Pallavi Wakarekar

Masters in Biotechnology

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▪ Education

1. **M. Sc Biotechnology** **2023-2025**

Yashwantrao Chavan institute of science Satara.415001, Karmveer Bhaurao Patil University, Satara.

CGPA: 9.91

Aggregate Percentage: 88.00%

2. **B. Sc Industrial microbiology** **2020-2023**

Rajaram College Kolhapur, Shivaji University, Kolhapur.

CGPA-9.48

Aggregate Percentage: 85.16%

▪ Research Experience

➢ **Bachelor's thesis:**

Title: Probiotic Chocolate Production

- Selected *Lactobacillus spp.* for the production of probiotic chocolate.
- Maintained pure cultures of *Lactobacillus spp.*
- Developed an innovative combination of probiotics and chocolate.
- Conducted essential safety tests for the chocolates.
- Evaluated the required cell count in the produced chocolates.

➢ **Master's thesis:**

Title: Analysis of the residual potassium bromate presence in local bread brands and it's Hepatotoxic and carcinogenic effects.

- Designed a systematic sampling plan to collect representative bread samples from various local bakeries.
- Collected 10 bread samples from prominent bakeries in Satara, ensuring a mix of commonly consumed bread types.
- Conducted a quantitative and qualitative analysis of potassium bromate in bread samples using UV-Visible spectrophotometry.
- Established a calibration curve for accurate potassium bromate concentration measurement.
- Researched and recommended safer alternatives to potassium bromate in bread production, including ascorbic acid and enzyme-based dough conditioners.

➢ **Current Projects:**

➢ **Enrolled in start-up cell of institute and registered a proprietary company in Fassi successfully.**

- Innovatively combined probiotics with chocolate to enhance nutritional value while maintaining product taste and quality.

➢ **Title: Isolation and characterization of herbicide degrading bacteria.**

- Isolated herbicide-degrading bacterial strains from contaminated soil samples using enrichment culture techniques.
- Characterized bacterial isolates through morphological, biochemical, and molecular analysis to identify herbicide-degrading capabilities.
- Optimized environmental conditions to enhance the degradation efficiency of the isolated bacteria.
- Conducted degradation assays to measure the breakdown of specific herbicides and their by-products.
- Presented the project at the *International Conference on New Horizons in Life Sciences 2023*, earning recognition and securing a rank.

▪ Trainings

1. **Internship Trainee, Gokul Dudh Sangh, Kolhapur**. Conducted microbiological quality testing of dairy products.
2. **Internship Trainee, Masters Lab, Kaneri, Kolhapur**.

Gained hands-on experience in molecular diagnostics and microbiology techniques.

3. **Internship Trainee, High Laboratories Corporation, Sangli.**

Assisted in routine laboratory operations and analytical processes.

4. **Internship Trainee, Embio Limited, Mahad, Raigad.**

Gained hand on experience in routine industry work and assigned two special projects.

Additional Courses

- MS-CIT
- GCC-TBC TYPING: SPEED 30 WPM
- PYTHON LANGUAGE
- BIOPYTHON (Ongoing On UDMEY)
- STATISTICS AND BIOSTASTICS DATA ANALYSIS (Ongoing On UDMEY)

Technical Skills

Microbiological and Biotechnological Techniques:

- Isolation, purification, and characterization of microorganisms
- Maintenance of pure bacterial cultures under controlled laboratory conditions.
- Probiotic formulation and optimization for food products.
- Microbial degradation assays for environmental contaminants.
- Application of molecular biology techniques, including DNA extraction and characterization.
- Fungal morphology studies and antifungal assays.

Biochemical techniques:

- Chromatographic techniques–Size Exclusion, Ion Exchange, Protein Purification.

Molecular Biology and Recombinant DNA techniques:

- Genomic DNA extraction, Plasmid Isolation, Agarose gel electrophoresis, SDS_PAGE, Bacterial Transformation, DNA Ligation etc.

Fermentation Technology:

- Lab scale and Pilot scale Fermentation techniques.

Bioinformatics Tools and Software's:

- BLAST, TreeView, UniProt, SwissProt, CLUSTALW, PAM, BLOSUM, RasMol, PyMOL, Molecular Modelling and Docking.

Languages

- English, Hindi and Marathi

Workshops and Conferences

- Presented a research project at the International Conference on "New Horizons in Life Sciences 2023".
- Participated in a one-day hands-on workshop on Molecular Biology Techniques at Bioera.
- Attended a two-day workshop on Vaccine Technology by Edufabrica.
- MS-DEED Workshop on Critical Thinking in STEM (collaboration with IISER Pune)

Honors and Awards

- 1st Rank in entire M.Sc. Biotechnology
- 2nd Rank in B. Sc Industrial Microbiology entire.

Publications

- Abstract on the *Isolation and Characterization of Herbicide-Degrading Bacteria*, published in the Journal of the International Conference.
- Book chapter on *Bioactive Compounds and Therapeutic Uses of Terminalia Arjuna and Terminalia Chebula* (in Book - Phytomedicine Innovations: The Future of Plant – Based Therapies by Dr. Priya Trivedi).

References

- **Dr. Jay Chavan**

Head of Department of Biotechnology, YCIS, Satara

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- **Dr. Pallavi Mandave**

Co-ordinator, YCIS, Satara

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