Job announcement (PHY-07/2020)

The Department of Physical Oceanography and Instrumentation of the Leibniz Institute for Baltic Sea Research Warnemünde (IOW) is offering a full-time (40 hrs/week) Research Scientist position starting on the 01.11.2020 (subject to financing). Remuneration is paid in accordance with the TV-L salary scale at level EG 13 monthly gross salary. The employment is temporary for 18 months. The position is also suitable for part-time employment with at least 30 working hours per week.

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 and Instrumentation, Marine Chemistry, Biological Oceanography and Marine Geology) cooperate within the framework of a joint research program.

Job description
The advertised position is part of the BMBF-funded project “Strategies of ecosystem-friendly coastal protection ecosystem-supporting coastal adaptation for the German Baltic Sea Coast (ECAS-BALTIC)“. In cooperation with eight national project partners, adaptation strategies for future coastal protection are to be investigated. The holder of the position will carry out numerical experiments using a high-resolution setup of the western Baltic Sea, which is already existing at the IOW. The modelling system is based on the General Estuarine Transport Model (www.getm.eu).

In a first step, a reconstruction of historical extreme water levels along the German Baltic Sea coast will be generated. With this data set, we want to investigate the natural variability of storm surge events and their temporal development. In addition, the flood levels will be decomposed into their individual contributions, e.g. air pressure effects, wind, remote surges, wind waves, ... With the validated setup we will then investigate the effects of possible future changes. Among the possible changes are: rise in mean sea level, increase in wind speeds, change in...
mean wind direction or changes in wind wave climate. In addition, the successful applicant will investigated whether only extreme water levels change, or also other variables responsible for loading of dykes (since e.g. storm surges will last longer or occur more frequently).

Another task is to quantify large-scale transport pathways of marine sand and to estimate possible future changes. This is to ensure whether marine sand extraction for coastal protection can be guaranteed in the future.

**Qualification**

Applicants must have a university degree (master/diploma, with excellent results) in meteorology, oceanography or a related natural or geoscientific discipline with pronounced physical-mathematical components. Independent scientific work and an appropriate number of publications are expected. Since the project duration is relatively short, we expect proven experience in the application and configuration of coastal ocean models and their immediate use on high-performance-clusters. The coastal ocean models of choice are either ROMS (www.myroms.org) or GETM (www.getm.eu). Furthermore, a basic understanding of the physical processes of the Baltic Sea and a good understanding of the theory of water exchange processes and their application would be an advantage.

Experience in the application of super computers, Linux / Unix, and Fortran and in the visualization and scientific evaluation of large amounts of data (e.g. with software such as Python, R, Julia, Matlab, ...) are required.

The ability to work in a team as well as good to very good knowledge of the English language is essential for the cooperation with international partners.

Applicants are asked to send their complete applications (CV, list of publication, copies of certificates, references) quoting the code: **PHY-07/2020** until **15.09.2020** to:

bewerbung.physik@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 job advertisement is aimed at all persons regardless of their gender.
Applications of female candidates are expressly encouraged and will be treated preferentially in case of equal qualifications and suitability, as the post to be filled belongs to a structural unit in which women are underrepresented.

The Leibniz Institute 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.

The IOW promotes equal opportunities and has been awarded for the third time in raw the Total Equality Certificate in 2019. An overview of our equal opportunities measures and to improve the compatibility of work and family can be found at [https://www.io-warnemuende.de/equal-opportunity.html](https://www.io-warnemuende.de/equal-opportunity.html).

Application and travel costs cannot be reimbursed.

For further information, please contact:

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or visit our website: [www.io-warnemuende.de](http://www.io-warnemuende.de)