

E201/ME160 UC Berkeley Ocean Engineering Seminar

SPRING 2024

Accelerating Floating Offshore Wind with Technical Innovations

By

Alexia Aubault

CTO, Ocergy Inc., CA, USA

Friday, March 15, 2024, Room: 3110, Etcheverry Hall

2:30- 4:00 PM

Abstract:

The floating offshore wind industry started in the mid-2000s, bringing together know-how from the offshore industry and from the fixed wind industry. After a decade demonstrating the viability of various concepts, the industry has reached a crossroad: to achieve commercialization, including planned developments in California, cost must drop drastically, and worldwide construction capacity must increase several folds. Technical innovations play a major role in making this possible, but to be effective, they need to account for the entire lifecycle of the windfarms, including construction and maintenance needs. Deploying technology in a harsh ocean environment also requires careful planning and risk management.

This presentation will demonstrate how Ocergy thoroughly seeks out, qualifies and deploys structural technologies on a large floating platform, its flagship foundation for wind turbine, "OCG-Wind." This will be showcased with the example of the use of bolted connections, which have not been used before in offshore structures. The advantages of the approach for US deployments were studied during the DOE FLOWIN prize preparation, which Ocergy received in 2023. It will further show how data collection and data management – i.e. data science – will be essential in scaling up floating offshore wind energy production in a cost-efficient manner, and in accelerating the deployment of technology such as bolted connections.

Ocergy has developed a site assessment buoy, "OCG-Data", which can collect, process and transmit large thrave of environmental, biodiversity and physical metocean data. A pilot was successfully deployed and has been operating in the Mediterranean Sea since February 2023. This buoy was also used to validate some key aspects of the deployment of innovative industrialized solutions.

Speaker Biography:

Alexia Aubault has 18 years of experience in the Offshore Wind sector, specializing in the emerging field of *floating wind technology*. As a Naval Architect and Offshore Engineer with an M.S. from U.C. Berkeley, she embarked on her journey in offshore renewable energy before it became a thriving industry in the United States. Throughout her career, she actively engaged in a spectrum of projects, spanning from design and execution to operational phases. During her tenure as the Vice President of Engineering at Principle Power, Inc. (PPI), Alexia played a pivotal role in driving the industry toward commercialization. Now, as a founding member of Ocergy, she is dedicated to advancing offshore renewables by promoting smart products that reduce costs and foster industrialization. Alexia has also made significant contributions to two books addressing the topics of energy and offshore structures. In the fall of 2023, The Society of Naval Architects and Marine Engineers (SNAME) awarded Alexia the prestigious Blakely Smith Gold Medal for Outstanding Accomplishment in Ocean Engineering.