



MIE498H1: Research Thesis 2025-2026

Supervisor	Pakpong Chirarattananon
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Number of Positions	1
Open to	Mechanical Engineering Students
Term Offered	Full-year
Research Area	Robotics
Research Topic	Foldable-Wing Micro Air Vehicle with Compliant Landing Gear for Vertical Landings

Project Description

This research project focuses on developing a sub-200g fixed-wing micro aircraft with a unique capability: vertical landing achieved through foldable wings and a compliant, elastic-band-based landing leg. Traditional fixed-wing MAVs require runway space for safe landing, but by integrating a wing-folding mechanism and springy landing gear, this project seeks to enable vertical descent and energy-absorbing touchdown. The work will involve aerodynamic analysis, mechanical design, and prototyping of both the wing-folding system and the compliant gear, with the goal of demonstrating robust, damage-free landings in tight spaces.

Additional Information	N/A
Application Instructions	Please submit CV and unofficial transcript to p.chirarattananon@utoronto.ca