



**Trinity College Dublin**  
Coláiste na Tríonóide, Baile Átha Cliath  
The University of Dublin

**Fully funded 4 year PhD available at Trinity College Dublin,  
Climate Sciences, Schools of Natural and Engineering Sciences.  
“Future Marine Food webs in Offshore Wind Farms”**

Offshore structures are hot spots of marine biodiversity, often resulting in reef-like conditions. Increasingly, offshore wind farms are also being considered in the multi-use framework, whereby low trophic aquaculture of native species such as oysters and seaweeds is increasingly relevant in terms of future food security and climate and biodiversity resilience.

In this PhD. a food web of the future will be conceptualized and modeled around an offshore wind farm, in Irish waters. The potential use of Offshore Structures to upgrade ecosystems and mitigate overall loss of key species in decimated shelf seas will be examined. The carrying capacity in a warmer and more productive ocean in relation to trophic interactions and organism traits and function (filter feeders, fish and macro algae) will be hypothesized and tested .

The successful candidate will develop both static and nudged food web models based on ENA and ERSEM, founded on known and hypothesized data. This will be linked to current food web models both in Irish waters and in the North Sea, for comparative purposes.

This scholarship includes:

- EU Fees for a PhD in Science at TCD for 4 years
- An additional stipend: €25,000 annually (for 4 years)

You must be able to work independently, be hard working and solution-oriented and willing to participate fully within a dynamic and friendly team. You will interact closely with experts and peers in the Schools of Engineering and Natural Sciences. You will be expected to travel to colleagues in Ireland, the UK and spend some time in Germany working with experts on Food web Modeling in the North Sea.

The successful candidate will hold an Honours Degree (2.1 or higher) in a holistic discipline e.g. Geography, Ecosystem/ Environmental, Sciences or environmental engineering. An MSc or equivalent research experience, with a modelling background, knowledge of ENA or related models would be very advantageous. An interest in changing Food webs and marine ecosystems and an understanding of the impacts of climate change on coastal seas and ecosystems will be useful.

A willingness to communicate, set up discussion groups with peers, and sharing of expertise and help with modeling workshops for students, would be expected.

**Applications should comprise of a single PDF Document that contains the following:**

A cover letter: Your letter should clearly set out your suitability and motivation for this PhD with reference to your past relevant experience and achievements.

A CV that includes your relevant experience, undergraduate results, postgraduate results (if applicable), any relevant publications and contact information for two academic referees.

Please send applications by 15<sup>th</sup> of December 2024 to: Professor of Climate Science, Karen Wiltshire, [Karen.Wiltshire@tcd.ie](mailto:Karen.Wiltshire@tcd.ie)