



Research Theme: Neuroscience and Ecology
PhD Research Project Title: Functional neuroendocrinology of predation.
Scholarship category (Please indicate the source of funding for this project): (a) SBS Research Student Scholarship (for SBS faculty only)
Principal Investigator/Supervisor: Ajai Vyas
Co-supervisor/ Collaborator(s) (if any): None
<p style="text-align: center;">Project Description</p> <p>a) Background:</p> <p>The concept of predation is often seen differently in neuroscience and ecology. For an ecologist, predation is a consumptive process: prey encounters predators at a certain probability and gets captured at another probability. Once a prey is eaten, its population drops by one and predators gets a certain amount of energy. For a neuroscientist, predation is also a very non-consumptive process. Prey encounters olfactory or visual cues of predators before they face a predator, which then evoke fear through conserved brain pathways. This reduces probability of capture but increase anxiety and associated emotional costs.</p> <p>b) Proposed work:</p> <p>In this project, we will attempt to synthesize these two views across molecules, hormones, neuroanatomy and ecological communities. We will use tractable models under field settings to investigate reciprocal relationships between genetics, molecular biology, neuroanatomy, hormones and ecological interactions.</p> <p>c) Preferred skills:</p> <p>Ability to read and analyze scientific literature and capacity of conceptual synthesis.</p>
<p style="text-align: center;">Supervisor contact:</p> <p>If you have questions regarding this project, please email the Principal Investigator: avyas@ntu.edu.sg</p>
<p style="text-align: center;">SBS contact and how to apply:</p> <p>Associate Chair-Biological Sciences (Graduate Studies): AC-SBS-GS@ntu.edu.sg</p>



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