Master's thesis project on blue mussel ecology

We are seeking a motivated MSc student to join our research team studying blue mussel ecology. This project involves hands-on fieldwork, experimental work, and data analysis.

Project overview:

Blue mussels are important species in our coastal ecosystems. They filter feed and thereby increase water quality, provide shelter and food to other species, and enhance biodiversity. They have disappeared from many sites along the Norwegian coast, but remain abundant in specific environments such as low-salinity habitats, muddy bays, wave-exposed areas, and suspended structures. This project aims to identify the environmental and ecological factors driving these spatial distribution patterns and to understand blue mussels' adaptations to these (micro-)habitats, such as shell shape and thickness. Predators that cannot reach or have difficulties surviving in these habitats are the main focus of our research. Of particular interest are predatory snails, sea stars, and crabs. Here you can find one of our recent studies on the topic: https://www.int-res.com/abstracts/meps/v721/p85-101/

Key responsibilities:

- Participate in fieldwork at the Marine Biological Station Espegrend and nearby areas.
- Maintain and monitor laboratory and mesocosm experiments.
- Analyse data and contribute to hypothesis testing.

What we offer:

- The opportunity to develop a research question based on your interests, with support from your supervisors.
- Access to pre-collected data, with opportunities for further fieldwork and experimental research.
- The potential to contribute to a scientific publication.

Supervisors:

The project will be primarily supervised by PhD student Nadja Meister (UiB), with additional support from Tom Langbehn (UiB), Øystein Varpe (UiB), or Christian Jørgensen (UiB).

If this opportunity interests you, please contact Nadja Meister (nadja.meister@uib.no).

Examples of possible MSc thesis projects:

- How do blue mussel and dogwhelk traits vary across habitats?
  Explore morphological differences between mussels from different habitats, investigate the marks predators leave on their shells, and examine trait adaptations of both predator and prey. Methods: Field sampling, 3D scanning, morphological analysis.
- How do dogwhelks move and behave throughout the year?
  Use cameras and physical markers to study spatial movements and activity patterns of dogwhelks in their natural habitat across different seasons. Methods: Field observations, time-lapse cameras, individual marking.
- How do dogwhelks influence established blue mussel communities?
  Introduce dogwhelks to blue mussels on floating structures and monitor population dynamics and changes in community composition from spring to autumn. Methods: Field experiment.