

Hybrid Aerial/Underwater RobotiC System (HAUCS) Project Overview



NRI: INT: Hybrid Aerial/Underwater RobotiC System (HAUCS) for Scalable, Adaptable Maintenance of Aquaculture Fish Farms/ Award # USDA-NIFA 2019-67022-29204/ Mar. 1, 2019 /Florida Atlantic Univ., Bing Ouyang, Paul S. Wills, Jason O. Hallstrom, and Tsung-Chow Su

Challenge:

- Huge trade deficit in seafood products: **\$14 billion/yr.**
- Fish farming is labor intensive yet has limited robotics development.

Solution

- **“Internet of Aquaculture.”**
- Autonomous Platform *integrated with underwater sensors + machine learning prediction model.*

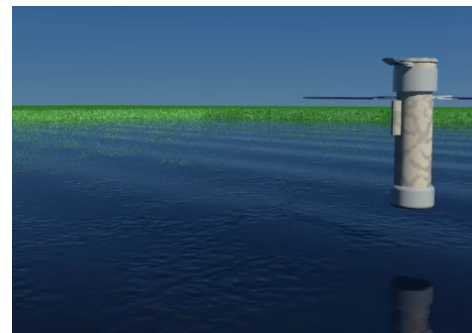
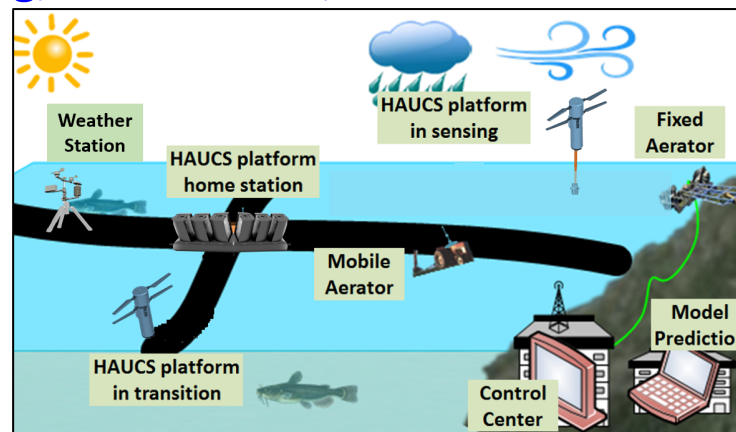


Illustration of HAUCS Platform Sensing Ops.

Scientific Impact

- Coastal zone monitoring;
- Underwater optical comm. gateway;
- Offshore aquaculture.

Broader Impact

- **\$14 billion/yr.**
- Robotic technology for the fish farming industry.
- Improving undergraduate STEM education.
- **~5x** reduction of labor and equipment cost.