

GEOMAR Helmholtz Centre for Ocean Research Kiel is a foundation of public law jointly financed by the Federal Republic of Germany (90 %) and the state of Schleswig-Holstein (10 %). It is one of the internationally leading institutions in the field of marine research.

Through our research and our commitment to the transfer of knowledge and technology, we contribute significantly to the preservation of the function and protection of the ocean for future generations.

The research unit Biological Oceanography of the research division Marine Biogeochemistry is offering a

## **Postdoc (m/f/d) position in ocean biogeochemistry**

starting on June 1<sup>st</sup>, 2025 or as soon as possible thereafter.

### **Job Description / Project Description**

The objective of the postdoc project is to analyze global datasets (sediment traps, *in situ* particle imaging) to improve our understanding of the biological carbon pump in the context of ongoing climate change (ocean warming, acidification, and deoxygenation). We are looking for a candidate with a strong background and interest in ocean biogeochemistry and/or data science.

The successful candidate will analyze the global datasets with state-of-the-art “big data” methods, such as machine learning and/or multivariate statistics. The goal is to evaluate the influence of changing environmental factors (temperature, pH, oxygen) on vertical particle fluxes from the sea surface to the deep ocean, including the elemental stoichiometry of these fluxes, as well as their remineralization length scales. The results will be used for improved parameterizations of global biogeochemical ocean models, thus providing critical knowledge on how the efficiency of the biological carbon pump – and its regional variability – may respond to ocean change. The tasks of the candidate also include the publication of the results in established peer-reviewed scientific journals, as well as presentations at national and international scientific meetings.

The postdoctoral project is embedded within the EU project OceanICU (“Understanding Ocean Carbon”, <https://ocean-icu.eu>), which seeks to enhance our knowledge about the ocean carbon cycle and the biological pump, involving 30 research institutes across Europe. The candidate is expected to collaborate closely with other researchers in Ocean-ICU (within GEOMAR and at other institutions in the EU), contribute to interdisciplinary publications, project reports, and synthesis products.

### **Qualification**

*Required:*

- A PhD in biological oceanography, marine biology, marine biogeochemistry or related fields
- Experience and very good skills in analysis of large and complex datasets
- Experience and very good skills in machine learning and/or multivariate statistics or comparable data science methods
- Excellent English skills (written and spoken)
- Experience in scientific writing (publications in high-quality peer-reviewed journals)

*Desired:*

- Experience in project management and willingness to contribute to the management of the OceanICU project
- Knowledge about structure and operation of biogeochemical models

The Taucher Lab is part of the "Plankton Biogeochemistry and Imaging" group, which is part of the Research Unit "Biological Oceanography" within the Research Division "Marine Biogeochemistry" (RD2).

Our research topics comprise the spatial and temporal distribution of plankton and particles in the ocean, and particularly their role in biogeochemical cycles. We are particularly interested in the interplay between pelagic organisms and carbon fluxes (e.g. diel vertical migration), how these processes are modulated by environmental drivers, and how they might be affected by climate change.

Besides classical oceanographic methods, we use modern imaging systems (*in situ* and laboratory-based, including the development of innovative imaging technology) to observe plankton and particles in their natural environment, from the sea surface to the deep sea. The collected image data are classified using AI/ML methods and are related to environmental data to gain an improved understanding of the spatial and temporal dynamics of plankton communities and carbon fluxes in the ocean.

**GEOMAR is a workplace directly on the Kiel Fjord with many leisure and recreational opportunities, we offer:**

- interesting science and access to large scale infrastructure at GEOMAR, as well as the opportunity to apply for ship time for studies all around the world
- an active, friendly and supportive working environment with international members with expertise in geology, geochemistry, computer science, sea going technology and robotic applications with AUVs
- strong knowledge of national and international project application systems to support your own individual or project proposals
- good conditions for work-life balance: We offer, among other things, the possibility of mobile working and individual working time arrangements, vacation courses for the children of our employees, and good support in finding a place in a daycare center at the Kiel site
- support services for professional and personal life situations
- 30 vacation days + additional time off at Christmas Eve and New Year's Eve
- company pension plan and capital-forming benefits

The position is available for a funding period of 1.5 years. An extension may be available depending on performance and funding situation, as well as interest of the candidate to get involved in other projects of the group. The salary depends on qualification and could be up to the class 13 TVöD-Bund of the German tariff for public employees. This is a full-time position, but flexible working time models (e.g. part-time) are possible in principle. The fixed-term contract shall comply with Section 2 Paragraph 1 of The Act of Academic Fixed-Term Contract (German WissZeitVG).

GEOMAR Helmholtz Centre for Ocean Research Kiel seeks to increase the proportion of female scientists and explicitly encourages qualified female academics to apply. GEOMAR is an equal opportunity employer and encourages scientists with disabilities to apply. Qualified disabled applicants will receive preference in the application process.

Please send your application (including motivation letter, CV, certificates and at least 2

reference letters) for this post **not later than 6<sup>th</sup> April 2025** under the following link:

[Online application](#)

As soon as the selection procedure has finished, all your application data will be removed according to data protection regulation.

For further information regarding the position and research unit please contact Dr. Jan Taucher ([jtaucher@geomar.de](mailto:jtaucher@geomar.de)).

We will answer all your questions if you send us an e-mail to [bewerbung@geomar.de](mailto:bewerbung@geomar.de). In doing so, please refer to the keyword "**Ocean-ICU fluxes**".

For further information on GEOMAR Helmholtz Centre for Ocean Research Kiel or the Helmholtz Association, please visit [www.geomar.de](http://www.geomar.de) or [www.helmholtz.de](http://www.helmholtz.de).

GEOMAR is committed to an objective and non-discriminatory personnel selection. Our job advertisements address all people. We expressly renounce the submission of application photos.



The TOTAL E-QUALITY award is presented to GEOMAR for efforts in terms of human resource management aimed at providing equal opportunity.