BRET BOSMA

SENIOR RESEARCH ASSOCIATE I

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EXPERIENCE

2016 - Present
O.H. HINSDALE WAVE RESEARCH LABORATORY, OREGON STATE UNIVERSITY
Senior Research Associate I
Scaled physical and numerical modeling of Ocean Wave Energy Converters; Instrumentation and data acquisition for a variety of wave laboratory projects.

2015
NORTHWEST NATIONAL MARINE RENEWABLE ENERGY CENTER, OREGON STATE UNIVERSITY
U.S. DOE EERE Postdoctoral Research Fellow
Physical and numerical modeling of a wave energy converter for verification and validation of the WEC-Sim simulator code.

2014
HYDRAULICS AND MARITIME RESEARCH CENTRE, UNIVERSITY COLLEGE CORK, IRELAND
U.S. DOE EERE Postdoctoral Research Fellow
Research on the Galway Bay, Ireland 1/4 scale wave energy test site.

2010 - 2013
NORTHWEST NATIONAL MARINE RENEWABLE ENERGY CENTER
Graduate Research Assistant
Developed design guide for wave energy converter design and testing. Design, buildt and tested scaled autonomous wave energy converter.

EDUCATION

2013
PHD, ELECTRICAL ENGINEERING
Oregon State University
Dissertation: On the Design, Modeling, and Testing of Ocean Wave Energy Converters.

2008
MASTERS OF SCIENCE, ELECTRICAL ENGINEERING
California State University, Chico
Thesis: A Novel Technique for Maximum Power Operation of Photovoltaic.Arrays Using Real-time Identification.

STATEMENT

Experienced researcher in renewable energy applications most recently focused on ocean wave energy system physical and numerical modeling and testing. Skilled at design and troubleshooting of laboratory instrumentation and data acquisition systems including control.

TECHNICAL

MATLAB/Simulink
Speedgoat
Labview
Solidworks
Ansys AQWA
WAMIT
NEMOH
Rhinocerous 3D
Orcaflex
HTML/PHP/Mysql
Excel

SKILLS

Instrumentation Specialist

Extensive implementation of laboratory sensors for wave, structure, and PTO analysis of physical models.

Numerical Modeling

Complete hydrodynamic modeling from solid modeling, through boundary element method, and time domain non-linear WEC modeling.

Control System Design

WEC control system design, modeling, and implementation.