLING, AND DIETARY SPECIALIZATION. (CBGP-125 Physiology). 43rd Congress of Zoology (International) at Department of Zoology University of Okara, Okara Punjab. April 22-24, 2025. P-100. • 1st International Conference on “Drug Discovery against cancer and other Diseases (DDCD)” at Department of chemistry and Directorate of ORIC, on 11th -12th February 2019 at University of Swabi KPK, Pakistan. • 1st National Conference on “Microbiology Infectious Diseases and Health safety” at Department of Microbiology and Directorate of ORIC, on 4-5, April 2019 at University of Swabi KPK, Pakistan.
Student Supervision	<u>Supervisor of M.Phil. Students</u> 1. <u>Ateeqa Siddique (Fall 2021-2023)</u> “Resistance Modulation of Urinary Tract Bacteria (<i>E. coli</i>, <i>S. aureus</i>) Using Colocynthis Coated Silver Nanoparticles” Department of Microbiology, Cholistan University of Veterinary and Animal Sciences, Bahawalpur 63100, Punjab, Pakistan. 2. <u>Sundus Anwar (Fall 2021-2023)</u> “Emergence of Drug Resistant Salmonella spp in South Punjab and Application of Medicinal Plants to Overcome the Drug Resistance” Department of Microbiology, Cholistan University of Veterinary and Animal Sciences, Bahawalpur 63100, Punjab, Pakistan. 3. <u>Tehmeena Nousheen (Spring 2021-2023)</u> “Evaluation of Resistance Modulation of Urinary Tract Bacteria <i>Pseudomonas aeruginosa</i> and <i>Klebsiella pneumonia</i> Using Peppermint Oil Nanoemulsion” Department of Microbiology, Cholistan University of Veterinary and Animal Sciences, Bahawalpur

	63100, Punjab, Pakistan. 4. <u>Salman Yousuf (Spring 2021-2023)</u> “Antimicrobial Resistance Modulation of Milk <i>Staphylococcus aureus</i> Using Lemongrass Esesntial Oil Nanoemulsion” Department of Microbiology, Cholistan University of Veterinary and Animal Sciences, Bahawalpur 63100, Punjab, Pakistan. 5. <u>Asad Ur Rehman (Fall 2022-2023)</u> “Molecular Epidemiological Analysis of Chronic Kidney Disease Patients with Special Reference to Enterohemorrhagic <i>E. coli</i>” Department of Microbiology, Cholistan University of Veterinary and Animal Sciences, Bahawalpur 63100, Punjab, Pakistan. 6. <u>Abdul Moez Qureshi (Spring 2023-2025)</u> “Mixed Nanoemulsion to Tackle <i>Acinetobacter baumannii</i> Resistance from Wastewater of Bahawal Victoria Hospital, Bahawalpur” Department of Microbiology, Cholistan University of Veterinary and Animal Sciences, Bahawalpur 63100, Punjab, Pakistan. 7. <u>Khizar Abbas (Spring 2023-2025)</u> “Molecular Characterization and Serotyping of Foot and Mouth Disease Virus (FMDV) Circulating in District Bahawalnagar, South Punjab” Department of Microbiology, Cholistan University of Veterinary and Animal Sciences, Bahawalpur 63100, Punjab, Pakistan. 8. <u>Ayesha Tariq (Fall 2023-2025)</u> “Spatial epidemiology of chicken anemia virus and haemoparasites in indigenous and exotic poultry breeds of Bahawalpur, Pakistan” Department of Microbiology, Cholistan University of Veterinary and Animal Sciences, Bahawalpur 63100, Punjab, Pakistan. 9. <u>Ieman Tariq (Fall 2023-2025)</u> “Seroprevalence and molecular detection of fowl cholera in indigenous and commercial poultry birds in rural areas of Bahawalpur, Pakistan” Department of Microbiology, Cholistan University of Veterinary and Animal Sciences, Bahawalpur 63100, Punjab, Pakistan. 10. <u>Munaza Rasheed (Fall 2023-2025)</u> “Seroprevalence and molecular characterization of Pullorum disease in indigenous poultry birds in district Bahawalpur, Pakistan” Department of Microbiology, Cholistan University of Veterinary and Animal Sciences, Bahawalpur 63100, Punjab, Pakistan. 11. <u>Areesha Sagheer (Fall 2023-2025)</u> “Assessment of indigenous strains of <i>Lactobacillus</i> species for probiotic efficacy in mitigating antibiotic induced diarrhea in animal model” Department of Microbiology, Cholistan University of Veterinary and Animal Sciences, Bahawalpur 63100, Punjab, Pakistan. 12. <u>Fazila Fareed (Fall 2023-2025)</u> “Molecular characterization and prevalence of <i>Pseudomonas</i> species in clinical samples from Tertiary care Hospital Rahim yar khan” Department of Microbiology, Cholistan University of Veterinary and Animal Sciences, Bahawalpur 63100, Punjab, Pakistan.
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Major Member of M.Phil. Students

1. Nafeesa Iqbal (Spring 2021-2023)

“Mechanistic Evaluation of Lemon Grass Essential Oil Nanoemulsion Against Multidrug Resistance Bacteria” Department of Microbiology, Cholistan University of Veterinary and Animal Sciences, Bahawalpur 63100, Punjab, Pakistan.

2. Muhammad Rizwan (Spring 2021-2023)

“A Study on Extended-Spectrum B-Lactamase Genes from Clinically Isolated Gram-Negative Bacteria in Bahawalpur” Department of Microbiology, Cholistan University of Veterinary and Animal Sciences, Bahawalpur 63100, Punjab, Pakistan.

3. Muhammad Hamza (Spring 2023-2025)

“Characterization of Indigenous Thermostable *Bacillus licheniformis* Isolated from Textile Polluted Water and Their Potential Role in Wastewater Treatment” Department of Microbiology, Cholistan University of Veterinary and Animal Sciences, Bahawalpur 63100, Punjab, Pakistan.

4. Javeria Muslim (Fall 2023-2025)

- a. “Isolation and identification of *Enterococcus faecalis* from vegetables and fruits irrigated by sewage water” Department of Microbiology, Cholistan University of Veterinary and Animal Sciences, Bahawalpur 63100, Punjab, Pakistan.

5. Aiza Aqeel (Fall 2023-2025)

“Phytochemical analysis and antibacterial effect of *Ziziphus mauritiana* against *Escherichia coli*” Department of Microbiology, Cholistan University of Veterinary and Animal Sciences, Bahawalpur 63100, Punjab, Pakistan.

6. Irsa Mustafa (Fall 2023-2025)

“Antimicrobial sensitivity and genomic analysis of *Salmonella typhimurium* isolate from fresh poultry meat” Department of Microbiology, Cholistan University of Veterinary and Animal Sciences, Bahawalpur 63100, Punjab, Pakistan.

Minor Members of M.Phil. Students

1. Areeba Batool (Fall 2023-2025)

“Probiotic Enriched Dried Mango Snack to Prevent Tooth Decay” Department of Food Science and Technology, Cholistan University of Veterinary and Animal Sciences, Bahawalpur 63100, Punjab, Pakistan

2. Eisha Tir Razia (2023-2025)

“Study on Morphological Differences in Earwigs (Dermaptera: Orthoptera) of Bahawalpur”. Cholistan Institute of Biological Sciences (CIBS). Cholistan University of Veterinary and Animal Sciences, Bahawalpur 63100, Punjab, Pakistan

3. Barrera Khan (2023-2025)

“Observations on Morphological Characteristics in Gryllotalpa (Orthoptera:

	Gryllotalpidae) from Cholistan Desert". Cholistan Institute of Biological Sciences (CIBS). Cholistan University of Veterinary and Animal Sciences, Bahawalpur 63100, Punjab, Pakistan 4. <u>Zara Chouhdary (2023-2025)</u> "Comparative Study on the Occurrence of some Selective Caeliferans in Cholistan". Cholistan Institute of Biological Sciences (CIBS). Cholistan University of Veterinary and Animal Sciences, Bahawalpur 63100, Punjab, Pakistan Desert 5. <u>Laiba Kainat (2023-2025)</u> "Study on the Life Cycle of Earwigs (Dermaptera: Orthoptera) under Laboratory Conditions". Cholistan Institute of Biological Sciences (CIBS). Cholistan University of Veterinary and Animal Sciences, Bahawalpur 63100, Punjab, Pakistan 6. <u>Sonia Hameed (2023-2025)</u> "Study on Cryptic Species of Gryllidae (Orthoptera) from Bahawalpur". Cholistan Institute of Biological Sciences (CIBS). Cholistan University of Veterinary and Animal Sciences, Bahawalpur 63100, Punjab, Pakistan 7. <u>Samreen Zubair (2023-2025)</u> "Observations on Seasonality and Wing Dimorphism in Mole Cricket Gryllotalpa (Orthoptera: Gryllotalpidae)". Cholistan Institute of Biological Sciences (CIBS). Cholistan University of Veterinary and Animal Sciences, Bahawalpur 63100, Punjab, Pakistan 8. <u>Nimrah Sultan (2023-2025)</u> "Systematic Study on Field Crickets (Orthoptera: Gryllidae) of the Cholistan Desert". Cholistan Institute of Biological Sciences (CIBS). Cholistan University of Veterinary and Animal Sciences, Bahawalpur 63100, Punjab, Pakistan 9. <u>Muhammad Zeshan (2023-2025)</u> "Study on the Life Cycle of the Akk Grasshopper Poekilocerus pictus (Orthoptera: Pyrgomorphidae) from Cholistan Desert". Cholistan Institute of Biological Sciences (CIBS). Cholistan University of Veterinary and Animal Sciences, Bahawalpur 63100, Punjab, Pakistan 10. <u>Muhammad Tanveer (2024-2026)</u> "Taxonomic Study of Praying Mantis (Mantodea: Dictyoptera) from the Cholistan Desert". Department of Zoology, Cholistan University of Veterinary and Animal Sciences, Bahawalpur 63100, Punjab, Pakistan 11. <u>Malaika Zahid (2024-2026)</u> "Survey of Aquatic Insect Fauna and Their Role in Enhancing Biodiversity at Head Panjnad". Department of Zoology, Cholistan University of Veterinary and Animal Sciences, Bahawalpur 63100, Punjab, Pakistan 12. <u>Rana Muhammad Asif (2024-2026)</u> "Incidence of Praying Mantis (Mantodea: Dictyoptera) in Various Agricultural Fields of the Cholistan Desert". Department of Zoology, Cholistan University of Veterinary and Animal
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	Sciences, Bahawalpur 63100, Punjab, Pakistan 13. <u>Zainab Alam (2024-2026)</u> “Study on the Feeding Preference of <i>Poecilocus pictus</i> (Orthoptera: Pyrgomorphidae) under Laboratory Conditions”. Department of Zoology, Cholistan University of Veterinary and Animal Sciences, Bahawalpur 63100, Punjab, Pakistan <u>Minor Members of Ph.D. Students</u> 10. <u>M. Zain-ul-Abidin (2022)</u> “A Comparative Analysis of Hemiacridinae (Orthoptera) in the Sindh Entomological Museum and Current Surveys in Khyber Pakhtunkhwa”. Department of Zoology, Cholistan University of Veterinary and Animal Sciences, Bahawalpur 63100, Punjab, Pakistan
Professional Services	Editorial Roles: Section Editor-in-chief: International Journal of Molecular Microbiology (https://psmjournals.org/index.php/ijmm/about/editorialTeam) Journal reviewer: Acta Ecologica Sinica, Brazilian Journal of Microbiology, Advancements in Life Sciences, and Polish Journal of Environmental Studies, University of Sindh Journal of Animal Sciences Administrative Roles: • <u>Member, Board of Studies:</u> Department of Microbiology Cholistan University of Veterinary & Animal Sciences, Bahawalpur 63100, Punjab, Pakistan • <u>Member of the “CUVAS GIFT WALL CARES”:</u> Cholistan University of Veterinary & Animal Sciences, Bahawalpur 63100, Punjab, Pakistan • <u>Member/Secretary of the Semester Freeze Committee:</u> Cholistan University of Veterinary & Animal Sciences, Bahawalpur 63100, Punjab, Pakistan • <u>Coordinator of M.Phil Students:</u> Department of Microbiology Cholistan University of Veterinary & Animal Sciences, Bahawalpur 63100, Punjab, Pakistan • <u>Tutor (Co-Curricular Activities):</u> To motivate the undergraduate students for co-curricular activities. Cholistan University of Veterinary & Animal Sciences, Bahawalpur 63100, Punjab, Pakistan • <u>Deputy Director in the Directorate of Academics:</u> Cholistan University of Veterinary & Animal Sciences, Bahawalpur 63100, Punjab, Pakistan • <u>Deputy Director in the Directorate of Career Counseling Centre:</u> Cholistan University of Veterinary & Animal Sciences, Bahawalpur 63100, Punjab, Pakistan

Trainings, Workshops & Seminars Attended	<u>Organizing & Facilitating Roles</u> • Organizer, One-Day National Workshop on “<i>Reproductive Ultrasonography in Small Ruminants</i>”, Dept. of Theriogenology, FVAS, CUVAS Bahawalpur (April 17, 2025). • Facilitator, Train-the-Trainer Workshop on <i>Biological Risk Mitigation Program</i>, organized by PBSA, The Islamia University Bahawalpur (Aug 22-24, 2022). • Organizer, Awareness Workshop on <i>Caseous Lymphadenitis in Small Ruminants</i>, CUVAS Bahawalpur (Feb 16, 2024). • Organizer, <i>Protein Modeling and Computer-Aided Drug Designing</i>, University of Swabi (Oct 3, 2018). <u>Seminars & Conferences</u> • Certificate, Certificate of Poster Presentation, 15th International Biennial Conference, Pakistan Society for Microbiology (FIBC-PSM-2025), Quaid-i-Azam University, Islamabad (April 15-18, 2025). • Participant, Seminar on “<i>Malaria Ends With Us</i>”, Dept. of Parasitology & Dept. of Livestock Management, CUVAS Bahawalpur (2025). • Participant, <i>World Tuberculosis Awareness Day Seminar</i>, CUVAS Bahawalpur (Mar 24, 2025). • Participant, <i>22nd Annual Conference of Medical Microbiology & Infectious Diseases Society of Pakistan</i>, NMU Multan (Feb 7-8, 2025). • Participant, <i>National Workshop on Hepatitis C</i>, KUST, Kohat (Mar 6, 2008). <u>Technical & Statistical Training Workshops</u> • Hands-on Training Workshop on “<i>Biostatistics</i>”, Cholistan University of Veterinary and Animal Sciences, Bahawalpur (February 14, 2024). • Hands-on Workshop on “<i>Application of Statistical Package for Social Sciences (SPSS) in Research</i>”, Cholistan University of Veterinary and Animal Sciences, Bahawalpur (April 23, 2019). • <i>Water Testing and Environmental Monitoring Training Program</i>, BF Biosciences Limited Plant, Lahore (May 28 - June 1, 2012). • Workshop on “<i>Propagation of Newcastle Disease Virus in Chicken Embryos and SDS-PAGE Protein Detection</i>”, University of Veterinary and Animal Sciences, Lahore (July 12-15, 2010). • Training on “<i>Molecular Techniques (PCR/RT-PCR) for Diagnosis of Microbial Animal Diseases</i>”, University of Veterinary and Animal Sciences, Lahore (September 23-26, 2009). • Seven-Month Short Course on “<i>Environmental Sampling</i>”, University of Veterinary and
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Animal Sciences, Lahore (March - September 2009).

Biosafety, Biorisk & One Health Trainings

- International Training Workshop on “*Bio-Waste Management*”, organized by Pakistan Biological Safety Association in collaboration with the National Institutes of Health, United States of America, and Safer Behaviors, United States of America (October 9-11, 2019).
- “*Advanced Biological Risk Mitigation (Wet Trainer Workshop)*”, Pakistan Biological Safety Association in collaboration with the National Institutes of Health, United States of America, and Safer Behaviors, United States of America (March 13-17, 2019).
- “*Master Trainer Workshop*”, Pakistan Biological Safety Association in collaboration with the National Institutes of Health, United States of America, and Safer Behaviors, United States of America (January 14-18, 2019).
- “*Advanced Biological Risk Mitigation Training*”, Pakistan Biological Safety Association in collaboration with the National Institutes of Health, United States of America, and Safer Behaviors, United States of America (October 23-27, 2018).
- Hands-on Workshop on “*BioRisk Management in Biological Laboratories*”, Pakistan Biological Safety Association in collaboration with Cholistan University of Veterinary and Animal Sciences, Bahawalpur (December 20, 2019).
- “*Trainer Development Workshop for Veterinary Education Establishments on Advanced Biological Risk Management*”, organized by Pakistan Veterinary Medical Council in collaboration with Sandia National Laboratories, United States of America (July 12-14, 2021).
- Refresher Course on “*Enhancing Veterinary Diagnostic and Research Laboratory Capabilities in Pakistan*”, Association for Biorisk Management in collaboration with Health Security Partners and Cholistan University of Veterinary and Animal Sciences, Bahawalpur (October 6-7, 2021).
- Training on “*Safe and Secure Sample Collection and Transportation*”, Association for Biorisk Management in collaboration with Health Security Partners and Cholistan University of Veterinary and Animal Sciences, Bahawalpur (October 28-31, 2021).
- Training on “*Enhancing One Health Capability for Biorisk Management*” - Establishing Zoonoses Control Committees, organized by the Association for Biorisk Management in collaboration with Health Security Partners, the National Academies of Sciences, Engineering, and Medicine (United States), the Institute for Laboratory Animal Research, and Cholistan University of Veterinary and Animal Sciences, Bahawalpur (November 25-27, 2021).
- Biorisk Management Training on “*Enhancing Veterinary Diagnostic and Research Laboratory Capabilities in Pakistan*”, Association for Biorisk Management in collaboration with Health Security Partners and Cholistan University of Veterinary and Animal

	Sciences, Bahawalpur (December 28, 2020 - January 1, 2021). <u>Professional Development Programs</u> • “<i>In-Service Competency Enhancement Training for University Faculty</i>”, jointly organized by the Center for Educational Policy and Administration, University of Veterinary and Animal Sciences, and Cholistan University of Veterinary and Animal Sciences, Bahawalpur (January 28-30, 2019). • Certificate Program on “<i>Safety, Sciences, and Workplace Harassment</i>” (August 24, 2019)
Membership of professional bodies	Life Member of Pakistan Biological Safety Association (2018 to onward)