

# NAVA BHARATI MANICKAM

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## EDUCATION

**Northeastern University, Boston, Massachusetts**

**Expected May 2026**

*Master of Science (M.S.) in Biotechnology*

**GPA: 3.91/4.00**

Relevant courses: Molecular Approaches Biotech, Protein Principles in Biotech, Foundations in Biotechnology

**Manipal Institute of Technology, Manipal, Karnataka, India**

**Oct. 2020 - Jul. 2024**

*Bachelor of Technology (B.Tech.) in Biotechnology | Minors in Pharmaceutical Biotechnology*

**GPA: 8.17/10.00**

Relevant courses: Biopharmaceutical Engineering, Genomics and Proteomics, Downstream Processes

## WORK EXPERIENCE

**Research Assistant, Department of Engineering Technology, University of Houston, Texas, USA**

**Jan. 2024 - Jun. 2024**

- Worked on the expression of recombinant Protein L in *E. coli* using bioreactor and employing purification strategies to investigate its binding efficacy for enhancing therapeutic applications.
- Purified the protein produced using affinity chromatography techniques like Ni-NTA and IgG Sepharose with protein quantification analysis using BCA assay, SDS-PAGE, and MALDI-ToF.

**Research & Development Intern - Cell Culture Lab, Biocon Biologics Ltd., Bangalore, India**

**Jun. 2023 - Jul. 2023**

- Trained in cell culture techniques for upstream processing of protein production associated with monoclonal antibodies and biosimilars production.
- Developed mammalian cell lines expressing monoclonal antibody IgG1 for carrying out inoculum expansion in shake flask.

**Research & Development Trainee, BPD, Syngene International Limited, Bangalore, India**

**Jan. 2023 - Feb. 2023**

- Observed laboratory workflows in analytical development and downstream processing units of biopharmaceutical development.
- Carried out literature review on compounds and analytical procedures employed in the pharmaceutical industry.

## TECHNICAL SKILLS

**Laboratory Techniques:** Culturing of suspension/adherent cell lines, aseptic cell culture practices, media preparation, PCR, gel electrophoresis, DNA extraction, SDS-PAGE, restriction-digestion & ligation of DNA, competent cell preparation, inoculum expansion, BCA assay, plasmid isolation, bioreactor assembly/operation, affinity chromatography, Bradford assay

**Handling Instruments:** Vi-Cell XR, haemocytometer, pipette, electronic pipette controller, multichannel pipette, centrifuge, spectrophotometer, inverted phase contrast microscope, pH meter, compound microscope, biosafety cabinet, CO2 incubator, osmometer, bench-top bioreactor, AKTA purifier

**Additional Tools:** MS Word, MS Excel, MS PowerPoint, Canva

## ACADEMIC PROJECTS

**AMPifin, iGEM MIT\_MAHE, Manipal BioMachines, Manipal Institute of Technology, Manipal, India**

**Jan. 2022 - May 2023**

- Supervised integrated human practices by hosting webinars, meetings, field visits, and interactions with 14 different stakeholders associated with the project, and carried out research & documentation for the project wiki page.
- Conducted collaborations, public relations, community outreach/engagement, and partnership initiatives with five other iGEM teams, and participated in the project presentation in the International Genetically Engineered Machine (iGEM) Giant Jamboree held in Paris, France as a part of iGEM Team MIT\_MAHE.
- Secured the gold medal with five special award nominations - Best Food & Nutrition Project, Best Software Tool, Best Wiki, Best Education, and Best Presentation in the iGEM Giant Jamboree Competition 2022.

## PUBLICATIONS

- Bacterial diseases in marine fish species: current trends and future prospects in disease management.

**Sept. 2023**

*World Journal of Microbiology and Biotechnology*, 39(11). <https://doi.org/10.1007/s11274-023-03755-5>

## LEADERSHIP

**Editor-in-Chief & Publicity Head, Institution of Engineers - Biotechnology, Manipal Institute of Technology**

**Jan. 2023 - Nov. 2023**

- Directed the BIOBUZZ Magazine publication in 2023 by actively involving volunteers from the Department of Biotechnology, Manipal Institute of Technology, Manipal.
- Contributed to facilitating the Publicity and Organization of Events conducted in IE-Bt across the university.

**Head of Human Practices, Manipal BioMachines, Major Student Project, Manipal Institute of Technology**

**Jun. 2022 - May 2023**

- Led Integrated Human Practices, Research & Documentation for the project wiki page, Collaborations, Community Engagement, Public Relations & Outreach for the “AMPifin” project.
- Involved in Project Management and facilitated Logistics & Planning for the team, including visa and travel arrangements for 15 team members.
- Mentored and trained junior team members in the Human Practices division for upcoming responsibilities.

## VOLUNTEER EXPERIENCE

**iGEMx Conclave, International Genetically Engineered Machine (iGEM) Community Project**

**Jun. 2023 - Jun. 2024**

- Worked as a Project Member in hosting talks by leading researchers enabling introduction to recent fields which come under the broad domain of synthetic biology.