STELLENMARKT

UNIVERSITÄT HEIDELBERG
ZUKUNFT SEIT 1386

Gültig ab dem 09.02.2022
Aushang bis zum 28.02.2022

048/2022

The Institute of Environmental Physics at Heidelberg University invites applications for the following position (50%) starting from June, 1, 2022, for a period of 3 years:

Doctoral scientist (f/m/d)

The position is placed within the “Physics of Environmental Archives” group and is part of the externally funded DFG Priority Programme "Tropical Climate Variability and Coral Reefs" (SPP 2299).

Background
Future climate scenarios predict increased warming also in the lower latitudes, which will have significant implications on regional sea surface temperature (SST) as well as precipitation patterns including tropical cyclones. Over the past centuries, SST changes in the Central American Seas were shown to exhibit variability from the seasonal to multi-decadal scale. The impact of variations of surface ocean motion and sea surface temperature (SST) variability, such as from regional freshwater discharge, is however difficult to assess and therefore largely unknown. The goal of the doctoral project is therefore to quantify freshwater discharge and ocean dynamics in the Central American Sea for the past c. 250 years using a novel tracer combination applied to long-lived tropical corals. The selected student will study U-isotopes (i.e. the sea water 234U/238U ratio) in tropical corals in combination with proxy-derived SST and radiocarbon (14C), to reveal freshwater discharge changes, ocean advection and mixing and surface heat on sub-annual to multi-decadal timescales.

Your tasks:
- Analyse geochemical properties of the tropical coral cores using state-of-the-art methodology
- Investigate high-resolution proxy time-series to explore U isotopes as potential freshwater tracer
- Willingness to participate in field work
- Collaborating with project partners to integrate physical and biogeochemical data
- Active participation in SPP 2299 activities
- Presentation of results in scientific publications and at conferences

Your profile:
- Master’s degree in Physics, Earth Sciences, Marine Sciences, or a similar field
- Strong interest in paleoclimatology and geochemistry
- Expertise in laboratory work, preferably related to sea water or coral-based geochemistry, especially in the context of paleoclimatology
- Experience in statistics and programming (R, Python, …) is beneficial.
- Good skills in written and spoken English, basic knowledge of German is an asset
- Ability to work both independently and as part of a team

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We offer:

- Research as part of an international, multidisciplinary, and dynamic team in Heidelberg
- Fully equipped analytical facilities with cutting-edge infrastructure and laboratories
- A project that is embedded in the DFG Priority Programme SPP2299 ("Tropical Climate Variability & Coral Reefs") and allows a lot of exchange with other researchers and PhD students

The position is limited to three years. The salary is based on TV-L E13 (50%).

Please submit your application documents (CV, diplomas, further qualifications etc.) as a single PDF to Prof. Dr. Norbert Frank (norbert.frank@iup.uni-heidelberg.de). Please direct any questions about the project to Prof. Dr. Norbert Frank or Dr. Sophie Warken (sophie.warken@iup.uni-heidelberg.de). Please note that we will not return your documents. Reviews of applications will **begin on February 28th, 2022, and will continue until the position is filled.**

Heidelberg University stands for equal opportunities and diversity. Qualified female candidates are especially invited to apply. Disabled persons will be given preference if they are equally qualified. Information on job advertisements and the collection of personal data is available at www.uniheidelberg.de/en/job-market.