

**Invitation to M.Tech. Thesis Defense of Padmasini R: April 27, 2023 (Thursday): 12:00 Noon to 01:00 PM IST**

In Partial Fulfillment of the Requirements for the Degree of

**M.Tech. CB**

**Padmasini R (MT20330)**

Will defend her thesis

**Title: “Identification of yeast strains for anit-cancer drug screening”**

IIIT-D Faculty and Students are invited

**Date: April 27, 2023 (Thursday)
Time:** **12:00 Noon to 01:00 PM**

**Meeting Link:** [**https://meet.google.com/nhu-aufb-hex**](https://meet.google.com/nhu-aufb-hex)

**Examiner: Internal:   N Arul Murugan**

**~~External~~/Internal: Jaspreet Kaur Dhanjal**

**Advisor: Gaurav Ahuja**

**Co-Advisor NA**

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**Abstract**

The cellular mechanisms in yeast are highly conserved with humans making it an inexpensive, rapid and easier model organism to work with. Cell cycle checkpoints, DNA repair pathways and CDKs are well studied in yeast and tweaking them have been reported to mimic cancer phenotypes. These mutant strains of yeast mimicking cancer phenotypes are used for studying anticancer activity of drugs and their interactions in the genome. Presence of numerous distinct human tumor cell lines makes drug screening exhaustive and expensive. In search of a universal cell line substituting most of the cancer cell lines, we found a yeast mutant strain that could potentially replace anticancer drug studies done on NCI60 human tumor cell lines. Yeast being non-infectious makes it a suitable model organism for screening antifungal compounds. The growth inhibition studies of several drugs in yeast mutant strains from the National Cancer Institute website is a wonderful reservoir of datasets to be analyzed. Artificial Intelligence could be effectively used to predict the growth inhibition patterns, anticancer activity, antifungal activity, genetic targets of the drug and so on. We have built a machine learning model that could potentially identify antifungal compounds from its chemical space. Our ML model is novel as it predicts antifungal compounds requiring fewer concentration (less half-maximal Inhibitory Concentration-IC50) in effectively inhibiting the growth.