ALFRED-WEGENER-INSTITUT
HELMHOLTZ-ZENTRUM FÜR POLAR- UND MEERESFORSCHUNG

Job offer

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Postdoc (Sea-ice data assimilation and prediction)

Code: 149/D/Kli
Faculty: Science
Job type: Full time
Location: Bremerhaven

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, geochemistry and geophysics thus allowing multidisciplinary approaches to scientific goals.

The Section "Climate Dynamics" invites applications for a position as

Postdoc
(Sea-ice data assimilation and prediction).

This position is part of the new Junior Research Group „Seamless Sea Ice Prediction" (SSIP, 2017-2022), which is funded through the BMBF „Nachwuchsgruppen Globaler Wandel 4+1" Programme and led by Dr. Helge Goessling.

Background:
Advanced sea-ice prediction capacity is urgently needed to meet a growing socio-economic demand, driven in particular by an increasing accessibility of the Arctic in the course of cli- mate change. Operational sea-ice prediction systems have been developed recently, but research on potential predictability suggests that operational sea-ice predictions could be much more skillful than they currently are. One impediment that hampers progress is a gap between short-term (days) and longer-term (months and longer) sea-ice prediction systems. SSIP works towards advancing sea-ice prediction capacity on timescales from hours to years and beyond. To achieve this, SSIP develops and conducts research with a seamless sea-ice prediction system based on the recently developed AWI Climate Model. The unstructured grid of the ocean/sea-ice component of this model (FESOM2; fesom.de/models/fesom20/) allows to use high resolution in the polar regions (plus other key regions) in a global setup, enabling a seamless application of the prediction system on a wide range of timescales. The group applies state-of-the-art techniques to initialise the prediction model using remote-sensing and in-situ observations; it optimises and further develops the sea-ice component of the prediction model; and it applies the prediction system to address research questions related to sea-ice predictability, verification, and the impact of different observations on sea-ice prediction.

Tasks:
You will join a team that adds an Ensemble Kalman Filter based on PDAF (pdaf.awi.de) to the AWI Climate Model. The focus of the work is on sea-ice data assimilation, with tasks ranging from the selection, retrieval, and preparation of suitable observational data to the tuning and further development of the forecast system. You will investigate aspects of partially coupled (sea-ice/ocean) and fully coupled (sea-ice/ocean/atmosphere) data assimilation, working with idealised setups where virtual observations are obtained from a reference simulation as well as „real-world" setups. Jointly with other members of the SSIP Group, you will assess the impact of different observations, work out recommendations for the design of the polar observing system, and disseminate results through scientific publications.

Requirements:
You must have a PhD in one of the following fields: meteorology, oceanography, climate sciences, physics or mathematics. Demonstrated programming skills (in particular FORTRAN), fluency in English, experience with

running and analyzing complex climate models, a strong publication record, and in particular experience with data assimilation are all distinct advantages. Capabilities to develop your own research questions and to tackle scientific as well as technical challenges individually while working as part of a team are desirable.

For more information, please contact **Dr. Helge Goessling** (E-Mail: helge.goessling@awi.de, Phone +49(0)471-4831-1877), Homepage: https://www.awi.de/ueber-uns/organisation/mitarbeiter/helge-goessling.html).

This is a 4-year position starting as soon as possible. The salary will be paid in accordance with the German Tarifvertrag des öffentlichen Dienstes (TVöD Bund), up to salary level 13. The place of employment will be in **Bremerhaven.**

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".

Please forward your applications with the standard documentation (cover letter with motivation, CV and two references / letters of recommendation) by **10th November 2017** referencing code **149/D/Kli** to: Alfred-Wegener-Institut für Polar- und Meeresforschung, Personalabteilung (human resources), Postfach 12 01 61, 27515 Bremerhaven/Germany or by e-mail (all documents merged into one PDF file) to: personal@awi.de.

expedition tomorrow

General Informationen

The Alfred Wegener Institute pursues research in the polar regions and the oceans of mid and high latitudes. As of the 18 Centres of the Hemlholtz Association it coordinates polar research in Germany and provides ships like the research icebreaker Polarstern and stations for the international scientific community.

Zertifikat seit 2005
audit berufundfamilie

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