Undergrad Research Opportunity with ASDL: AIAA Missile Design Competition
Competition Overview

• AIAA Graduate Team Missile Systems Design Competition
  • Intercollegiate design competition sponsored by the American Institute of Aeronautics and Astronautics (AIAA)
  • A Request For Proposal (RPF) is published detailing requirements and objectives for a missile system design

2021 Competition
Design a shoulder-launched anti-UAV missile capable of dynamic endgame maneuvers.

RFP: Shoulder-Launched Anti-UAV Missile System
What are we looking for?

• 4-5 Undergrads to help in the Spring of 2021 in areas of structures, stability and control, aerodynamics ++

Expectations:
• Able to dedicate ~12 working hrs/week (3 credit research hours)
• Prior knowledge/experience not required (but helpful!)
• Good communication/time-management skills

—we will schedule a brief interview/call
to get to know each other and discuss your interests←
What will you be doing?

Literature Review

- Launcher Designs
  - Shoulder launch

- Aerodynamics
  - Body and Fin design

- Stability and Control
  - Trajectory and endgame maneuvers

- Noise
  - Mitigate noise to protect operator

- Missle Configurations
  - Evaluate morph matrix

- Propulsion
  - Solid rocket motors

- Weapon System
  - Kinetic vs warhead

- Cost
  - Mitigate cost to make economical sense

Explore Design Space

3D Modeling
### Project Deliverables/Timeline

#### Deliverables:

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- Defining the problem: Nov
- Literature Review: Nov
- Concept Analysis: Dec
- Performance Assessment: Dec
- System Analysis: Jan
- Cost and Development Plan: Apr
- Final Report: May

#### Important Dates:

- **Kickoff Meeting**: 12 Nov
- **Final Semester Review**: Dec 3
- **Letter of intent**: 12 Feb
- **Final Submission**: 14 May
Experience with **Missile System Design** from beginning to end

First-hand knowledge and mentoring from a Graduate Student

Experience writing a comprehensive research paper and author a *published paper*

Split winnings with the rest of the team

1st Place: $500; 2nd Place: $250; 3rd Place: $125

If you are interested in helping, please send your resume and availability to: Tvlady3@gatech.edu