

PhD student position in marine paleoecology

Within the framework of the ERC Synergy project SEACHANGE, the Institute of Geosciences (Paleontology group) at the University of Mainz, Germany, invites applications for a PhD student position (temporary appointment) to reconstruct marine food web dynamics through compound-specific and bulk isotope analysis (**CSIA, BSIA**) of mollusk shell organics. The University of Mainz has a vibrant campus with nearly 31,000 students and amongst others hosts the Institute of Geosciences, which is equipped with state-of-the-art facilities. Our team maintains strong research collaborations with the Max Planck Institute for Chemistry which is located in the immediate neighborhood of the university campus.

The ERC Synergy project SEACHANGE, a joint research project lead by PIs of the universities of Exeter, Copenhagen and Mainz, aims to quantify the impact of major cultural transitions on marine ecosystem functioning and biodiversity. Target areas include NW Europe, eastern Australia and the west Antarctic Peninsula. The group at Mainz focuses on temporal changes of the food web structure, hydrographic changes and determination of major primary producer groups at the base of the food web. For this purpose, the **PhD student will generate annually resolved $\delta^{15}\text{N}$ and $\delta^{13}\text{C}$ chronologies from bivalve shell organics via GC-C-IRMS (CSIA) and IRMS+EA (BSIA) complemented by trace element analysis via LA-ICP-MS (specifically Ba/Ca)**. To distinguish between changes of the physical environment and the human impact (overexploitation of marine resources etc.) that may have altered marine food webs in the selected target areas, the successful candidate will also be involved in the reconstruction of temporal changes of physicochemical properties of the ocean, in particular temperature. For this purpose, the successful candidate will assist in measuring $\delta^{18}\text{O}$ and $\delta^{13}\text{C}$ values of bivalve shells. Growth patterns in bivalve shells will be used to temporally contextualize the chemical properties (bivalve sclerochronology). Close collaboration with other members of the research team is essential.

Candidate profile:

- Master or diploma degree (above average grade) in Earth Sciences, Biology, Ecology or Marine Sciences (or related field)
- Outstanding motivation and enthusiasm
- Basic knowledge of paleoclimatology, paleoecology, invertebrates and, specifically geochemistry. Previous experience with sclerochronology is advantageous.
- Experience with data analysis and statistical methods
- Computer literacy, e.g., skillful command of MS office packages, R, graphics software etc.
- Ability and willingness to conduct chemical laboratory work
- Excellent written and oral communication skills in English

- Ability to work independently and self-guided, but likewise within an interdisciplinary research team

The fixed-term appointment will be for a maximum of three years and ideally starts on 1 July 2023. Salary according to E13 TV-L (65 % position) includes fringe benefits (health insurance etc.). The University of Mainz is an equal opportunity employer. Disabled persons with comparable qualifications receive preferential status.

Interested individuals are invited to submit an application package including a motivation letter explaining why they apply and how they meet the hiring criteria outlined above, CV, copies of certificates (high school, BSc and MSc/diploma), degree transcripts (plus English or German translation) including an explanation of the scoring system, and addresses of at least two referees as a single pdf to Prof. Dr. Bernd R. Schöne, bernd.schoene@uni-mainz.de, Institute of Geosciences, University of Mainz, Joh.-J.-Becher-Weg 21, 55128 Mainz, Germany. Application Deadline: 12 June 2023. Note, application review will begin immediately. The position will remain open and applications will be reviewed until the position is filled. Further information about the research foci of the Applied and Analytical Paleontology research team can be obtained at <http://www.paleontology.uni-mainz.de> and more details on SEACHANGE at <https://www.seachange-erc.eu/>