

D/O Muhammad Aman Personal Details:**Nationality: PAKISTANI****Date of Birth: 17.10.1990****Email: komal.shah855@gmail.com
dr.komalaman@wumardan.edu.pk****ACADEMIC QUALIFICATION**

Qualification	Board/University	CGPA/MARKS	Year
Ph.D.(Biotechnology)	University of Peshawar	3.9 CGPA	2020
BS Biotechnology	University of Peshawar	3.6 CGPA	2014
F.SC (Pre-Medical)	B.I.S.E Peshawar	872/1100	2009
SSC (Science)	B.I.S.E Peshawar	718/1050	2006

OBJECTIVES

I like to work in challenging environments where I could use all my skills and could learn something new. I am a PhD degree holder so preferably I'm looking for learning something new and could do the practical and research work as well, in order to implement all what I have studied up till now because I believe Text Books and Practical life are two different things.

RESEARCH EXPERIENCE

With over eight years of research experience in molecular biology, medical microbiology, and infectious disease diagnostics, my work has primarily focused on *Helicobacter pylori* and its role in gastric cancer. My Ph.D. research involved the development of non-invasive molecular diagnostic methods using salivary DNA and mutational analysis of the *TP53* gene in gastric cancer patients. I have expertise in

techniques such as PCR, ELISA, DNA/RNA extraction, gel electrophoresis, and microbial culture. Additionally, I have supervised 26 MPhil students in various research projects related to microbiology and biotechnology, contributing to both scientific advancement and academic mentorship.

ACADEMIC AND PROFESSIONAL EXPERIENCE

Women University Mardan (2023 Till date)

Teaching & Mentorship: Deliver undergraduate and postgraduate courses in biotechnology with a strong focus on molecular biology, microbiology, and cancer biology. Supervise MPhil scholars, guiding them through research design, experimental methodologies, data analysis, and thesis completion.

Research Leadership: Lead and collaborate on research projects with a focus on gastric cancer, *Helicobacter pylori*, and microbial pathogenesis, contributing to national and international scientific discourse through publications and presentations.

Institutional Coordination (2025 Till date): Serve as Research Coordinator of the university, facilitating interdepartmental research initiatives, fostering collaborations, and supporting faculty in proposal writing, grant applications, and project execution.

Innovation & Commercialization Support (2024 Till date) : Actively contribute as a member of ORIC and Coordinator of the Research, Innovation, and Commercialization Cell, working to bridge the gap between academic research and industry needs. Promote innovation by identifying potential projects for commercialization and liaising with external stakeholders.

Capacity Building & Policy Support: Contribute to the development of institutional policies and strategies that enhance research productivity, promote innovation, and build a sustainable research culture within the university.

Outreach & Representation: Represent the university at academic and scientific forums, conferences, and collaborative meetings to strengthen partnerships and

showcase institutional research capabilities.

Abasyn University Peshawar (2017 Till 2023)

Teaching & Curriculum Delivery: Taught core and advanced courses in **microbiology, molecular biology, immunology, and biotechnology** at the postgraduate level, with a strong emphasis on critical thinking, research ethics, and experimental design.

Postgraduate Research Supervision: Successfully supervised **26 MPhil scholars** in the fields of microbiology and biotechnology, guiding them through research proposal development, laboratory work, data analysis, manuscript preparation, and thesis defense.

Program Coordination & Academic Planning (2021-2023): Served as **MPhil Program Coordinator**, managing academic scheduling, student advisement, thesis evaluation processes, and liaising with faculty and administration to ensure smooth delivery of the program.

Quality Assurance & Compliance: Ensured adherence to **Higher Education Commission (HEC)** standards for postgraduate education. Participated in internal audits, self-assessment reports, and program review meetings to maintain academic quality.

Research Development: Encouraged a research-driven environment by facilitating seminars, research workshops, and collaborative student projects in areas such as infectious diseases, antibiotic resistance, and microbial diagnostics.

Administrative Leadership: Acted as a bridge between faculty, students, and university administration, contributing to policy-making discussions, curriculum revisions, and postgraduate academic planning

PHD AND BS RESEARCH WORK

PhD Research work: Role of helicobacter pylori in gastric cancer, its diagnosis through non-invasion and mutational analysis in patients of Khyber Pakhtunkhwa,

Pakistan.

B.s Biotechnology Research work: Isolation and identification of copper resistant bacteria from different sources.

CORE COMPETENCIES

- Optimization of thermal cycler
- Gel electrophoresis
- DNA/RNA Extraction
- Bacteria culturing
- Yeast Culturing
- Yeast strain engineering and optimization
- Fermentation methodologies
- Genomic and synthetic biology techniques
- Protein production and biochemistry

SUPERVISED SCHOLARS

- Supervised M.Phil. Scholars in research work as well as thesis and publication write-up.
 - 24 students completed Master of Philosophy (M.Phil.) in biotechnology and microbiology under my supervision
- 2 student completed M.Phil. under my Co-supervision working on infectious.

M.PHIL BIOTECHNOLOGY/MICROBIOLOGY SCHOLARS BEING SUPERVISED

S. NO	Name	Research Title	Status
1	Madiha Badshah	Prevalence and Antimicrobial Susceptibility Pattern of ESBL Producing and non-producing Pseudomonas aeruginosa in Tertiary Care Hospitals of Peshawar	Degree Completed
2	Abdur Rehman	Antibiogram Profiling of Fresh, Boil and Sterile Milk Samples in District North Waziristan	Degree Completed

3	Taharat Ali	Prevalence and characterization of Carbapenem resistant and Extended Spectrum Beta Lactamases and Metallo Beta Lectamases producing Salmonella Typhi from blood isolates in Hospitalized patients of Peshawar	Degree Completed
4	Sobia	Phytochemical Screening and Antibacterial potential of Oxalis corniculata Plant Extract against Multi Drug Resistant Uropathogenic Escherichia coli	Degree Completed
5	Sarfaraz Ali	Non-invasive Diagnosis of Helicobacter pylori infection in salivary secretions by Polymerase Chain Reaction	Degree Completed
6	Adil Khan	Antimicrobial Potential of Syzygium Aromaticum bud extract against Helicobacter pylori and Salmonella typhi	Degree Completed
7	Kamran Khan	Effect of COVID-19 Inflammatory Markers on Renal Function	Degree Completed
8	Muhammad Ismail	Green Synthesis and Characterization of Silver Nanoparticles using Opuntia Ficus Indica and its Antibacterial Efficacy towards Uropathogenic Escherichia Coli and Staphylococcus Aureus	Degree Completed
9	Abdul Razaq	Effect of Allium sativum Containing Feed on Bacterial Load and Antibiotic Resistance Profile isolated from Broiler Chicken	Degree Completed
10	Waqar Abdul Karim	Screening of Pathogenic Bacteria and their Antibigram Profile in Platelets Concentrates obtained through Apheresis and Centrifugation	Degree Completed
11	Haroon Ahmed	Combinatorial effect of Juglans regia and Salvadora percia extracts with antibiotics against Escherichia coli and Staphylococcus aureus isolated from oral cavity	Degree Completed
12	Akhtar Ali	Effect of Aresiaemia jacquemontii tuber extract against	Degree Completed

		Extensive Drug-Resistant Mycobacterium tuberculosis	
13	Anayat Khan	Prevalence and Antibigram of Extended spectrum of Beta Lactamase producing bacteria causing urinary tract infection in Jalalabad Afghanistan	Degree Completed
14	Israr ul Haq	Comparative analysis of Allium sativum extract and Antibiotics against bacteria isolated from otitis media	Degree Completed
15	Laila	An integrated computational approach to identify potential vaccine target against Aeromonas hydrophila	Degree Completed
16	Spogmay	Molecular Characterization and Antimicrobial Potential of Secondary Metabolites Produced by Streptomyces Species against Multi Drug Resistant Mycobacterium Tuberculosis	Degree Completed
17	Aliya	Phytochemical Screening, Biological activities and Synergistic effect of Anastatica hierochuntica with selected antibiotics against Uropathogens isolated from Pregnant Women	Degree Completed
18	Amina bibi	Comparison and synergistic effect of homeopathic and allopathic drugs used for the treatment of typhoid fever	Degree Completed
19	Tabinda Shah	In-Vivo Antiviral Effect of Methanolic Extract of Allium Sativum and Zingiber Officinale against Induced Newcastle Virus Infection in Poultry	Degree Completed
20	Saif ul Islam	Molecular Characterization of Escherichia Coli and Klebsiella Pneumoniae isolates from UTI patients and effect of multinational and local brands of ceftriaxone sodium against selected pathogens	Degree Completed

21	Saad Khan	Molecular characterization of bioactive secondary metabolites producing <i>Aspergillus fumigatus</i> and their antimicrobial analysis against <i>Pseudomonas aeruginosa</i>	Degree Completed
22	Muneeba	Multilocus Sequence Typing Studies of Uropathogenic <i>Escherichia coli</i> Isolated from Hospitalized Patients of District Peshawar	Degree Completed
23	Aakif Shah	Synergistic Effect of <i>Allium Sativum</i> Extract with Antibiotics against Methicillin Resistance <i>Staphylococcus aureus</i> Isolated from Postoperative Infected patients	Degree Completed
24	Nihal Ahmad	Prevalence and Characterization of drug-resistant Bacteria isolated from ICU patients in Tertiary Care Hospitals, Peshawar	Degree Completed
25	Saeed Ahmad Zeb (Co-supervision)	Antibiotic sensitivity profile of bacterial community acquired pneumonia and its quantitative correlation with C-reactive protein in hospitalized children of district Peshawar	Degree Completed
26	Aman ullah (Co-supervision)	In Silico Discovery of Novel Inhibitory Scaffolds against <i>Helicobacter pylori</i> Xanthine Guanine Hypoxanthine Phosphoribosyl Transferase Enzyme	Degree Completed

RESEARCH PUBLICATIONS

- Molecular Profiling of Soil-Derived *Bacillus subtilis* and *Bacillus paralicheniformis*: Evaluation of Anticancer and Antibacterial Efficacy Against Gastrointestinal Pathogens
- Targeting Glycine N-Methyltransferase: A Computational Pipeline for Novel Anti-Pancreatic Cancer Leads
- Disrupting Survival Pathways: ChEMBL35-Derived Inhibitors

Targeting Transcription-Repair Coupling Factor in *Acinetobacter baumannii* LAC-4

- Exploration of gastric ulcer in the people of rural area of Peshawar/KPK through enzyme linked immunosorbent assay. IJB
- PCR based identification of *Helicobacter pylori* infection in saliva samples. IJB
- Anti-tuberculous, phytotoxic and insecticidal activities of secondary metabolites obtained from *aspergillus* and *penicillium* species isolated from soil
- In Vitro Biomedical and Photo-Catalytic Application of Bio-Inspired *Zingiber officinale* Mediated Silver Nanoparticles.

Innate Immune-mediated Antiviral Response to SARS-CoV-2 and Convalescent sera a potential Prophylactic and Therapeutic Agent to Tackle COVID-19

- Comparative analysis of various sources of selenium on the growth performance and antioxidant status in broilers under heat stress
- Anti-hyperglycemic and anti-hyperlipidemic effects of a methanolic extract of *Debregeasia salicifolia* in Alloxan-induced diabetic albino mice
- Exploitation of *aspergillus fumigatus* secondary metabolites and silver nanoparticles coated crude extract against pathogenic bacteria isolated from surgical wound infection
- Phycoremediation of industrial wastewater using *Vaucheria debaryana* and *Cladophora glomerata*

- Microbial profile and nutritional evaluation of broiler and domestic chicken meat from selected districts of Khyber Pakhtunkhwa, Pakistan
- An alarming scenario in developing world: A looming of viral outbreaks
- Case report: A brief description of unseen facts in the comorbid COVID-19 patients
- Biosynthesis of Antimicrobial Silver Nanoparticles against Gram-Negative and Gram-positive Bacteria by the Entophytic Fungus *Aspergillus Fumigatus*
- Green Synthesis of Silver and Copper Nanoparticles Using *Parthenium hysterophorus*: Antibacterial, Antioxidant, and Anticancer Properties
- Targeting Glycine N-Methyltransferase: A Computational Pipeline for Novel Anti-Pancreatic Cancer Inhibitors (Publication stage)
- Phytochemical Screening, Biological activities and Synergistic effect of *Anastatica hierochuntica* with selected antibiotics against Uropathogens isolated from Pregnant Women (Publication stage)

COMPUTER SKILLS

Microsoft Word processing, Microsoft Windows Introduction to Microsoft Excel, Microsoft PowerPoint Well experience in Internet applications, LMS (Module), Synergy Student Information System.

SEMINARS, CONFERENCES ATTENDED AND CERTIFICATES OF APPRECIATIONS

October 25, 2016 One day biosafety and biosecurity training workshop for researchers at university of Peshawar.

February 04, 2016 One day workshop on informatics for writing manuscript at university of Peshawar.

APRIL 09, 2013 One day seminar participation in NAYS science forum at university of Peshawar.

November 28, 2012 One day Thalassemia awareness workshop at Peshawar medical college.

December 04, 2012 One day seminar on cancer at university of Peshawar. **3rd Abasyn**

International Conference of Technology and Management Sciences (Aictbm)) March 2018

4th Abasyn International Conference of Technology and Management Sciences (Aictbm)) 2019

Certificates and awards of appreciations for holding 1st, 2nd and 3rd positions in B.sc Hons.

Certificate of achievement by National Faculty Development Program (NFDP) 2021

Biosafety and waste management 4th December 2023 Women University Mardan
Biosafety and waste management 23rd and 24th October 2024 Women University Mardan

Data Analysis Tools 13th December 2024 Women University Mardan

One day training on CRISPR-Cas9 gene modification technology 9 March 2023 Abasyn University Peshawar

One moth training on National Outreach Program for higher education management for faculty June 2025

ABOUT ME

I am a passionate biotechnology researcher and educator with over eight years of academic and research experience, specializing in microbiology, molecular diagnostics, and infectious diseases. My PhD research focused on the non-invasive molecular diagnosis of *Helicobacter pylori* in gastric

cancer patients, reflecting my deep commitment to translational science that bridges laboratory research with clinical relevance. As a dedicated mentor, I have successfully supervised 26 MPhil scholars and served in key leadership roles including MPhil Program Coordinator, Research Coordinator, and ORIC member. I thrive in collaborative, innovation-driven environments and aim to contribute meaningfully to global health challenges through high-impact research, mentorship, and scientific advancement. I am a Quick learner, Self-Starter, Eager personality, Strong Analytical, Interpersonal & Communication skills. I am friendly, honest, reliable, responsible person with “can do” attitude; believe in leading by example and appreciating good work & efforts.

Hobbies Internet, Reading, Touring, Movies, Music and Socializing with friends in spare time, cooking, documentaries, watching series, dress designing

REFERENCES

1. **Dr. Bashir Ahmad** Meritorious professor Vice Chancellor
Bacha Khan University Charsadda (Email:
Bashirdr2015@yahoo.com) (Phone:
+923456672194)
2. **Dr. Hira Mushtaq** Lecturer Center of Biotechnology and
Microbiology University of Peshawar, Pakistan (Email:
hirushtaq12@gmail.com) (Phone: +923219195199)
3. **Dr. Nida Munir** Lecturer Center of Biotechnology and
Microbiology University of Peshawar, Pakistan (Email:
nidamunir@uop.edu.pk) (Phone: +923339273719)

•