The Arctic is warming more than twice as fast as the global average, which changes ecosystem phenology and productivity. Still, our understanding of Arctic ecological processes is based predominantly on studies conducted during spring and summer, so that many seasonal aspects (e.g., life-cycling, overwintering) and their sensitivity to global change are still poorly understood. The BMBF-funded YESSS project aims at better understanding the responses of Arctic coastal ecosystems and their key species to warming, by means of weekly assessments of oceanographic and biological ‘core’ parameters. These in-situ observations are complemented with dedicated season-specific experiments on temperature responses of key species from multiple trophic levels (phytoplankton, seaweeds, mollusks, echinoderms and fish).

This PhD project will investigate the interaction between environmental conditions and seasonal variations in key traits of Arctic fish species. Fish populations will be kept throughout the seasons in underwater cages in the field as well as in the laboratory under defined experimental conditions, and will be sampled seasonally. Experimental approaches will include whole animal energetics, metabolic rate measurements and biochemical and transcriptomic analyses to evaluate the seasonal fluctuations of climate change sensitivity and to identify physiological bottlenecks and detect potential tipping points.

An online info event on the YESSS project and the three open PhD positions (phytoplankton, benthic invertebrates, fish) will take place on October 19th 2023 at 4pm CEST. Please register via email to choppe@awi.de with the subject ‘YESSS info event’ to receive the meeting link.

**Your tasks:**
- Join five at least 6 week-long expeditions to a coastal Arctic research station in a small team with a diverse range of tasks
- Conduct field cage sampling from small boats in all seasons
- Plan, conduct and analyze seasonally-resolved experiments on the thermal and multi-stressor tolerance of Arctic fish
- Perform physiological experiments with Arctic fish species (swimtunnel, heart rate biologger, MO2, reproductive investment, fitness), further supported by transcriptomics
- Work in a larger consortium to understand in which seasons Arctic coastal ecosystem functioning is most susceptible towards climate change effects
- Present your findings at international conferences and publish in peer-reviewed journals
- Participation in university level teaching

**Your profile:**
In addition to the general requirements according to public services law, applicants must meet the recruitment requirements stipulated in § 57 of the Hochschulgesetz of Rhineland-Palatinate.

- A successfully completed university degree (M.Sc. degree in ecophysiology, marine biology or related fields)
- Background in ecophysiology research on marine fish and/or invertebrates, including experimental and field work (e.g., swimtunnel exercise, heart rate biologging, whole animal and mitochondrial respiration, transcriptomics)
- Physical fitness, personal aptitude and willingness for frequent and long research expeditions to the Arctic
- Particularly high levels of flexibility, resilience and team spirit
- Excellent spoken and written English skills

**What we have to offer:**
- As part of the YESSS project, students have the opportunity to be accepted into the AWI postgraduate programme POLMAR and thus benefit from a comprehensive training programme and extensive support measures. They can also participate in further education projects at JGU.
- Above all, the international participation of other working groups and doctoral students within the framework of the overall project offers excellent opportunities to establish international connections and to exchange ideas. The stay in the Arctic (Spitzbergen) also lays the foundation for outstanding opportunities for a further scientific career.
- Local offers in Mainz or Bremerhaven:
- Job ticket optional in the entire Rhine-Main area
- Extensive personnel development offers
- Flexible working time arrangements, mainly in Bremerhaven but also in Mainz, following or in between the stays in the Arctic.

The position is paid according to EG 13 TV-L (66%) and to be filled on January 1st 2024. The position is limited up to 3 years.

The position serves the scientific qualification within the framework of a doctoral degree.

JGU is diverse and welcomes qualified applications from people with varied backgrounds.

We aim to increase the number of women in the field of research and teaching and therefore encourage female researchers to apply.

Candidates with severe disabilities and appropriate qualifications will be given priority.

Are you ready for a new challenge and interested in this varied and responsible position? Then submit your complete application by mentioning the identification No. 04723-10-wiss-an and the topic application to YESSS by November 1st 2023, at the latest via email to:

lieb@uni-mainz.de

For questions and further information please contact Prof. Dr. Bernhard Lieb by phone 06131/39-23158 or email: lieb@uni-mainz.de.

Data protection information