Mathematical model and simulation tools for design of MAVs

Objectives

- Develop component technologies needed to engineer MAVs with a performance that matches that of insects.
- Incorporate biological aspects of insects’ materials and joints in mathematical models and simulation tools for MAV design.

Research Plan

- T1: Design feedback strategy
- T2: Develop specifications for control and actuation
- T3: Model electrostatic actuation
- T4: Assess and model biological properties in design of controls and actuation

Team and Collaborations

- Advisor: Hajj
- VT: Nayfeh, Socha and Dudek
- AFRL: Beran, Parker, Snyder
- Students: TBD

Timeline

- T1: FY10-FY11
- T2: FY10-FY11
- T3: FY10-FY13
- T4: FY11-FY14