



Maritime DTU  
Center for Maritime Activities

## Seakeeping of windfarm installation vessel during jacking operation

Type of project: MSc or BSc

### Project description:

Offshore windfarm installation vessels are positioned close to wind turbine foundations and elevated to a safe configuration. However, right before elevating out of the water, the installation vessel operates in sea states with up to 2.5m significant wave height and with their legs near the seabed. The motions of the jack-up vessel during such operations are critical and need to be analysed for various wave heights and wave periods.

Swire Blue Ocean operates two of the largest wind turbines installation vessel working in the North Sea, and is looking into optimizing such operations.

Interested students are invited to get involved with Swire Blue Ocean, and with the support of DTU expertise, in the better evaluation of this hydrodynamic loading of our jack-up vessels.

Possible project topics include: *seakeeping of windfarm installation vessels, Diffraction Radiation analysis, Evaluation of Morison forces on jack-up legs, evaluation of ship motions and accelerations, and Definition of operating criteria for windfarm installation vessel.*

### Contact person

Quentin Meissonnier  
Swire Blue Ocean  
[quentin.meissonnier@swireblueocean.com](mailto:quentin.meissonnier@swireblueocean.com)

Harry Bingham  
DTU Mechanical Engineering  
[hbb@mek.dtu.dk](mailto:hbb@mek.dtu.dk)

