

*The [ECOSPHERE research group](#) aims to study aquatic and valley ecosystems that are continuously challenged by natural and anthropogenic stressors. The research focuses on acquiring fundamental and applied knowledge at different levels of structural and functional organisation in order to underpin environmental management decisions.*

## MASTER THESIS SUBJECT 2023

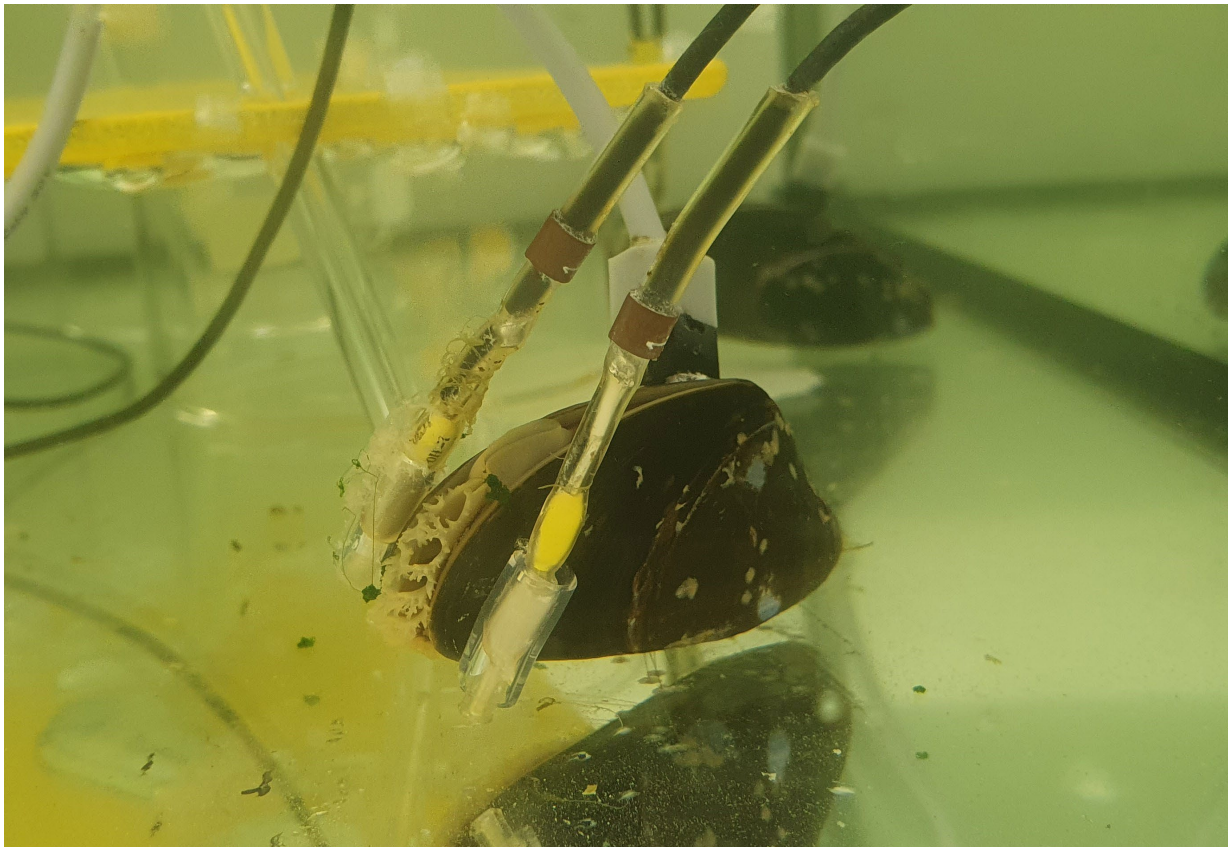
### Chemical emissions from offshore wind farms: assessing impacts on marine organisms

Research group: ECOSPHERE

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Physiological responses of marine invertebrates are followed when exposed to antifouling paints.

- This topic mostly contains  literature study,  lab work,  field work,  experimental work,  GIS,  numerical modelling,  other: .....
- Possession of driver's license B is  needed,  recommended,  not needed
- Possession of certificates needed:  FELASA C,  other: .....



## Summary

The primary aim of offshore wind farms (OWFs) is to produce renewable energy. OWFs contribute to UN sustainable development goals on clean energy and climate action and offer opportunities for spatial multi-use with nature conservation and aquaculture. The type and environmental impact of chemical emissions from OWFs have been largely overlooked to date, although the first investigations indicate that OWFs represent a source of chemical emissions. Given the large increase in the number of OWFs, transnational cooperation is required to minimise contaminant emissions and ensure a healthy ecosystem. This project aims to characterise chemical emissions from antifouling paints and anodes as used on OWFs in the North Sea basin, assess their impact on the marine ecosystem, evaluate opportunities for aquaculture at OWFs and propose effective monitoring tools and reduction measures to ensure sustainable multi-use of the marine environment.

The main activities within this project will be the effect assessment of a battery of test organisms on 1) leachates of paintings and single compounds; here we will assess the responses of the blue mussel by measuring the scope of growth and 2) the toxicity responses of different species exposed to whole sediments; i.e. an amphipod, a polychaete and early life stages of a marine fish species, and finally 3) mussels exposed in caged at the offshore windmill parks will be collected and scope for growth will be measured.

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