

## Brief Statement of Research Interest

My research interests include applied and environmental microbiology. I have completed my PhD from Department of Microbiology, QAU Islamabad under the title “Environment Friendly Leather Making and Recovery of Value-Added Products from Solid Tannery Waste.” As a part of my PhD, I was provided funding from HEC under IRSIP program in order to advance her learning and professional skills from United States Department of Agriculture (USDA) at Biobased and other Animals Co-Products Research Unit (BOAC), ERRC, Wyndmoor, PA, USA. My focused area of research is to explore eco-friendly solutions of environmental problems like waste management and waste water treatment using microbes.

## Work Experience

<b>Assistant Professor (TTS) Microbiology</b>	Department of Microbiology, Women University Mardan, Khyber Pakhtunkhwa (KPK), Pakistan.	14.04.2023 –to date
<b>Assistant Professor (Fixed Pay) Microbiology</b>	Department of Microbiology, Women University Mardan, Khyber Pakhtunkhwa (KPK), Pakistan.	14.09.2022-13.04.2023 (06 Months)
<b>IPFP Fellow (Microbiology)</b>	Department of Microbiology, Women University Mardan, Khyber Pakhtunkhwa (KPK), Pakistan.	01.09.2021 to 31.08.2022 (1 year)
<b>Visiting Lecturer (Microbiology)</b>	UIBB, PMAS- ARID Agriculture University, Rawalpindi	Feb-July 2019 (Spring Semester)
<b>Visiting Scientist (International)</b>	Biobased And Other Co-Product Research Unit (BOAC), ERRC, United States Department of Agriculture, Wyndmoor, USA.	24.03.2015-24.03.2015 (9 months)
<b>Project Research Associate</b>	Microbiology lab, Biosciences department COMSATS, Islamabad	21.05.2011-20.11.2011 (6 months)
<b>N.I.P internee</b>	Microbiology laboratory Department of Pathology, Pakistan institute of medical sciences (PIMS), Islamabad	29.01.10 to 28.01.2011 (1 year)

## Educational Qualification

<b>2019</b>	<b>Ph.D. (Microbiology)</b>	Quaid-i-Azam University, Islamabad, Pakistan. Thesis Title: Environment Friendly Leather Making and Recovery of Value Added Products from Solid Tannery Waste.	<b>1st division</b>
<b>2011</b>	<b>M.Phil. (Microbiology)</b>	Quaid-i-Azam University, Islamabad, Pakistan. Thesis Title: Prevalence of Antibiotic Resistance and Phenotypic Detection of Metallo- $\beta$ Lactamases in <i>Pseudomonas aeruginosa</i> Isolates from Burn Patients	<b>1st division</b>
<b>2009</b>	<b>M.Sc (Microbiology)</b>	Quaid-i-Azam University, Islamabad, Pakistan.	<b>1st division</b>
<b>2006</b>	<b>B.Sc.</b>	University of the Punjab (Lahore) Subjects: Botany, Zoology, Chemistry	<b>1st division</b>
<b>2004</b>	<b>F.Sc./HSSC</b>	(Pre-Medical Group) FBISE.	<b>1st division</b>
<b>2002</b>	<b>Matric/SSC</b>	FBISE.	<b>1st division</b>

## **Trainings and Workshops**

- Participated in 2 days **Complementary Biorisk Management Skills Development training for the Faculty and Research Scholars of Microbiology Laboratory Women University Mardan**, By Association for Biorisk Management 22-23 May, 2023.
- Participated in 1 day Training workshop on “**HEC Digital Library**” organized by Quality Enhancement Cell (QEC) Women University Mardan on 10<sup>th</sup> February, 2023.
- Participated in 1 day Seminar “**Institutional Performance Evaluation IPE**” organized by Quality Enhancement Cell (QEC) Women University Mardan on 26<sup>th</sup> January 2023.
- Worked as onsite facilitator and participant in 04 days virtual training on “**Safe & Secure Sample Collection and Transport Training**” organized by Association for Biorisk Management Pakistan (ABM) in collaboration with Health Security Partners and Biotechnology Laboratory- Women University Mardan, Khyber Pakhtunkhwa, Pakistan, 4-7 October 2022.
- Worked as onsite facilitator and participant in 02 days virtual “**BRM Refresher Training**” organized by Association for Biorisk Management Pakistan (ABM) in collaboration with Health Security Partners and Microbiology Laboratory- Women University Mardan, Khyber Pakhtunkhwa, Pakistan on 29-30 June, 2022
- Participated in Two-day international workshop entitled “**Fundamentals and applications of NMR spectroscopy**”, October 26<sup>th</sup> - 27<sup>th</sup> 2021 conducted by Chemistry department, Women University Mardan, Khyber Pakhtunkhwa, Pakistan.
- One-month online training for **National Faculty Development Program (NFDP, 2020)** April –May Cohort 1, conducted by National Academy of Higher Education (NAHE), HEC Pakistan.
- 2<sup>nd</sup> National training workshop on **Enzyme Engineering: An Efficient Tool to Improve Properties of Industrial Biocatalysts** (December 5-7, 2016) at Industrial Biotechnology Division NIBGE, Faisalabad.
- 111<sup>th</sup> Annual Convention of the **American Leather Chemists Association** in Pinehurst, North Carolina USA, June10-13, 2015.
- 1 day Seminar on **Advances in Bioinformatics in Post Genomic Era**, 6<sup>th</sup> November 2014 at National Centre for Bioinformatics, QAU, Islamabad.
- 2 days training workshop on SPSS and ENDNOTE organized by ORIC, Quaid-i-Azam University, Islamabad on 7-8 November 2013.
- 1 day International Seminar on **Wastewater treatment and its reuse**, 17<sup>th</sup> May 2012 organized by Department of Microbiology QAU, Islamabad.
- 3 days international conference on **Emerging Issues in Food Safety** held on Nov14-16, 2011 in NIFSAT University of Agriculture, Faisalabad.
- **Biosecurity/Food Safety Enhancement Program** workshop conducted during Feb/march, 2009 by HEC at Quaid-i-Azam University Islamabad.

## **Honors and Awards**

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- **Start-up Research Grant Program (SRGP) AWARD** (Ref. No. 10548/IPFP-II Batch-I)/SRGP/NAHE/HEC/2020/332) has been awarded by Higher Education Commission (HEC/NAHE), Government of Pakistan.
  - **International Research Support Initiative Program Fellowship (IRSIP)** funded by HEC, Pakistan at BOAC, ERRC, USDA, Wyndmoor, PA, 19038, USA in 2015.
  - **Indigenous Ph.D. Fellowship for 5000 scholars** Phase-2, Batch-I, 2012 awarded for full financial support for Ph.D. studies by Higher Education Commission of Pakistan.
  - **Academic Excellence Award** (2006) for Best Student of F.G. Degree College for Women, Wah Cantt

## List of Publications

1. **Preparation of Biobased sponges from Un-tanned Hides.** Aisha Siddique, Nicholas P. Latona, Maryann M. Taylor and Cheng-Kung Liu, *Journal of the American Leather Chemists Association*, 2016, Vol. 111 (5), 192-199.
2. **Catalytic Role of Thermostable Metalloproteases from *Bacillus subtilis* KT004404 as Dehairing and Destaining Agent.** Ramla Rehman, Maliha Ahmed, Aisha Siddique, Fariha Hasan, Abdul Hameed and Asif Jamal, *Applied Biochemistry and Biotechnology*, 2017, Vol. 181 (1), 434-450.
3. **Production, purification and characterization of detergent-stable, halotolerant alkaline protease for eco-friendly application in detergents' industry.** Maliha Ahmed, Ramla Rehman, Aisha Siddique, Fariha Hasan, Naeem Ali and Abdul Hameed, *International Journal of Biosciences*, 2016, Vol. 8 (2), 47-65.
4. **To Associate the Fetal Distress, Intrauterine Death and Intrauterine Growth Retardation Observed in Normal, Diabetic and Hypertensive Pregnancies.** Farrah Shams, Fawad Ali , Nawaz Samoo , Farah Malik , Uzma Asif , Alia Gul and Aisha Saddique, *Pakistan Biomedical Journal*, 2022, Vol 5 (1), 212-215
5. **Identification of Multiple Bacterial Blight Resistant Genes and Fragrance Gene in Rice through STS Marker,** Ayesha Bibi, Fawad Ali, Aisha Siddique, Khan Niaz Khan, Muhammad Ismail Khan, Bushra khan, *Journal of Xi'an Shiyou University, Natural Science Edition*, 2022, Vol 18 (12), 1202-1211

## Research Talks/Poster Presentations

- **Phytoremediation of Tobacco Industry Wastewater by Constructed Wetland System.** Aisha Siddique, Naila Menhaj, Humaira Khan and Salma Noreen. KP youth Festival held in Mardan, 3 March, 2022 (Poster Presentation).
- **The physical properties, morphology and viscoelasticity of biobased sponges prepared from un-tanned hides.** Cheng-Kung Liu, Aisha Siddique, Nicholas P. Latona, and Maryann M. Taylor at 112th ALCA Annual Meeting, June 22-25, 2016, Wheeling, WV, USA.
- **Prevalence of Multi-Drug Resistant *Pseudomonas aeruginosa* in a Burn Care Centre of Islamabad, Pakistan.** Aisha Siddique, Shagufta Hussain and Safia Ahmed. 10<sup>th</sup> Annual Conference on infectious diseases held in Shaukat Khanum Memorial Cancer Hospital & Research Centre, 22-23 Feb, 2013 Lahore, Pakistan (Poster Presentation).

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## Service Activity

- **Acting Chairperson/HOD** Department of Microbiology, WUM (14.02.2022-14.02.2023)
- **Member board of studies**, Department of Microbiology, Women University, Mardan (December 2021- onwards).
- **Associate Editor**, National Journal of Biological Sciences (NJBS).
- **AT member**, QEC, Women University Mardan (March 2022- onwards).
- **Convener Admission Review Committee (ARC)**, Women University Mardan.

## Research Interests:

- Environmental Microbiology, Applied Microbiology, Microbial enzyme technology, Bioprocessing, Medical Microbiology, Clinical bacteriology, Waste water treatment, Waste management.

## Key Attributes:

- Highly self-motivated, ambitious and hardworking individual with professional integrity
- Critical thinker with strong analytical and organizational skills
- Excellent communication skills with clear verbal explanation, strong writing & presentation skills
- Strong team-player and leadership skills, strong working relationships with diverse group of people among community of practice.

## Research Grants

S. No.	Title of Research Project	Total Funding	Funding agency	Contribution
1.	Local sugar mill wastewater treatment by small-scale constructed Wetland system.	1 million PKR	HEC, Pakistan	Principal investigator

## List of B.S students under Supervision (Completed)

Sr. No.	Student's Name	Degree Name	Session
1.	Naila Menhaj	BS Microbiology	2022
2.	Humaira Khan	BS Microbiology	2022
3.	Shadab Murad	BS Biotechnology	2022
4.	Sitara Andleeb	BS Biotechnology	2022
5.	Amna Sardar	BS Microbiology	2023
6.	Nida Siyar	BS Microbiology	2023
7.	Javairya Khan	BS Biotechnology	2023
8.	Ambareen Zari	BS Biotechnology	2023

## Languages

- **English** (International): Written and spoken (**Fluent**)
- **Urdu** (National): Written and spoken (**Fluent**)
- **Punjabi and Hindko** (Native): Understanding and spoken (**Fluent**)
- **French** (International): Level 1 Basic understanding