

## **FACULTY MENTOR**

Jaffe, Jules S.

## **PROJECT TITLE**

Enabling Real-Time Video Control Underwater via an LED Communications Array

## **PROJECT DESCRIPTION**

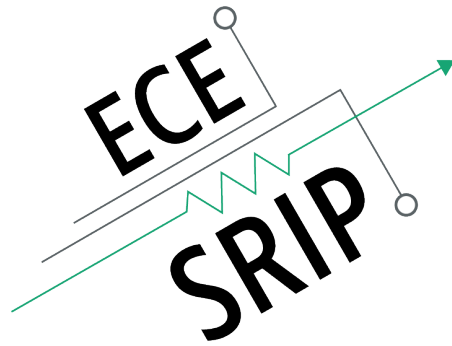
The intern will design, build, and program an LED communication array to transmit real-time HD video from an AUV to a topside controller. This array will also transmit command sequences from the topside controller to the AUV, enabling truly wireless ROV control.

## **INTERNS NEEDED**

MS (1)

## **PREREQUISITES**

Experience with electronics hardware development, LEDs, photodiodes, high speed signaling, and coding in C/C++. Familiarity with HD video encoding and compression, as well as efficient communication encoding. Experience working with communications in a noisy environment.



## **FACULTY MENTOR**

Jaffe, Jules S.

## **PROJECT TITLE**

Nano-AUV Low Cost Microscopy and Sensing

## **PROJECT DESCRIPTION**

The intern will design, build and test several enhancements to an existing Nano- AUV system, adding capabilities such as microscopy and additional sensors while keeping a small form factor and creating a repeatable design.

## **INTERNS NEEDED**

MS (1)

## **PREREQUISITES**

Experience with embedded systems design for small form factors, power electronics and battery power systems. Experience with mechanical assembly and mechanical design, especially for waterproof design and small form factor. Ability to interface with mixed signal electronics hardware and program in C/C++ or Python.