

MARUM – Center for Marine Environmental Sciences at the University of Bremen is offering (under the condition of project approval) – for the next possible date for a

Post-Doctoral Researcher / Research Associate (f/m/d)

German federal salary scale E13 TV-L (100%)
limited to 3 years (according to § 2 WissZeitVG)

Open to unconventional approaches in research and teaching, the University of Bremen has retained its character as a place of short distances for people and ideas since its founding in 1971. With a broad range of subjects, we combine exceptional performance and innovative potential. As an ambitious research university, we stand for research-based learning approaches and a pronounced interdisciplinary orientation. We actively pursue international scientific cooperation in a spirit of global partnership.

Today, around 23,000 people learn, teach, research and work on our international campus. In research and teaching, administration and operations, we are firmly committed to the goals of sustainability, climate justice and climate neutrality. Our Bremen spirit is expressed in the courage to dare new things, in supportive cooperation, in respect and appreciation for each other. With our study and research profile and as part of the European YUFE network, we assume social responsibility in the region, in Europe and in the world.

Job description

The Research group Geophysics and Geodynamics at the University of Bremen (<https://www.marum.de/en/about-us/Geophysics-Geodynamics.html>) invites applications for a 3 year Post-Doctoral position in the field of numerical modelling of rifted margins under the supervision of Prof. Marta Pérez-Gussinyé.

The project focuses on understanding the evolution of the northeastern Brazilian margins in the section from Jequitinhonha to the Sergipe-Alagoas basin, where several coincident wide-angle seismic (WAS) and coincident multichannel seismic (MCS) sections exist. The aim on this position is to understand how the inherited lithospheric structure influenced melting and serpentinisation during rifting and the transition to oceanic spreading. Particular emphasis will be placed on simulating the tectonic structure, thermal field, petrological phases, subsidence and uplift history during rifting along specific seismic profiles. This will be done using a new kinematic-dynamic software, Kinedyn, which has been designed to simulate the evolution of rifting along specific seismic sections (e.g. Pérez-Gussinyé et al., 2023, Araujo et al., 2022, Liu et al., 2022).

Requirements

We are looking for a geodynamic modeler or structural geologist with an interest in reconstructing tectonic history along rifted margins using numerical methods.

Requirements are as follows:

- Completed Master/Uni-diploma in Geosciences or related field
- Completed doctoral degree in topics related to rifted margin evolution, computational geodynamics or related fields.
- Some experience in scientific programming (MATLAB, Python, Julia, C++)
- Familiarity with numerical methods for solving Partial Differential Equations, especially finite elements, would be beneficial.
- Applicants should have excellent English language skills and enjoy working in an international and interdisciplinary team.

General Information

MARUM (www.marum.de) has developed into an internationally recognised centre for marine research with a focus on the geosciences, anchored at the University of Bremen. MARUM aims to support its postdoctoral researchers in their professional development and personal

growth to advance their independent research, as well as their professional and academic career (<https://www.marum.de/en/education-career/postdocs.html>).

The university is family-friendly, diverse and sees itself as an international university. We therefore welcome all applicants regardless of gender, nationality, ethnic and social origin, religion/belief, disability, age, sexual orientation and identity.

As the University of Bremen intends to increase the proportion of female employees in science, women are particularly encouraged to apply.

Severely disabled persons will be given priority if their professional and personal qualifications are essentially the same.

Please send your application (including C.V., publication list, a copy of the doctoral certificate, copies of bachelor and master degree certificates, and a statement of research interest) with reference to **job advertisement number A179-24** by **June 7, 2024** to:

University of Bremen
Faculty 05 / Geosciences
Team assistant of Prof. Marta Pérez-Gussinyé
Mrs Martina Braun
P. O. Box 330 440
28334 Bremen
Germany

or as a single PDF file (max. size 8 MB) by e-mail: bewerbung-a17924@marum.de.

We are pleased to answer your further questions by
phone: +49 421 218 65350
e-mail: gussinye@uni-bremen.de

We kindly ask you to send us only copies (no portfolios) of your application documents, as we cannot return them. They will be destroyed after the selection process has been completed. Any application costs cannot be reimbursed.

References

Pérez-Gussinyé, M, Collier, JS, Armitage, JJ, Hopper, JR, Sun, Z and Ranero, CR (2023) Towards a process-based understanding of rifted continental margins. *Nature Reviews Earth & Environment*, 4(3). 166-184. doi:10.1038/s43017-022-00380-y

Araujo, MN, Pérez-Gussinyé, M and Muldashev, I (2022) Oceanward rift migration during formation of Santos–Benguela ultra-wide rifted margins. *Geological Society, London, Special Publications*, 524(1). doi:10.1144/SP524-2021-123

Liu, Z, Pérez-Gussinyé, M, Rüpke, L, Muldashev, IA, Minshull, TA and Bayrakci, G (2022) Lateral coexistence of ductile and brittle deformation shapes magma-poor distal margins: An example from the West Iberia-Newfoundland margins. *Earth and Planetary Science Letters*, 578. 117288. doi:10.1016/j.epsl.2021.117288