



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.

PostDoc (m/f/d) for "Time dependence of thermal tolerance in marine bivalves, extant fauna and implications for palaeo-analogues"

Background and Tasks

Embedded in the DFG Research Unit "Temperature-related stresses as a unifying principle in ancient extinctions" (TERSANE2.0), the project BivCRS2 is proposed to assess the physiological constraints imposed by so-called temperature-related stresses (TRS: warming, ocean acidification, and hypoxia) on two taxa of marine bivalves. BivCRS2 wants to identify and quantify the contribution of mechanisms that shape and limit the time dependent survival under extreme conditions, assuming that those mechanisms that have shaped the fate of fauna in the deep past, are still in place in extant fauna. The main goal of BivCRS2 is to increase predictive power for characterizing unifying principles of species responses to climatic changes and to quantify the mechanisms underpinning different and specific vulnerabilities of species groups. In the context of palaeo-patterns BivCRS2 will address why and how species are specialized on limited but different temperature ranges, why and at what temperatures they are sensitive to accumulating CO₂ and along the same lines, how they deal with ambient oxygen deficiency. BivCRS2 will address the capacity of passive tolerance, the set of mechanisms underpinning such capacity, with a view on the implications for the time limitation of tolerance to environmental extremes. The focus is on how, beyond pejus limits of the thermal window, interactions of warming, acidification, and hypoxia ("deadly trio") may shift limits and capacities of tolerances, e.g. through metabolic depression, shifting acid-base parameters, and exploitation of antioxidative defence, energy reserves and mode, and capacity of anaerobic metabolism. Reduced functional scope may cause a narrowing of active thermal tolerance with the potential benefit of expressed and extended passive tolerance.

Requirements

Preconditions

- PhD or experience in a relevant area of biology
- Interest in evolutionary and ecophysiological questions
- Expertise in physiological and biochemical investigations in animals

Desirable skills and experience in

- the long term maintenance and incubation of aquatic animals
- biochemical and analytical techniques (e.g. chromatography, spectroscopy)
- organismal physiology (e.g. respiration, cardiocirculation, acid-base regulation, antioxidative defence, metabolic biochemistry)

Further Information

For further information please contact Prof. Dr. Hans-Otto Pörtner (Hans.Poertner@awi.de), Dr. Christian Bock (Christian.Bock@awi.de) or Dr. Gisela Lannig (Gisela.Lannig@awi.de).

The position is limited to 3 years. The salary will be paid in accordance with the German Tarifvertrag des öffentlichen Dienstes (TVöD Bund), up to salary level **13**.

The place of employment will be **Bremerhaven**.

This characterizes us

- 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 – audited, and even more than that.
- 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 – freedom and responsibility.
- exciting topics – also in technology, administration and infrastructure.

Equal opportunities are an integral part of our personnel policy and we encourage women to apply.

Disabled applicants will be given preference when equal qualifications are present. The AWI fosters the compatibility of work and family through various means. Because of our engagement in the area of work-life compatibility we have been awarded the certificate "Career and Family".

We look forward to your application!

Please forward your application by **December 8th, 2019** exclusively [online](#).

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