

## Achhada Ujalkaur Avatsingh

Ph.D. Scholar

Department of Microbiology

Akal College of Basic Sciences

Eternal University, Baru Sahib

Contact No.: 7984050304

E-mail : [ujalkaurachhada1313@gmail.com](mailto:ujalkaurachhada1313@gmail.com)

[bs22pmb001@eternaluniversity.edu.in](mailto:bs22pmb001@eternaluniversity.edu.in)



### PROFILE

Achhada Ujalkaur Avatsingh is a distinguished and goal-oriented Ph.D. Scholar in Department of Microbiology with a proven track record of academic excellence and a deep passion for scientific discovery. As a University Gold Medalist (M.Sc. Basic Sciences, 2022), she has demonstrated exceptional proficiency in the study of antimicrobial resistance, specifically focusing on the prevalence and susceptibility profiles of Extended Spectrum  $\beta$ -Lactamase (ESBL) and Class C Cephalosporinases in wastewater-influenced aquatic environments. Her research contributions are significant, with publications in high-impact journals such as *Frontiers in Microbiology* (IF: 4.5) alongside five book chapters published by internationally renowned publishers including Springer, Elsevier, De Gruyter, and Academic Press. She possesses a versatile technical skillset spanning molecular biology (Genomic DNA isolation, PCR, and gel electrophoresis) and advanced genomic data analysis, complemented by extensive experience in the isolation and maintenance of bacterial strains. Beyond her research, she is actively engaged in the academic community, holding a strong work ethic and commitment to continuous learning as evidenced by her successful completion of an ISRO-IIRS course and the UGC-Malaviya Mission NEP-2020 orientation.

### ACADEMIC QUALIFICATIONS

- **Ph.D. Microbiology (Ongoing):** Eternal University, Baru Sahib.
- **M.Sc. Microbiology (2022):** Eternal University (**87%, Gold Medallist**).
- **B.Sc. Microbiology (2020):** Eternal University (75%)
- **12<sup>th</sup> Science (2017):** Gujarat Board (68%)

### ASSOCIATION WITH ETERNAL UNIVERSITY

As a Ph.D. Scholar, she actively contributes to the academic environment through research and teaching exposure. She has taught several undergraduate courses, including:

- Phycology (MICRO-214)
- Field Microbiology-I (MICRO-122)
- Microbial Biotechnology (MICRO-326)
- Bacteriology (03402111021)

## AREAS OF EXPERTISE

- **Microbiological Techniques:** Isolation, handling, and maintenance of bacterial strains; aseptic techniques; inoculation and sterilization.
- **Analytical Skills:** Biochemical testing, microscopy (simple and compound), and centrifugation
- **Molecular Biology:** Genomic DNA isolation, PCR (Polymerase Chain Reaction), and Agarose gel electrophoresis.
- **Data Analysis:** Genomic data analysis and microbial susceptibility profiling.

## M.SC. THESIS TITLE:

Antimicrobial Susceptibility Profile and Prevalence of Extended Spectrum  $\beta$ -Lactamase Producing Gram-negative Bacteria in Wastewaters.

## Ph.D. THESIS TITLE:

Studies on Class C Cephalosporinases in Enterobacterales of wastewater-influenced aquatic sites from Himachal Pradesh, India.

## SIGNIFICANT ACHIEVEMENTS & CONTRIBUTIONS

- **Academic Honors:** Awarded the **University Gold Medal** for standing first in M.Sc. Microbiology; secured **second position** in national-level science model competitions and district-level debates.
- **Research Output:** Co-authored high-impact journal articles and chapters on topics ranging from human bacteriome research to metagenomics and biomedical waste management.
- **Professional Development:** Certified in **Geospatial Technology** and space-based Greenhouse Gas monitoring through IIRS-ISRO.
- **Institutional Leadership:** Served as a key member of the organizing committees for various university-wide conferences and symposia, including the **SIAI-ISEG: 3Ps-2025**.