

Undergraduate / Masters Internship Project Opportunity

Project title: *Development of automated behavioural classifiers for social interactions in *Drosophila melanogaster*.*

Fruit flies have been shown to form social aggregations, engage in collective behaviour and exhibit social learning, suggesting that they are sensitive to social cues and can respond to them in complex ways. However, very little is known about how these interactions are brought about. While manual observations on limited video datasets suggest that flies engage in many alternate forms of physical contact and that they increase frequency of self-grooming behaviour in the presence of conspecifics, to test if such interactions mediate social behaviours in the fly, it is essential to systematically quantify these interactions and identify their behavioural contexts.

This project seeks to develop automated behavioural classifiers for such interactions to enable collection of large-scale behavioural data from videos of fly groups. It will involve a multi-step process, manual identification and annotation of a set of pre-defined behaviours in videos which will then be used as training data sets for machine-learning based algorithms.

Proficiency in coding (preferably MATLAB) and an ability to troubleshoot is a pre-requisite. Although familiarity with animal behavioural research or fly biology is not essential, it would be a plus.

Undergraduate or Master's students who wish to conduct their dissertation projects during this year, preferably (Jan to May 2023) would be welcome to contact us at sheeba@jncasr.ac.in.