
Post-Doc / research Associate

The UNIVERSITY OF BREMEN, Faculty 5 Geosciences is offering, subject to budgetary release of the post, the position of a

Post-Doc / Research Associate

Salary level 13 TV-L (100%)

Reference number A25/19

in the field of

Interplay between surface processes and deformation at rifted margins

for a duration of 36 months starting from 1st May, 2019 or later.

The employment is fixed-term and governed by the Act of Academic Fixed-Term Contract, §2 I (Wissenschaftszeitvertragsgesetz – WissZeitVG). Therefore, candidates may only be considered for appointment if they still have the respective qualification periods available in accordance with § 2 (1) WissZeitVG.

Rifting of the continental lithosphere includes the interactions of multiple processes occurring at different time- and length-scales. Some of the key processes and interactions have been intensively analyzed in recent years using advanced numerical modelling techniques. However, little attention has been placed into the effects of surface processes in passive margin formation. Erosion and sedimentation might play an important role on timing and spatial distribution of deformation since redistribution of mass through the surface implies a change in stresses that may dominate extension. Additionally, surface processes strongly depend on climate so there is the possibility that climate can have an effect on rifting. This postdoctoral position is focused on analyzing how climate interacts with extensional tectonics and the influences of surface processes on the architectural build-up of passive margins.

In order to answer these questions, the post will use and develop numerical models in Matlab. The current available model is 2D visco-elasto-plastic and accounts for surface processes for both subaerial and submarine environments. Specific technical tasks of the post will be to: 1) set up experiments and interpret outcomes of models with spatially and temporally varying surface processes parameters (i.e. precipitation rates), 2) design and conduct experiments to test feedbacks between lithospheric deformation and surface processes, 3) optimize existing force boundary conditions functions so that effects of surface processes in acceleration/delay of rifting can be evaluated. Outcomes of the models will be contrasted with observations from natural examples of rifted margins such as Gulf of California and South China Seas, where feedbacks between surface processes or climate and margin structure have been proposed in observational studies.

The postdoc will integrate in a growing group at the University of Bremen/MARUM dedicated to understand processes involved in continental extension and seafloor spreading from a multidisciplinary point of view.


The holder of this position may have to teach up to 4 hours weekly in German/English at B.Sc. and M.Sc. level (§ 23 BremHG) and is expected to support PhD and master projects under the responsibility of Prof. Marta Pérez Gussinyé. Successful scientific publication for the purpose of postdoctoral academic qualification (e.g. habilitation) is expected.

Required qualifications:


- Completed doctoral degree in Computational Geodynamics or related fields.
- Experience in finite element modeling and scientific computation (UNIX/LINUX, MATLAB).
- Applicants should have excellent English language skills and enjoy working in an international and interdisciplinary team.
- Ability to speak or readiness to learn German as teaching language

The University of Bremen intends to increase the proportion of female employees in natural sciences; therefore, women are particularly encouraged to apply. In case of equal personal aptitudes and qualification, disabled persons will be preferentially considered.

The University of Bremen explicitly invites persons with migration background to apply.

Applications including C.V., publication list, names and addresses of two referees, copies of degree certificates, and a statement of research interest should be submitted until **13th March 2019** to the secretary, Mrs. Martina Braun: braun@uni-bremen.de  or send your application under the reference number **A25/19** to:

Universität Bremen**Fachbereich 5 – Geowissenschaften****Prof. Dr. Marta Pérez Gussinyé****Postfach 33 04 40, D-28334 Bremen****or by Email: gussinye@uni-bremen.de  as one pdf document****Phone: +49 (0)421-218 65350**

We are pleased to answer your further questions by phone or email to **gussinye@uni-bremen.de , Phone: +49 (0)421-218 65350**

For a paper-based application, please make sure to only send document copies.

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