



ALFRED-WEGENER-INSTITUT
HELMHOLTZ-ZENTRUM FÜR POLAR-
UND MEERESFORSCHUNG



The Alfred Wegener Institute Helmholtz Centre for Polar and Marine Research (AWI) is a member of the Helmholtz Association (HGF) and funded by federal and state government. AWI focuses on polar and marine research in a variety of disciplines such as biology, oceanography, geology, geochemistry and geophysics thus allowing multidisciplinary approaches to scientific goals.

PhD position "Assessment of macroalgal biodiversity and habitat change in the European Arctic" (m/f/d)

Background

PhD position in the frame of the European Horizon 2020 project FACE-IT (<https://www.face-it-project.eu/>)

Project Goals:

The overall scientific strategy of the EU project FACE-IT is to address the impacts of cryosphere change on Arctic biodiversity and livelihoods in Arctic fjord systems in a comparative approach involving sites in Greenland, Svalbard and northern Norway - along a gradient of borealization. The project consists of 14 project partners, involves 8 nations and incorporates 9 work packages.

Within work package 2 (WP2) of the FACE-IT project, entitled 'Biodiversity changes', the section 'Functional Ecology', workgroup 'Rocky Shore Ecology' of AWI opens a PhD position which deals with assessing Arctic macroalgal benthic abundance, productivity and species diversity and their change over time and along distribution gradients. Changes in these and other parameters shall be assessed by comparing existing quantitative macroalgal datasets (1996/98 and 2012/13) from Kongsfjorden, Spitzbergen with new quantitative *in situ* data to be gathered during a summer expedition to Kongsfjorden in 2021. As continuous warming is evident in western Spitsbergen, migration of temperate benthic macroalgal species into the Arctic and introduction of potentially invasive species is expected. Until now the degree of introduction of more southerly macroalgae into the Arctic is mostly unknown. This is partially due to lack of data and inaccessibility of Arctic sites. Furthermore, many taxa exhibit cryptic diversity, which has only been poorly investigated in the Arctic yet. Thus, besides application of classical taxonomic tools, molecular barcoding techniques shall reveal the degree of cryptic diversity of macroalgae, with a focus on Kongsfjorden. In addition, macroalgal biodiversity will also be assessed in a qualitative, comparative manner in other fjord systems during a summer expedition to Porsangerfjorden (northern Norway) in 2022 and in other European Arctic fjord systems through collaboration within the wide network of the project.

Tasks

You will

- use existing and newly self collected data on macroalgal biomass, age structure, fertility state, and biodiversity along a depth gradient from a site in Kongsfjorden, Spitsbergen to analyse and evaluate responses of the coastal macroalgal community to observed environmental changes in the Arctic fjord system
- carry out field work in 2021 (at least 2 months) in Kongsfjorden and in 2022 in Porsangerfjorden (northern Norway) (approx. 1 month) assessing the biodiversity and productivity of macroalgae
- conserve macroalgal samples (herbarium specimens, dried samples for DNA work, microscopy and photography, semi-durable slides, alcohol samples) for later taxonomic determination work in the home laboratory
- cultivate microscopic macroalgal stages derived from in situ sampling
- learn to determine N-Atlantic macroalgal species, perform DNA barcoding techniques, perform molecular and environmental data analysis
- learn to prepare, coordinate and perform complex fieldwork in remote locations
- liaise with a broad range of national and international collaborators from the natural and social sciences
- process your results for science (publications in peer-reviewed journals) and knowledge transfer to the general public or policymakers.

Requirements

- a degree (MSc) in marine, biological or environmental science
- a good understanding of English (both spoken and written)
- basic knowledge of molecular techniques and statistics
- basic knowledge in the determination of macroalgae and usage of determination keys
- a willingness and the ability to perform extended fieldwork in the Arctic
- Flexibility for travelling including the willingness to impose yourself to restrictions regarding the COVID-19 pandemic (e.g. transient quarantine stage before expedition or travels to the project partner in Canada)

Beneficial skills and knowledge

- A scientific diving license would be of advantage.
- The international project requires a person with high social competence, networking abilities and readiness for cooperation and data-sharing

Further Information

For further information, please contact **Dr. Inka Bartsch** (Inka.Bartsch@awi.de; +49(471)4831-1404).

This position is limited to 3 years. The salary will be paid in accordance with the Collective Agreement for the Public Service of the Federation (Tarifvertrag des öffentlichen Dienstes, TVöD Bund), up to salary level **13 (66%)**. The place of employment will be **Bremerhaven**.

All doctoral candidates will be members of AWI's postgraduate program [POLMAR](#) or another graduate school and thus benefit from a comprehensive training program and extensive support measures.

The AWI is characterised by

- our scientific success - excellent research.
- collaboration and cooperation - intra-institute, national and international, interdisciplinary.
- opportunities to develop – on the job, aiming at other positions and beyond AWI.
- a culture of reconciling work and family – an audited and well-supported aspect of our operation

- our outstanding research infrastructure – ships, stations, aircraft, laboratories and more.
- an international environment – everyday contacts with people from all over the world.
- having an influence – fundamental research with social and political relevance
- flat hierarchies – facilitating freedom and responsibility
- exciting science topics, with opportunities also in technology, administration and infrastructure

Equal opportunities are an integral part of our personnel policy. The AWI aims to increase the number of female employees and therefore strongly encourages qualified women to apply.

Disabled applicants will be given preference when equal qualifications are present.

The AWI fosters the compatibility of work and family in various ways and has received a number of awards as a result of this engagement.

We look forward to your application!

Please forward your application by **January 24th 2021** exclusively [online](#).

Reference number 20/165/D/Bio-b