

Project Title	Going out on a limb: How do insects actively lose their limbs
Supervisor	Dr David Labonte
Theme(s)	Biomechanics and Mechanobiology Computational and Theoretical Modelling
Project Description	<p>Many arthropods have evolved the ability to lose their limbs as a defensive strategy against predators. Although this strategy – called autotomy – has been extensively studied in reptiles, relatively little is known about the underlying mechanisms for autotomy in insects.</p> <p>In this project, you will be responsible for building a set-up to record this process in 3D and to analyse the kinematics of autotomy using several different species of insects. More specifically, you will adapt an existing design that can accommodate multiple cameras to capture the movements of the insect as it autotomises, and then use DeepLabCut to reconstruct these movements in 3D for analysis.</p> <p>A background in robotics or electronics is required, and an introductory-level understanding of machine learning is desirable.</p>