

## Job announcement (PHY-o8/2020)

The Department of Physical Oceanography and Instrumentation of the Leibniz Institute for Baltic Sea Research Warnemuende (IOW) is offering a full-time (40 hrs/week)

### Research Scientist (PostDoc) (\*gn)

position starting on the 01.01.2021 (subject to financing). The employment is temporary for 36 months. Remuneration is paid in accordance with the TV-L salary scale at level EG 13 TV-L. 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 "Carbon Storage in German Coastal Seas – stability, vulnerability and perspectives". In cooperation with seven national project partners, we will investigate the stability and vulnerability of various carbon storage pools in German marginal seas of the North Sea and Baltic Sea. Human pressures on these coastal systems, and climate change have the potential to alter the biogeochemistry of the marine ecosystems. We will determine whether and to what extent relevant pathways for carbon storage have been impacted, or will be impacted.

The holder of the position will carry out numerical experiments with a coupled hydrodynamic-biogeochemical model of the coupled system North Sea / Baltic Sea, which is already existing at the IOW. The modelling system is based on the General Estuarine Transport Model ([www.getm.eu](http://www.getm.eu)) and the biogeochemical model ERGOM ([www.ergom.net](http://www.ergom.net)).

In a first step, a reconstruction of the recent past will be generated to calibrate and validate the existing coupled system. In a next step, the carbon-cycling and alkalinity parameterisation in ERGOM will be revised and improved. This is done in close cooperation with project partners, which will carry out field measurements and data mining. The successful applicant will afterwards quantify the predictive skill of the improved coupled system.

With the validated setup, we will then investigate the effects of possible future changes. Among the possible changes are: changes in river loads (nutrients, alkalinity, DIC, DOC), changes in atmospheric forcing, rise in mean sea level, and changes in fluxes across the continental shelf. In addition, if feasible, the successful applicant will carry out ensemble simulations to constrain uncertainty levels.

The final task will be the quantification of changes in different carbon storage pools in German waters, given changes in environmental parameters. These relations will be the basis for a Bayesian network, feeding a support decision tool.

### Qualification

Applicants must have a university degree (master/diploma) and a PhD in oceanography, biology or chemistry with pronounced mathematical-numerical components. Independent scientific work, an appropriate number of publications, experience in the application and development of numerical biogeochemical models, good knowledge about the interaction of physical and biogeochemical processes and carbon cycling, and regional climate projections are required.

Scientists who have recently completed a PhD thesis with excellent results and meet the requirements listed above are particularly encouraged to apply. In this case, the quality of the publications submitted to fulfil the PhD thesis requirements will be evaluated as one of the criteria during the selection process.

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 or 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 kindly asked to send their complete applications (Cover letter, CV, list of publications, copies of certificates, references and description of relevant experiences) quoting the code **PHY-08/2020** until **25.09.2020** to:

[bewerbung.physik@io-warnemuende.de](mailto: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 aiming at all persons regardless of their gender (\* gender neutral). The IOW promotes equal opportunities and has been awarded for the third time in a row 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>.

Applications of female candidates are expressly encouraged and will be treated preferentially in case of equal qualifications and suitability, as the open position belong to 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.

Application and travel costs cannot be reimbursed.

For further Information please contact:

Ulf Gräwe email: [ulf.graewe@io-warnemuende.de](mailto:ulf.graewe@io-warnemuende.de)

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

