

Job announcement (Che 01-2022)

The Department of Marine Chemistry at the Leibniz Institute for Baltic Sea Research Warnemünde (IOW) invites applications for a

Ph.D. position

within the project **PlumeBaSe - Tracing of ship plumes and impact to seawater.**

The fixed-term position will preferably start in July 2022 and continue for three years. Remuneration is paid according to the public sector employment (TV-L EG 13, 75%).

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

Project and job description

The increasing global transport of goods via waterways increases the pressure on marine ecosystems. Large ships disperse huge amounts of particles which contain trace metals and organic pollutants into the atmosphere, from where they eventually settle and reach the water column. Ship-derived aerosol deposition to surface seawater and its contribution to marine pollution are well characterized. Especially the ageing processes during atmospheric transport and in the water column, including UV radiation or reactive oxygen species mediated transformations, are not understood in detail although transformation products can have different effects on biota and their structure dictates their fate in the environment.

The project “PlumeBaSe” is a trilateral project between the Leibniz Institute for Baltic Sea Research Warnemünde (IOW, Germany), the University of Rostock (UR, Germany), and Charles University (CU, Czechia). Shipboard sampling campaigns targeting major shipping routes in the Baltic Sea will be organized together with all project partners. While CU focuses on aerosol physics and transport, UR studies the ageing of the ship aerosol in the air, and the IOW offers a Ph.D. position to research the deposition of aged ship aerosols and their transformation and transport in the waters of the Baltic Sea. We will particularly focus on the molecular-level analysis of the impact of fresh and aged plumes using targeted and untargeted chemical analytical methods.

Different mass spectrometric tools for water and sediment samples, including targeted GC- and HPLC mass spectrometry (e.g. PAH, black carbon), compound-specific isotope analyses (GC-C-IRMS), and untargeted FT-ICR-MS analyses, will be applied on field samples and laboratory incubations.

The candidate will be responsible for preparation and realization of fieldwork and laboratory incubation experiments, sample preparation and analysis, computational data analysis, and dissemination of study outcomes in peer-reviewed science outlets. The research project will involve collaborations with both German and international scientists within and outside the project, at least one research visit to an external laboratory will be encouraged.

Qualification requirements

We seek a candidate with an excellent university degree (Master/Diploma) in Analytical Chemistry, Chemical Oceanography, Earth System Science, or related fields. The ability for working in the field and willingness to participate in sea-going research expeditions are a prerequisite. We highly welcome experience with the relevant methodologies and sample preparation techniques. The ideal candidate has a strong sense for detail-oriented labwork, demonstrates good communication skills in English, a high degree in self-dependent working, and as well as great interpersonal and team-minded skills. A broad interest in interdisciplinary science is greatly appreciated, as the project aims to bridge atmospheric and marine science, also integrating chemical and physical parameters. 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 three years.

Please include the following information and documents (in English) with your application

- Contact details
- Cover letter, explaining your work experiences, job motivation, interests, and fit to the project (1 page).
- Curriculum Vitae, including the contact details of 2 reference persons (2 pages)
- Degree certificates and grades confirming that the applicant meets the entry requirements of the Ph.D. program
- One scientific text in English written by the candidate (e.g., Master thesis, a paper currently in draft, or a peer-reviewed publication)

Applications can be submitted until **May 29, 2022**, quoting the code: **CHE-01-2022** to:

bewerbung.chemie@io-warnemuende.de (as a merged pdf)

or

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

The interviews are planned to take place online mid-June 2022.

The fixed-term contract shall comply with Section 2 Para. 1 of The Act of Academic Fixed-Term Contract (German: WissZeitVG).

Applications of disabled persons with the same professional and personal qualifications 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 (*gender-neutral). The IOW promotes equal opportunities and holds the Total E-Quality award. An overview of our measures for equal opportunities 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 explicitly encouraged.

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 geology, state-of-the-art laboratory equipment, and infrastructure together with modern facilities provide an excellent framework for the planned research.

Application and travel costs cannot be reimbursed.

For further information, please email [Helena Osterholz](mailto:Helena.Osterholz@io-warnemuende.de), or visit our website www.io-warnemuende.de.

This announcement is available also online <https://www.io-warnemuende.de/job-advertisements-and-scholarships.html>

We look forward to receiving your application.

