PhD position “Palaeogenomic network analyses” (m/f/d)

Background
The ongoing sea-ice retreat is expected to strongly impact marine ecosystems. However, it is unknown how marine ecological networks change when sea ice varies through time, mainly because long-term ecological time-series are lacking.

Goals of the project:
In this project, you will analyse data-intense information derived from whole DNA shot-gun analyses of marine sediments from North Pacific and sub-Antarctica. You will design, test and apply novel network-based analyses tools, in order to quantify and interpret network change in the course of sea-ice retreat during the last 20,000 years.

Tasks
You will:
- study marine ecological networks with methods from network science
- develop, adapt, test and apply network analyses tools suitable for the investigation of marine palaeometagenomic time-series data sets
- develop routines for the generation of synthetic data sets that have similar properties as marine (palaeo)metagenomic data to enable hypothesis testing with randomized networks
- quantify and interpret network change in the course of sea-ice retreat at ecosystem-scale
- assign strength of network change to certain ecosystem peculiarities.

Requirements
- Master’s or equivalent degree in statistical physics, bioinformatics, applied mathematics, data science, systems biology (or related disciplines)
- good knowledge in bioinformatics data analyses and strong programming skills (e.g. in Python or R).
- basic knowledge in biology/genetics
- very good English language skills (written and spoken)
- ability to work in an interdisciplinary environment
- great willingness to present and publish research results on international conferences and in international scientific journals.

Further Information
For further information, please contact Prof. Dr. Ulrike Herzschuh (ulrike.herzschuh@awi.de) or Prof. Dr. Marc-Thorsten Hüt (mhuett@jacobs-university.de).

This position is limited to 3 years. The salary will be paid in accordance with the Collective Agreement for the Public
Service of the Federation (Tarifvertrag des öffentlichen Dienstes, TVöD Bund), up to salary level 13 (100%). The place of employment will be Potsdam (or Bremen).

You will participate in the Helmholtz School for Marine Data Science MarDATA.

The AWI is characterised by
- our scientific success - excellent research.
- collaboration and cooperation - intra-institute, national and international, interdisciplinary.
- opportunities to develop - on the job, aiming at other positions and beyond AWI.
- a culture of reconciling work and family – an audited and well-supported aspect of our operation
- our outstanding research infrastructure – ships, stations, aircraft, laboratories and more.
- an international environment – everyday contacts with people from all over the world.
- having an influence – fundamental research with social and political relevance
- flat hierarchies – facilitating freedom and responsibility
- exciting science topics, with opportunities also in technology, administration and infrastructure

Equal opportunities are an integral part of our personnel policy. The AWI aims to increase the number of female employees and therefore strongly encourages qualified women to apply.

Disabled applicants will be given preference when equal qualifications are present.

The AWI fosters the compatibility of work and family in various ways and has received a number of awards as a result of this engagement.

We look forward to your application!
Please submit your application, including (1) a letter of motivation, (2) two letters of recommendation or the contact information of two references and (3) a list of publications, by February 17th, 2021 exclusively online.

Selected candidates will be invited to present their research ideas and motivation during the "Annual recruitment days", planned from 01. to 23 April 2021 and expected to be online.

Reference number 21/39/G/MarData-b

APPLY NOW!