

AEROSPACE ENGINEERING AND ENGINEERING MECHANICS  
COLLEGE OF ENGINEERING AND APPLIED SCIENCE

SUMMER RESEARCH OPPORTUNITIES FOR UNDERGRADUATE students

APPLICATION DEADLINE: 02/25/2022

PROJECT TITLE: Controls, Sensors and Imaging that Improve Ground and Flying Robots Navigation

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**Project Description**

Ground robots, bio-inspired robots and flying robots (also called unmanned systems) require new developments in their controllers and sensors. This project will be focused on researching some of these sensors and possible image processing that can be used to help the controllers of the mentioned systems to have better navigation capabilities.

Sensors: there will be research projects on how heat, height, wind, among others, sensors work from both modeling point of view and real implementation point of view. The idea here is to help new controller designs, the modeling, dynamics and control lab (MDCL) has developed, but they rely strongly on sensors that provide measurements of certain physical property.

Image processing: there is a project for image processing where some experiments on new methods and advancements will be available. Some of these imaging techniques can be combined with robotic systems.