

Job announcement (Bio 02/2025)

The Department of Biological Oceanography at the Leibniz Institute for Baltic Sea Research Warnemünde (IOW) is offering a

Ph.D. position

within the Collaborative Research Centre “**Carbon Sequestration at Å resolution (CONCENTRATE)**”, subject to the funding of the project.

The fixed-term position will start at the earliest date possible (preferably in Oct 2025) and continue for 45 months (until 30 June 2029 at the latest). Remuneration is paid according to the Public Sector Collective Agreement (TV-L EG 13, 65% 26 h/week).

Who are we?

The IOW is an independent research institute within the Leibniz Association that actively promotes diversity, personal development, and the compatibility of work and family life. Our research focuses on coastal and marginal seas, with a particular emphasis on the Baltic Sea. Scientists at the IOW work across five departments—Physical Oceanography, Marine Chemistry, Biological Oceanography, Marine Geosciences, and Marine Observations—in an interdisciplinary framework as part of a joint research program.

What will be your tasks?

We are seeking a highly motivated candidate to join the newly established Collaborative Research Centre “Carbon Sequestration at Ångström Resolution (CONCENTRATE)”, funded by the German Research Foundation (DFG). CONCENTRATE brings together the expertise of six leading institutions: The University of Greifswald, the University of Bremen, the Max Planck Institute for Marine Microbiology (Bremen), the Leibniz Institute for Baltic Sea Research, the Max Planck Institute of Colloids and Interfaces (Potsdam), and the Technical University of Berlin.

The goal of CONCENTRATE is to unravel the molecular and microbial processes that stabilize glycans in the ocean. Through an interdisciplinary approach, the consortium integrates laboratory-based studies with measurements in natural marine environments, focusing on interactions among algae, bacteria, fungi, their glycans, and proteins, down to atomic resolution. By elucidating these microbial and biochemical mechanisms, CONCENTRATE aims to improve our understanding of the ocean’s role as a carbon sink.

Marine Microbial Ecology – Focus on Fungi in Carbon Sequestration

In our subproject “FUN”, we will investigate the role of fungi in glycan sequestration through their interactions with bacteria and diatoms. Specifically, we will explore how parasitic and saprotrophic fungi influence glycan production and carbon flux during diatom growth, as well as marine snow formation and sinking. Our methodology spans from single-cell resolution to mesoscale flux measurements, using molecular, microbiological, and biogeochemical tools. These include stable isotope incubations, mass spectrometry (e.g., GC-/EA-IRMS and nanoSIMS), genomics, transcriptomics, glycan analytics, fluorescence *in situ* hybridization (FISH), and advanced imaging. Experiments will be carried out with laboratory-grown co-cultures.

What do we expect from you?

The successful candidate will:

- Cultivate relevant fungal, diatom, and algal isolates
- Conduct co-culture and incubation experiments
- Perform sample analyses using the tools listed above
- Carry out computational data analyses
- Prepare manuscripts for submission to peer-reviewed journals

We are seeking a candidate with an excellent university degree (Master's/Diploma) in Biological Oceanography, Earth System Science, Environmental Microbiology, Geomicrobiology, Biotechnology, or related fields. We welcome experience with the relevant methodologies and any knowledge on aquatic carbon cycling and microplankton communities. The ideal candidate demonstrates good communication skills in English, a high degree of self-dependent working, and importantly, a growth mindset as well as great interpersonal and team-minded skills. A broad interest in interdisciplinary science is greatly appreciated. In conclusion, we are looking for an applicant who is highly talented in experimental work, sample and data analyses, and scientific writing to be able to achieve a Ph.D. degree within 45 months.

What does the IOW offer?

The Leibniz Institute for Baltic Sea Research offers a diverse working environment next to the Baltic Sea. Interdisciplinary research topics on brackish and marine ecosystems, broad in-house expertise in physical, chemical, and biological oceanography and marine geoscience, state-of-the-art laboratory equipment, and infrastructure, together with modern facilities, provide an excellent framework for the planned research.

The position is embedded in the vibrant and interdisciplinary environment of the CRC CONCENTRATE, which includes more than 20 doctoral and postdoctoral researchers and over 20 principal investigators. The collaborative network spans microbiology, biochemistry, bioinformatics, glycobiology, and ecology, offering excellent opportunities for scientific exchange and career development.

How do we promote equal opportunities?

Our job offers are aimed at all people regardless of their gender. Research benefits from a diverse working environment, which is why we have signed the Diversity Charter.

IOW aims to specifically promote women in areas where they are underrepresented. For this purpose, the institute has given itself a plan to promote equality (plan for the equal opportunities committee at the IOW) and has repeatedly been awarded the Total E-Quality award for its commitment (website TOTAL E-QUALITY e. V.)



You can find an overview of our measures for equal opportunities and for improving the compatibility of work and family on our [website](#).

We give preference to applications from disabled persons with equal professional and personal suitability. Please mention the disability or equality in your letter of application, and enclose a copy of the relevant certificate.

How to apply?

Please send us your application documents (in English), including:

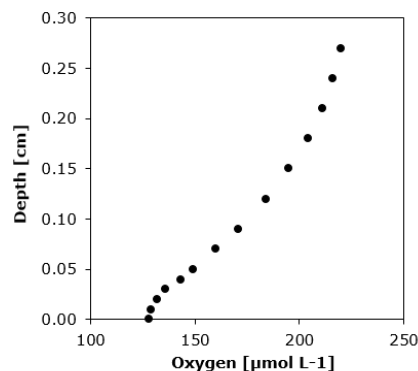
- Cover letter, explaining your work experiences, job motivation, interests, and fit to our research group (1 page). The answer to the question below must also be included in the cover letter.
- Curriculum Vitae, including the contact details of 2 reference persons (2 pages)
- Degree certificates and grades confirming that the applicant meets the entry requirements for the Ph.D. program
- One scientific text in English written by the candidate (e.g., a M.Sc. thesis, a paper currently in draft, or a peer-reviewed publication)

Question

A vertical oxygen profile was measured over ~0.30 cm, spanning from the ambient water towards a biological surface and inside.

How high is the diffusive oxygen flux ($\text{nmol cm}^{-2} \text{s}^{-1}$) at the surface?

The water temperature was 21°C and salinity 36.



Depth cm	Oxygen concentration $\mu\text{mol L}^{-1}$
0.27	220
0.24	216
0.21	211
0.18	204
0.15	195
0.12	184
0.09	171
0.07	160
0.05	149
0.04	143
0.03	136
0.02	132
0.01	129
0.00	128

We look forward to receiving your application, quoting the **keyword: BIO 02/2025** by **06 August 2025**

to bewerbung.biologie@io-warnemuende.de

or

Leibniz Institute for Baltic Sea Research Warnemünde
Human Resources Department
Seestraße 15
18119 Rostock

The interviews are planned to take place on **18 August 2025**.

Unfortunately, application and travel costs cannot be reimbursed by the state of Mecklenburg-Vorpommern.

For further information, please email [Isabell Klawonn](mailto:Isabell.Klawonn) (head of the Microbial Plankton and Fungal Ecology lab) or visit our website www.io-warnemuende.de and the website of the [responsible laboratory](http://responsible-laboratory). This announcement is also available online at <https://www.io-warnemuende.de/job-advertisements-and-scholarships.html>

We look forward to receiving your application.

