SBV887 project work towards assessment in the course
Semester II, 2022-2023

Total marks: 70   Due by: 12/05/2023

Guidelines of the project

1. Investigate a neurodegenerative or neuropsychiatric disorder of your choice and download relevant RNAseq transcriptomic data from GEO public database for the disorder. You may choose a cell line, tissue or autopsy tissue derived RNAseq data (bulk).

2. Perform RNAseq analysis on the control vs disease condition datasets and predict a list of differentially expressed genes which might underlie the pathogenesis or aetiology of the disorder.

3. Display your differentially expressed genes using plots (using CummRBund or similar) and identify statistically relevant gene products. Put forth a hypothesis about a class of protein which you think might be important in the disorder.

4. Choose one protein from the list and perform thorough structural analyses using molecular modeling and predict potential ligand binding to the active sites of the protein by docking studies.

5. Perform a network analysis for the protein of interest using a web server and predict at least 10 key proteins which may be interacting with your protein.

You will be assessed based on your work, effort, results, and presentation in form of the final report. Plagiarism of any form or any malpractice will simply result in the student failing the course.