Powering the Blue Economy™

OCEAN OBSERVING PRIZE

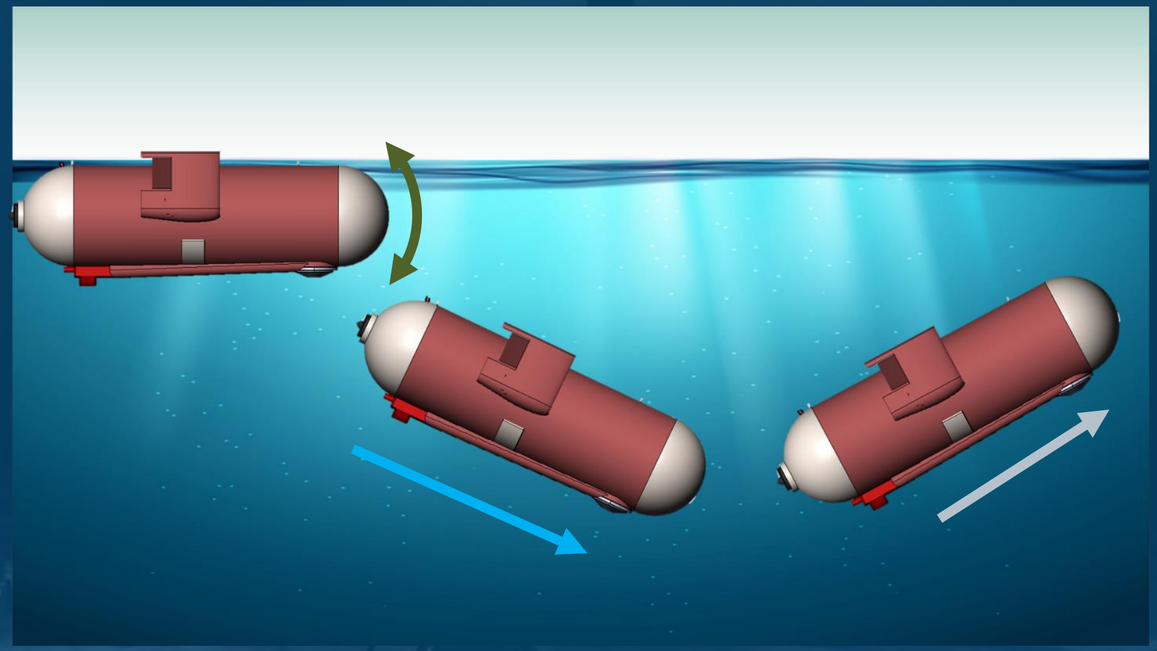
Self-Recharging AUV with SR-WEC

Description

An AUV embodies a customized Surface Riding Wave Energy Converter (SR-WEC) to achieve the self-recharge without any difficulties and problems related to multi-body approaches.

During the recharge, the AUV is designed to have 2 peaks in the pitch motion: one is pitch resonance and the other is amplification by the coupled heave resonance. The SR-WEC effectively generates the power from the sliding magnet resulting from pitch motion resonated and amplified.

After the recharge, the AUV carries out descending and ascending profiling using a buoyancy engine, wings, and rudders.



Team

Dr. HeonYong Kang, Assistant Professor
Cody Marquardt, A PhD Student
A New MS Student joining in June
A group of Undergraduate from Ocean Robotics Team joining in March
All Members are in Department of Ocean Engineering
at Texas A&M University

Dry Weight	169 kg
Max Length	1500 mm
Max Depth	30 m
Number of System Bodies	1
Total Energy Storage Capacity	800Wh
Wave Energy Conversion Method	Surface Riding WEC
Average Recharge Power	36 Watt