**PhD position in Climate Modelling**

**Title:** The role of air-sea ice-ocean interaction processes for Arctic-midlatitude linkages

The PhD position is funded through the Helmholtz – Russian Science Foundation Joint Research Group POLEX: The linkage between Polar air-sea ice-ocean interaction, Arctic climate change and Northern hemisphere weather and climate Extremes.

**Background and tasks:**
You will investigate how an improved representation of polar atmosphere-sea ice-ocean interaction influences Arctic climate changes and its linkages to the weather and climate in Central Europe and Russia. In particular, new parametrizations of Arctic atmosphere-sea ice-ocean interaction, developed in the framework of POLEX, will be implemented into the global coupled climate model AWI-CM, currently consisting of the atmospheric model ECHAM6 and the sea-ice-ocean model FESOM.

The aim of the PhD project is to estimate the effect of improved parametrizations on simulated present and future climate. Therefore, short-term sensitivity model experiments and multi-decadal simulations will be carried out with the improved global model AWI-CM and compared with corresponding reference runs.

In-depth analyses of the model simulations will be done aiming at an improved understanding of the dynamical linkage between Arctic climate change, changes in Northern Hemisphere atmospheric circulation and subsequent changes in extreme events. The effect of the improved turbulence parametrizations on these linkages will be analyzed with emphasis on the tropospheric and stratospheric pathways underlying Arctic-mid-latitude linkages and the role of synoptic and planetary wave interactions. A particular focus is on weather and climate impacts in Central Europe and Russia.

To foster the close collaboration with our Russian project partner, exchange visits of the involved PhD student are foreseen with the partner institute in Moscow.

**Requirements:**
You should hold a Diploma/M.Sc. degree in physics, meteorology, geosciences, or related fields. Good skills in data processing and scientific programming (Fortran, C, Matlab, R, or similar) and interest in atmospheric dynamics are required. Experience in climate modelling and working with Unix-like operating systems is an advantage. Good English language skills are expected.

For further information please contact Dr. Dörthe Handorf (doerthe-handorf@awi.de; +49(331)288-2131)

The position is limited to 3 years and will start in November 2018. The salary will be paid in accordance with the German Tarifvertrag des öffentlichen Dienstes (TVöD Bund), salary level 13.
The place of employment will be **Potsdam**.

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 and therefore encourages women 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”.

As Ph.D. student at AWI you will be member of the Helmholtz Graduate School for Polar and Marine Research ‘POLMAR’ ([http://polmar.awi.de](http://polmar.awi.de)) or another graduate school.

Please forward your applications with the standard documentation (cover letter with motivation, CV and two references / letters of recommendation) by **September 20th 2018** referencing code 12B/D/Kli-P to: [personal.potsdam@awi.de](mailto:personal.potsdam@awi.de).

**expedition tomorrow**