IOW, Seestraße 15, 18119 Rostock

Job announcement (Bio 4/2018)

The Department of Biological Oceanography of the Leibniz Institute for Baltic Sea Research Warnemünde (IOW) is offering (subject to funding of the project) a part-time (26 hours/week) position as

PhD student: Benthic ecology - Adaptation of macrozoobenthic species to fluctuating oxygen concentrations and their effect on benthic fluxes

in the project EVAR (sub-project 7). The position will be starting 1st January 2019 for a duration of three years. Remuneration is paid in accordance with the TV-L salary scale at level EG 13 monthly gross salary (65%).

The IOW is an independent institute of the Leibniz Association, engaged in system analysis of coastal and marginal seas, with special focus on the Baltic Sea. The scientists of the four departments (Physical Oceanography, Marine Chemistry, Biological Oceanography and Marine Geology) cooperate within the framework of a joint research program.

Job description

The position within the project “The Benguela Upwelling System under climate change – Effects of variability in physical forcing on carbon and oxygen budgets – EVAR” is funded by the Federal Ministry of Education and Research (BMBF). The working place is Rostock-Warnemünde and partly Namibia.

The core areas of oxygen minimum zones (OMZs) have been subject to studies concerning ecological consequences of permanent low oxygen. The boundaries of OMZs, however, have not been considered as intensely even though they gain more and more importance with climate change having the potential to expand OMZs. Several studies came to the conclusion that organisms that are able to cope with on the one hand potentially long-lasting hypoxia periods and on the other hand intense oxygen input e.g. by upwelling events can benefit from abundant food supply and build up high densities and biomass. As there is a high variety of adaption mechanisms, it is to assume, that successful organisms in and along OMZs are likely to use not only one mechanism, but rather combine several strategies such as for example morphological and behavioral traits. In general, the

boundaries of the Benguela Upwelling System have been poorly investigated in terms of species inventory, but during preliminary investigations we could observe that certain species occur with highest biomass directly at the edges of the OMZ. Therefore, we now aim to address the question: By which mechanisms and up to which level can abundant macrobenthic species survive fluctuations in oxygen availability and how does their activity change the benthic fluxes?

To clarify this, we will initially investigate the distribution of macrobenthic organisms along a transect with changing availability of oxygen in the bottom water. In addition, we will assess the abundance of macrobenthic species in the in situ and ex situ experiments planned to quantify benthic fluxes and thereby reveal, how the composition and activity of benthic macro-organisms affect the fluxes between sediment and water column. Furthermore, we will conduct targeted incubation experiments with selected, highly abundant species to reveal how long they can survive without oxygen and how active they are under fluctuations of oxygen availability on different time and concentration scales. This will contribute important boundary conditions for the modelling of benthic fluxes.

Responsibilities will be the sampling and taxonomic identification of marine benthic invertebrates, the conduction of mesocosm experiments (including set up and maintenance) and multivariate statistical analysis of acquired data.

Qualification

Applicants are required to have an academic university degree with a grade of at least "good" (master or equivalent) in marine biology or natural sciences, preferably in macrozoobenthos. They should have the ability and willingness to work in a multidisciplinary, international team and to communicate with external partners. A very good command of spoken and written English and the participation in field sampling and on sea cruises are being expected.

Applicants are asked to send their complete applications (CV, copies of certificates, list of publications, references) quoting the

Code: **Bio 4/2018 (EVAR-Benthos)**
Until **30th October 2018** to:

bewerbung.biologie@io-warnemuende.de
or

Leibniz Institute for Baltic Sea Research Warnemünde
Dept. Human Resources
Seestraße 15
D-18119 Rostock
Germany

Applications of disabled persons with same professional and personal qualification will be treated preferentially. Please indicate a handicap in the cover letter and enclose the relevant certificate.
The IOW promotes equal opportunities and has been awarded the Total Equality Certificate in 2013 and 2016. Applications of female candidates are expressly encouraged and will be treated preferably in case of equal qualifications and suitability. Our family office, equipped with computer workstation and toys, offers parents the opportunity to take children to the IOW for shorter time periods.

The Leibniz Insitute for Baltic Sea Research offers a varied work in the immediate vicinity of the Baltic Sea. Interdisciplinary research topics on the Baltic Sea ecosystem, broad in-house expertise in physical, chemical and biological oceanography, and marine geology, state-of-the-art-laboratory equipment and infrastructure together with modern facilities provide an excellent framework for best research conditions.

Application and travel costs cannot be reimbursed.

For further Information please contact:
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or visit our website: www.io-warnemuende.de