



# Wave Energy Converter Design Optimization with WecOptTool

September 27<sup>th</sup>  
9 am MT  
Via Teams

**RSVP:**

<https://www.eventbrite.com/e/wave-energy-converter-design-optimization-with-wecopttool-tickets-399516102417>

The Wave Energy Converter Design Optimization Toolbox (WecOptTool) is an open-source software for conducting optimization studies of wave energy converters (WEC) and their control strategies. The software uses a co-design (WEC & controls) approach where for each WEC design considered in the optimization, the optimal control strategy for that design is found. Practically, this is implemented as two nested optimization loops. One key feature is the use of a pseudo-spectral solution method capable of efficiently dealing with arbitrary nonlinear constraints, nonlinear dynamics, and both structured and unstructured controllers. This allows for the optimization study (e.g., to find the WEC geometry that results in the largest power capture performance) within the WEC's constraints (e.g., maximum power take-off force, maximum PTO extension, etc.).



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