LITTORAL POWER SYSTEMS

# NeuralWEC: combining machine learning and model predictive control with a lightweight high-TPL multi-axis point absorber, toward a cost-disruptive wave energy capture system

$4.0 million collaborative award with U.S. Department of Energy Water Power Technologies Office (DE-EE0009957)

Timetable: selected for award January 2022

Principal Investigator: D. Duquette

Summary: The overall objective is to demonstrate that the NeuralWEC supervisory control system results in at least a significant improvement in efficiency as compared to a traditional device governed by passive damping controls, and to demonstrate these improvements in (i) complex sea states where the wave shapes and forces on the device are not known beforehand, and (ii) long-period waves, where most conventional point absorber WECs have extreme difficulty producing energy efficiently, first at laboratory scale and finally in the open sea at PacWave off the coast of Newport, OR

Team members:
- LPS
- GE Research
- Kelson Marine Co.
- Marquette University
- University of Maine
- Ballard Marine Construction