



The University of Hong Kong
School of Biological Sciences

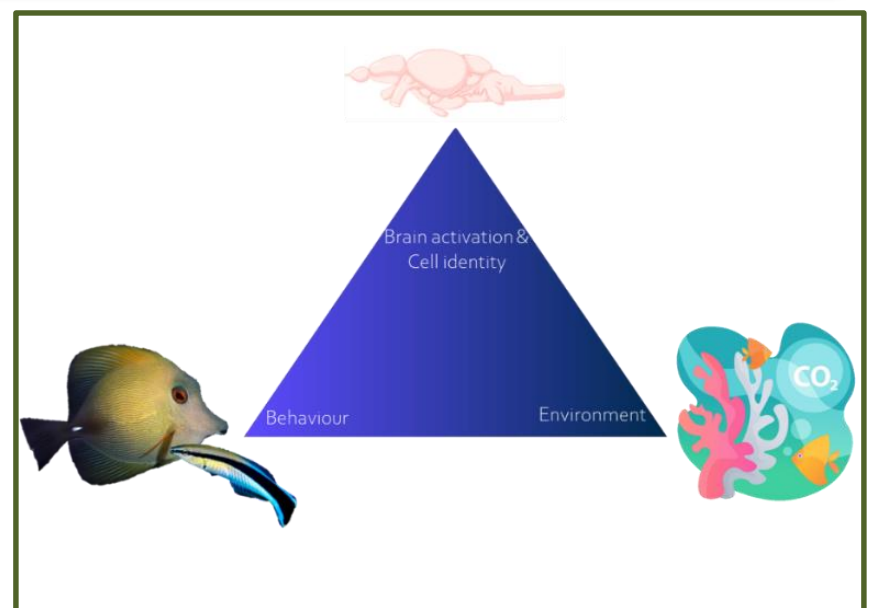
**Qualifying
Seminar**

Neuromolecular and behavioural responses of fish to changing environments

Date: 31 January 2024 (Wed)

Time: 0900

Venue: KBSB 6N-11



About the speaker:

Debora Desantis is a 2nd year PhD student in the Molecular Ecology and Evolution Lab, working under the supervision of Dr. Celia Schunter. Her PhD focuses on utilizing different molecular tools to gain insights into the connection between the brain, behaviour and the environment of fish.

Abstract:

Behaviour plays a crucial role in shaping both individual and population dynamics, influencing the ecosystem integrity. The brain and the nervous system act as the central machinery for sensory perception, signal integration, and behavioural response. However, our knowledge of the intricate connection between variations in brain characteristics, changes in cell populations, and their role in generating and influencing behaviour is limited for complex behaviours. How these mechanisms are affected by the changing social and physical environment also remains to be answered.

My PhD research aims to explore and enhance our understanding of the relationship between brain characteristics, behaviour, and changing environments. My research will focus on investigating neural activation in specific brain regions by targeting the phosphorylation of the S6 ribosomal protein in response to conspecific and self-recognition behaviour. Then I will examine the cell landscape and molecular drivers involved in regulating self-recognition behaviour. To connect these findings to the physical environment, my research will investigate the impact of ocean acidification on the behaviour and brain of the cleaner wrasse *Labroides dimidiatus*. Lastly, to understand the long-lasting effects of direct anthropogenic impacts on fish brains, I will use a multigenerational exposure experiment in the marine model species *Oryzias melastigma*.

