Prisha Tanda

Masters in Biological Sciences · Minor in Science Education
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Profile

An enthusiastic Biological Sciences graduate seeking opportunities to make a lasting research impact. My Master's thesis in Molecular biology builds upon a foundation of diverse experiences across multiple subfields, equipping me with a versatile skillset and a deep appreciation for the complexities of biological systems. I am passionate about applying my creativity and hard work to solve challenging scientific problems. .

Educational Qualifications

Degree	Year	Institution/Board	CGPA/%
BS-MS Dual Degree	2025	Indian Institute of Science Education and Research Mohali	8.1/10
High School	2020	Central Board of Secondary Education	86%

Research Projects

- **Chromatin Dynamics and Chromosome Architecture lab** Sep '24- Feb '25
  Dr. Pascal Bernard, LBMC, École normale supérieure de Lyon, France
  - For this internship I was selected for the BIOSANTEX internship program, a distinguished Franco-Indian exchange initiative in life sciences. This program facilitates collaborative research and interdisciplinary projects between leading institutions in India and France, offering an exceptional platform for academic and cultural exchange.
  - Investigated the mechanistic link between DNA replication dynamics and condensin-mediated chromosome condensation in Schizosaccharomyces pombe.
  - Engineered 12 fission yeast strains with targeted genotypes to detect replication-dependent condensin localization/activity.
  - Utilized the fluorescence microscopy and chromosome spreading to analyze mitotic chromosome architecture defects in replication-compromised strains, and FACS to synchronize cell cycles and correlate replication timing with condensin recruitment kinetics.
  - Validated genotypic modifications via PCR sequencing and monitored protein expression changes using Western blotting.
- **Nanotherapeutics lab** May '23 - Oct '23
  Dr. Surajit Karmakar, Institute of Nanoscience and Technology, Mohali, India
  - Synthesized and characterized HSA nanoparticles for targeted drug delivery to neuroblastoma cell lines.
  - Applied spectroscopic techniques (TEM, DLS, UV-Vis) to characterize nanoparticle size, morphology, and drug encapsulation efficiency.
  - Gained knowledge about animal tissue culture to assess drug efficacy and cytotoxicity.
  - Gained interdisciplinary expertise in nanoparticle synthesis, drug delivery strategies, spectroscopy, and animal cell culture methods.
- **Diabetic Vascular Complications Lab** Oct '22- Mar '23
  Dr. Sadhan Das, Indian Institute of Science Education and Research, Mohali
  - Conducted a literature survey on epigenetic mechanisms linked to diabetic vascular complications.
  - Worked on epigenetic mechanisms, specifically the long non-coding(lnc) RNAs regulating wound healing in diabetic conditions.
  - Utilized web-based tools like the UCSC Genome Browser and GTEx to analyze gene expression patterns of relevant genes.
- **Tumor microenvironment lab** May '22 – Jul '22
  Dr. Sharath Chandra, Advanced Centre for Treatment, Research and Education in Cancer, Navi Mumbai
  - Conducted assays using lung and pancreatic cancer cell lines to investigate the impact of the tumor microenvironment on cancer cell behavior.
  - Applied a range of molecular biology techniques, including Western blotting, RT-PCR, RNA isolation, DNA isolation, and immunofluorescence.

- Performed an extensive literature review to understand the role of the tumor microenvironment in cancer progression and drug resistance.

- **Environmental Electro microbiology and Biotechnology (EEMB) Lab** May '21 - Aug '21
  Dr. Sunil A. Patil, Indian Institute of Science Education and Research, Mohali,India
  - Studied and characterized microbial communities capable of extracellular electron transfer (EET) from diverse environmental samples.
  - Assessed the potential of EET microorganisms for bioremediation, biofuel production, and other biotechnological applications.

Laboratory and Technical Skills

- **Molecular Biology :** Western Blotting, PCR, RT-PCR, ELISA, Molecular Cloning, DNA/RNA Isolation, Immunofluorescence, Immunohistochemistry (IHC), Protein Purification
- **Cell Biology:** Cell Culture (Basics), FACS, Microscopy, Fluorescence Microscopy, Chromosome spreading
- **Bioinformatics :** UCSC Genome Browser, GTEx, Galaxy (RNA-Seq), RSAT, Augustus
- **Analytical Techniques :** TEM, FE-SEM, XRD, FTIR, UV-Vis Spectroscopy, DLS, Zeta Potential, CD

Talks and Presentations

- Delivered and presented research articles during the 7th and 8th semesters of the university and was awarded "Best Presenter" for outstanding performance.
- Participated in a prestigious three-day workshop hosted by AIIMS Delhi, engaging students from various colleges. Acquired advanced knowledge of vaccine technology and its application in combating the COVID-19 pandemic. Gained exposure to innovative concepts in health fortification, wellness, and disease prevention.

Volunteering and Leadership Roles

- Video graphed and edited IISER Mohali iGEM 2022 team's promotional event for the topic – NEURASYN.
- Organizing and developing innovative online methods for the engaging audience and Ph.D. candidates for successful poster presentation event during IISER Mohali's Darwin week.
- Organized and managed TREX, 2022: a state- level startup event organised at the university.
- Organized cultural events in the annual fest of IISER Mohali, INSOMNIA
- Hosted and anchored TBI (Technology Business Incubator) IISER Mohali event in association with Indian Oil and Hindustan Times