B E Vardhamann

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Education

UM-DAE Centre for Excellence in Basic Sciences 2019 August – Present
Intergated M.Sc. in Biology, CGPA till sem. 9- 8.17 *Mumbai, India*

Miranda Composite PU College 2017 – 2019
12th PUC *Bengaluru, India*

Kendriya Vidyalaya DRDO 2017
10th SSC *Bengaluru, India*

Research Experience

Master Thesis June, 2023 – December, 2023
Indian Institute of Technology, Bombay *Mumbai, India*

- Understanding Cellular Movement: Exploring Migration Patterns
- Performed deeper analysis of data from previous Viscotaxis (loss moduli gradients) experiments, to look for patterns in cellular migration, and to improve methods to define and categorize types of migration
- Under guidance of Prof. Abhijit Majumder.

Device development March, 2022 – October, 2022
UM-DAE Centre for Excellence in Basic Sciences *Mumbai, India*

- Developed a low cost portable device to detect amounts of curcuminoids in turmeric samples through colorimetry using off shelf parts
- Under guidance of Prof. Indira Priyadarsini.
- Patent status - Second examination, Indian patent no. - 202221063957

Semester Project February, 2024 – May, 2024
UM-DAE Centre for Excellence in Basic Sciences *Mumbai, India*

- Improving the performance of a CNC machine for fabricating PCB
- Under guidance of Prof. R Nagarajan.
- Semester X elective project

Semester Project January, 2023 – April, 2023
UM-DAE Centre for Excellence in Basic Sciences *Mumbai, India*

- Towards detecting the presence of RNA in the extracellular vesicles from *Fusarium oxysporum*
- Explored the possibility of microRNA based gene regulation in interactions between banana plants and fungi in panama disease infections
- Under guidance of Prof. Siddhesh Ghag.
- A part of Semester VIII in house project.

Literature review September, 2022 – December, 2022
UM-DAE Centre for Excellence in Basic Sciences *Mumbai, India*

- Non-enzymatic ways of Oxidative Stress Rescue in Cyanobacteria
- Under guidance of Prof. S K Apte.
- A part of Semester VII in house project.

Awards & Honors

KVPY scholar SX2018 - Rank 797
Department of Science and Technology, India *2019 - present*

Dr. R. P. Shenoy Award for Excellence in Science *2015 - 2017*

On Campus Involvement

Student committee *2021 – 2022*

Science club tech team *2020 – 2024*

- Organized multiple sessions featuring researchers at various career stages to discuss their work and career journeys. Find more about our sessions at cbsscienceclub.github.io .

E-game club member *2019 – 2022*

Movie club *2021 – 2022*

Organized Workshops

- Linux Party (why using FOSS contributes to democratization of science, basics of linux and command line programs)
- 3D printing workshop (basics of FDM, designing for 3d printing, basics of CAD

Specialized Skills

Model systems handled : *C. elegans, D. rerio, F. oxysporum, N. tabacum(briefly), E. coli,* Human cancer cell lines (MFC-7, MDAMB-231), *D. melanogastor(breifly)*
Techniques : PCR(rt, colony), ELISA, Fluorescence Microscopy, TEM/SEM sample preparation and microtomy, Gel electrophoresis(DNA and Protein), Chromatography, Basic bioinformatics, HPLC-MS(learning)
Programming Languages : Python, R, Fortran, Javascript, Latex
Spoken languages : English, Tamil, Hindi, Kannada
General : CAD, 3D printing, microcontroller programming, CAM, laser PCB ethching/ PCB milling

Other Interests

Maker : Developing feasible and frugal solutions to everyday problems.
Reading : Hard sci-fi, Fantasy, Philosophy