

Autonomous LPV Competition

Sponsor: Naval Surface Warfare Center (NSWC) Crane

Budget: TBD

Description:

This challenge will directly relate to one of the naval efforts in low profile vessels (LPVs). The participating universities, will receive a blue print of the boat build, a bill of material, instruction manual, a sensor package to be used on the boat to make it fully autonomous, and a financial stipend.

A brief overview this challenge: During the course of this competition, teams will be required to have their fully autonomous LPV navigate a buoy course on the water and stay within the bounds of the buoys without colliding with any of the buoys. Teams will also be required after the successful completion of the course to navigate to a certain color and sized buoy at the end of the course to demonstrate the ability to detect and classify objects. Once the LPV navigates autonomously to the correct object at the end of the course, it will need to deploy a sensor at the buoy, demonstrate that the LPV is receiving information from the deployed sensor and the communication link between the two is working successfully (but it is not a physical tether), and finally navigate to the exit point.

Note: This is the continued project from last academic year, with additional features and improvement implementations and designs.

Faculty advisors: Guoping Wang, Bin Chen

ECE Students: Four ECE students, at least one student may need to have an access to an open water such as a pond or a lake. It will be preferred if one student can get or borrow a truck/van to tow the boat with a trailer.

Notes:

1. Students working on this project must be committed to participating in the April 10 – April 12, 2024 competition.