

## International Research Training Group ArcTrain: Processes and impacts of climate change in the North Atlantic Ocean and the Canadian Arctic

The DFG-funded International Research Training Group ArcTrain, a collaborative project between the University of Bremen, the Alfred Wegener Institute, Helmholtz Centre for Polar and Marine Research, and a consortium of eight Canadian universities invites applications for a

### PhD position

in the area of physical oceanography in the framework of project HB-06: ***Mixing induced vertical heat and freshwater fluxes in the upper ocean.***

The heat and freshwater budget of the ocean mixed layer is determined by surface fluxes, processes within the mixed layer, and fluxes across the transition layer towards the deep ocean. In the subpolar North Atlantic, especially the Labrador Sea, deep water formation and ocean carbon uptake are dependent on the mixed layer properties, and as such affected by changes in temperature and freshwater content as caused by increased melt-off of Greenland glaciers or changes in sea ice formation, as well as changes in atmospheric forcing. The vertical exchange by mixing in the upper ocean is mostly caused by wind stress, and thus temporally variable and also subject to climate change.

In this project, the horizontal distribution and temporal variability of upper ocean mixing in the subpolar North Atlantic with focus on the Labrador Sea will be estimated from a large observation database, with the aim to quantify its effect on vertical heat and freshwater fluxes between surface layer and deep ocean. We are searching for an avid researcher with a keen interest in ocean circulation and mixed layer processes, who is able to handle large and diverse data sets. The PhD student will be part of the Physical Oceanography group at IUP/MARUM, University of Bremen, working under the supervision of Dr. Maren Walter. A research stay is envisaged at the University of Alberta in Edmonton.

### Requirements:

- Completed MSc or equivalent degree in oceanography, meteorology, physics, geoscience or related fields
- Knowledge of marine sciences, especially physical oceanography; basic knowledge of fluid dynamics
- Prior experience in analysing oceanographic data and scientific computation using MatLab®, Fortran, or similar will be advantageous
- Applicants should have excellent English language skills and enjoy working in an international and interdisciplinary team.

The position is for a fixed term of 3 years. It is funded by the German Science Foundation (DFG). The earliest starting date is October 1<sup>st</sup>, 2016. Salary corresponds to 2/3 TV-L E13.

Applicants should submit under the reference number **A86/16 (HB-6/2)** their 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](mailto:gwehr@marum.de)). The call is open until the position is filled. The review of applications will commence on June 1<sup>st</sup> 2016.

The University of Bremen has received a number of awards for its gender and diversity policies and is particularly aiming to increase the number of female researchers. Applications from female candidates, international applications and applications of academics with a migration background are explicitly welcome.

Disabled persons with the same professional and personal qualifications will be given preference.

Further enquiries can be addressed to

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