

The Alfred Wegener Institute Helmholtz Centre for Polar and Marine Research (AWI) is a member of the Helmholtz Association (HGF) and funded by federal and state government. AWI focuses on polar and marine research in a variety of disciplines such as biology, oceanography, geology and geophysics thus allowing multidisciplinary approaches to scientific goals.

For the DFG-funded **International Research Training Group ArcTrain: Processes and impacts of climate change in the North Atlantic Ocean and the Canadian Arctic**, a collaborative project between the University of Bremen, the Alfred Wegener Institute, and a consortium of eight Canadian universities, the Geo Sciences section invites applications for a

Ph.D. Student

within the framework of ArcTrain project HB-03 „Deglacial-Holocene variability in meltwater discharge, sea-ice formation, primary production and (abrupt) climate change“. This PhD position is one of 12 to be filled within the international interdisciplinary ArcTrain program. Details and background information are available at <http://www.marum.de/en/ArcTrain.html>.

Background and tasks:

Sea ice is a critical component in the global climate system, contributing to changes in Earth's albedo, ocean-atmosphere exchange, biological processes, and water-mass formation. Furthermore, sea-ice formation is strongly controlled by freshwater/meltwater discharge (i.e., surface-water salinity). In order to understand processes controlling the natural spatial and temporal sea-ice variability high-resolution paleo-records on time scales going back in time beyond the period of direct measurements and observations, are needed. In this context, key objectives of the proposed project include (1) the reconstruction of (glacial-)deglacial-interglacial variability of the Greenland Ice Sheet, meltwater/freshwater discharge, salinity, sea-ice cover, and primary production, (2) the influence of meltwater/freshwater discharge on sea-ice formation, (3) the influence of sea-ice formation on primary production, and (4) the relationship between sea-ice formation/export and oceanic circulation (water-mass formation). The methodological approach concentrates on specific biomarkers indicative for sea ice (IP25, PIP25), primary production (n-alkanes, sterols, alkenones) and terrigenous input (n-alkanes, sterols) as well as compound-specific stable isotopes (especially δD of algae) as proxy for freshwater/meltwater discharge (salinity), to be determined in sediment archives recovered in Baffin Bay during Maria S. Merian expeditions MSM44 and MSM12/2. The PhD-student will be part of the AWI Arctic Marine Geology Group of Prof. Dr. Ruediger Stein who also will be the supervisor of this PhD. A research stay is envisaged at the Université du Québec à Montréal.

Requirements:

The candidate must hold a Master's degree (Diploma or equivalent) in geology, organic geochemistry or chemistry. Own experience in using analytical techniques (GC, GC/MS, etc.) and/or basic knowledge in Quaternary climate history and paleoceanography will be advantageous. Applicants should be fluent in written and spoken English and enjoy working in an international interdisciplinary team.

The position is limited to 3 years. It is funded by the German Science Foundation (DFG). The earliest starting date is October 1st, 2016. The salary will be paid in accordance with the German Tarifvertrag des öffentlichen Dienstes (TVöD Bund), salary level 13 (66%). The place of employment will be **Bremerhaven**.

For further information, please contact **Prof. Dr. Ruediger Stein** (Ruediger.Stein@awi.de).

We offer you a multi-disciplinary, international, and fascinating professional environment with flexible working hours, state-of-the-art research equipment, and a first-rate infrastructure. AWI aims to increase the number of women in the scientific staff. Female candidates are therefore especially asked to apply. Disabled applicants will be given preference when equal qualifications are present. The AWI fosters the compatibility of work and family through various means. Because of our engagement in the area of work-life compatibility we have been awarded the certificate "Career and Family".

Applications should be submitted under the reference number **69/D/Geo (HB-3/2)** a letter of motivation, a CV including copies of certificates, a publication list if applicable, and contact information of two referees. Documents should be submitted electronically as a PDF file (maximum size 2 MB) to ArcTrain coordinator, **Gabriella Wehr** (gwehr@marum.de). The call is open until the position is filled. The review of applications will commence on **June 1st 2016**.