

Marit Irene Kvittem

Home country: Norway
Year of birth: 1982
Master's degree: Structural engineering
University: Norwegian University of Science and Technology
Graduation year: 2007
Research group: Centre for Ships and Ocean Structures
Supervisor: Torgeir Moan
PhD start: Fall 2009
Phone: 74595529
E-mail: marit.irene.kvittem@ntnu.no
Home page: <http://www.cesos.ntnu.no/people/phds/13-phds/61-marit>



Topic: Life cycle criteria and optimization of floating structures and mooring systems

Proposed concepts for offshore wind turbines for deep waters consist in general of a horizontal axis wind turbine mounted on a floating, moored structure. From a structural engineering point of view the main challenges for these concepts are large and fluctuating loads from wind, waves, current and rotor. These must be predicted as accurately as possible to balance material, installation and inspection costs.

Since there is limited experience with floating wind turbines, no design codes for floating wind turbines exist today. A design code must specify important load cases, analysis sample size, safety factors etc. which must be based on experience from model tests, prototypes and numerical simulations.

In this project the focus is on testing simplified design approaches and identifying important load cases within the life cycle of a floating wind turbine from after installation to decommissioning. The studies are done through numerical simulations of wind turbines on catenary moored semi-submersible platforms.