



Universität Hamburg
DER FORSCHUNG | DER LEHRE | DER BILDUNG

As a University of Excellence, Universität Hamburg is one of the strongest research universities in Germany. As a flagship university in the greater Hamburg region, it nurtures innovative, cooperative contacts to partners within and outside academia. It also provides and promotes sustainable education, knowledge, and knowledge exchange locally, nationally, and internationally.

The Faculty of Mathematics, Informatics and Natural Sciences, Department of Earth System Sciences, Institute for Geology invites applications for a

RESEARCH ASSOCIATE FOR THE PROJECT “OCEAN LIFE ON THE BRINK: QUANTIFYING THE COLLAPSE OF MARINE ECOSYSTEMS DURING THE PERMO-TRIASSIC CLIMATE CRISIS (DFG)” IN MOLECULAR FOSSILS

- SALARY LEVEL 13 TV-L -

The position in accordance with Section 28 subsection 3 of the Hamburg higher education act (Hamburgisches Hochschulgesetz, HmbHG) commences on October 1st, 2021 or as soon as possible after this date.

This is a fixed-term contract in accordance with Section 2 of the academic fixed-term labor contract act (Wissenschaftszeitvertragsgesetz, WissZeitVG). The term is fixed for a period of 36 months. The position calls for 65 % of standard work hours per week*.

RESPONSIBILITIES:

Duties include academic services in the project named above. Research associates may also pursue independent research and further academic qualifications.

SPECIFIC DUTIES:

This is a PhD student position tied to the Emmy Noether Research Group led by Dr. William Foster and the selected candidate will be expected to work as part of a growing research team.

The project aims to better understand how hypothesised drivers of extinction in shallow marine ecosystems (i.e., thermal stress, ocean acidification, and deoxygenation) during the Permo-Triassic climate crisis led to the most catastrophic extinction event of the Phanerozoic. Although our understanding of this major event has improved dramatically over the last decade, a number of important questions remain unanswered. This Emmy Noether Group will focus on novel, high resolution datasets using the fossil record, the molecular fossil record, and inorganic geochemical proxies for environmental conditions that can be quantitatively

* Full-time positions currently comprise 39 hours per week.

integrated to investigate the direct responses of marine ecosystems to specific environmental changes. The project will, therefore, include fieldwork as a team to Svalbard, China, Italy and Turkey (please note that participation in the fieldwork is not essential for this position and all associated costs are already covered by the project). The integration of the geochemical and body fossil records through the Permo-Triassic crisis will provide novel insights into climate-ecosystem feedbacks during major and rapid climate warming, and will be the first to (1) statistically investigate the relationship between the body fossil and geochemical records; (2) reconstruct the environmental controls on the collapse, ecological structure and composition of marine ecosystems; and (3) will elucidate how climate change at a high rate and magnitude directly affects marine ecosystems.

The PhD student will investigate changes in the abundances of molecular fossils, more specifically lipid biomarkers, across the Permian-Triassic transition using newly collected material. Changes in the composition of lipid biomarkers provide information on changes in the prokaryote community that can also be used to reconstruct a large suite of environmental conditions, i.e. variations in redox conditions and primary productivity. It would be preferred if the student could also analyse molecular fossil record by integrating multivariate statistical methods. The student will deliver regular progress reports, contribute to research seminars, write research papers, and present research results at international conferences. Experiences and skills gained will be of potential use in a variety of careers in research, academia and industry.

Research Training

The project will provide training in collecting and analysing molecular fossil records. The successful applicant will also have the opportunity of undertaking a range of skills-based modules through the postgraduate training programme at the Universität Hamburg, including having the further development of writing and presentations skills.

The successful candidate will also benefit from interactions with the entire Emmy Noether research team and staff at the Universität Hamburg, including Dr. Daniel Birgel.

REQUIREMENTS:

A university degree in a relevant field. We are looking for a candidate who has demonstrable interests, skills and experience in geobiology/palaeoecology, with evidence of having successfully undertaken a geoscience research project at undergraduate or master's level. Additional experience of one or more of the following would be an advantage: molecular fossils (lipid biomarkers), working in a research lab, geological fieldwork, multivariate statistics, computer programming in R, Matlab or Python. The applicant should be fluent in English and engaged in teamwork. German language fluency is not required, but a willingness to learn German is expected.

Qualified disabled candidates or applicants with equivalent status receive preference in the application process.

For further information, please contact Dr. William J. Foster (william.foster@ucd.ie) or Prof. Dr. Jörn Peckmann (joern.peckmann@uni-hamburg.de) or consult our website at <https://www.geo.uni-hamburg.de/en.html>. Short-listed candidates will be invited to online interviews during February and March.

Information about the University of Hamburg and life on campus can be found at <https://www.uni-hamburg.de/en/campuscenter/campus-leben.html>

Applications should include a cover letter, a tabular curriculum vitae, and copies of degree certificate(s). Please send applications by February 3rd, 2021 to: william.foster@ucd.ie.

Please do not submit original documents as we are **not** able to return them. Any documents submitted will be destroyed after the application process has concluded.