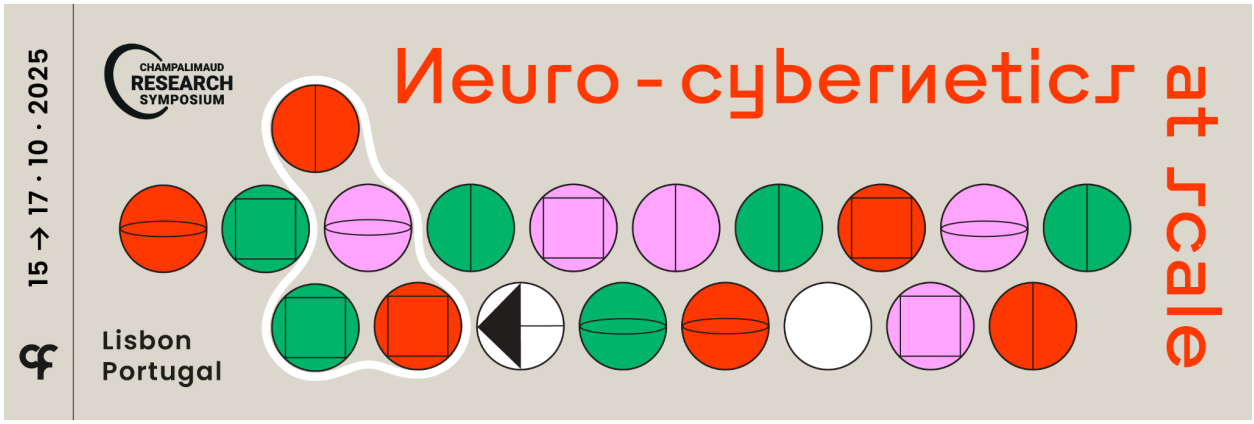

Survival of Self vs Species: a Fly's Perspective

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Animals in the wild are often exposed to different stimuli at the same time, leading to behavioral prioritizations. One such context is how reproductive decisions change in presence of approaching threats. Our study aims to address this question of behavioral hierarchy between defensive responses (ie., choosing one's own safety) versus egg laying (ie, the final step in species propagation) using Drosophila melanogaster. We created this naturalistic context in our lab by building a recording setup with sufficient resolution to automatically characterize both egg laying and defensive responses, while recording multiple freely-moving flies at a time. The subsequent assays revealed an interesting dynamic between both the behaviors – they can co-occur within a short temporal window, but it leads to modifications in certain characteristics of each behavior, to variable extents. Here, we will be presenting this behavioral data along with some preliminary analysis to uncover the mechanistic details.

behavioral hierarchy, innate behavior, naturalistic setting, Drosophila, reproduction