

GEOMAR Helmholtz Centre for Ocean Research Kiel is a foundation of public law jointly financed by the Federal Republic of Germany (90 %) and the state of Schleswig-Holstein (10 %) and is one of the internationally leading institutions in the field of marine sciences. Currently GEOMAR disposes over an annual budget of approx. 80 million Euro and has approx. 1000 employees.

The research unit Marine Geodynamics of the research division Dynamics of the Ocean Floor is offering a

Postdoctoral Research Associate – Engineering geologist

starting on September 1st at the latest.

Job Description / Project Description

The Postdoctoral Research Associate will be responsible for the execution of a number of tasks related to MARCAN, a project financed by Horizon 2020: European Research Council, in which GEOMAR is the co-ordinator. MARCAN focuses on the role of offshore groundwater in shaping seafloor landscapes.

The key research question that the Postdoctoral Research Associate will be exploring is whether topographically-driven meteoric groundwater is an important geomorphic agent at the fine spatial scale. Specifically, the Postdoctoral Research Associate will need to characterise and quantify the nature, scale, rates and controls of processes by which topographically-driven meteoric groundwater weathers and erodes sediment and bedrock at the micro-scale. The study areas for this project include the eastern coast of the South Island of New Zealand, and the north-western coast of the Maltese Islands.

The main tasks of the Postdoctoral Research Associate will involve the following:

- Perform a series of seepage simulation experiments using different samples and parameters;
- Monitor and quantify spatial and temporal changes in surface morphology, physical properties, pore pressure, seepage rate and chemistry, and eroded particle concentration and type, during these experiments;
- Carry out field experiments to detect and quantify spatial and temporal changes in the properties listed above;
- Identify the nature, and quantify the rate and scale, of groundwater weathering and erosion, and relate with different experimental/environmental parameters;
- Derive geomorphic rate laws and develop numerical models for micro-scale groundwater weathering and erosion;
- Develop limit equilibrium models to simulate slope instability associated with groundwater weathering, erosion and pore pressure development and derive numerical models;
- Produce a minimum of three articles, for submission to international scientific journals, by the end of the project;
- Travel and participate in meetings/conferences/fieldwork/cruises as the need arises;
- Keep detailed progress reports and abide to all the conditions imposed by the project;
- Perform any other project related task as instructed by the Project Coordinator.

Qualification

- Possession of a PhD degree in geological engineering or engineering geology
- It is assumed that applicants have a verified experience in laboratory measurements of geologic, geotechnical and hydraulic properties
- It is necessary to provide evidence in having experience in slope stability analysis using numerical model
- Having a high level of proficiency in English is required

Desirable are also the following criteria:

- Be familiar with techniques used in experimental geomorphology and field surveying and monitoring
- Be familiar with physical and chemical analytical techniques for water samples
- Have working knowledge in key concepts in hydrology and hydrogeology
- Applicants must be able to work under minimum supervision

The position is available for a funding period until August 2021. The salary depends on qualification and could be up to the class 13 TVöD-Bund of the German tariff for public employees. This is a full-time position. The position can be split.

GEOMAR Helmholtz Centre for Ocean Research Kiel seeks to increase the proportion of female scientists and explicitly encourages qualified female academics to apply.

GEOMAR is an equal opportunity employer and encourages scientists with disabilities to apply. Qualified disabled applicants will receive preference in the application process.

Please send your application for this post via email **in a single pdf-file** mentioning the keyword "**Engineering Geologist**" in the subject line. Please send your application not later than **June 16th, 2019** to the following email address:

bewerbung@geomar.de

As soon as the selection procedure has finished, all your application data will be removed according to data protection regulation.

For further information regarding the position and research unit please contact Aaron Micallef (E-Mail: amicallef@geomar.de) or visit this website: <http://www.um.edu.mt/hrmd/vacancies>.

Please do not contact us by phone about the present state of procedures. However, we will answer all your questions if you send us an e-mail to bewerbung@geomar.de. In doing so, please refer to the keyword.

GEOMAR is a member of the Helmholtz Association and the German Marine Research Consortium (KDM). For further information please visit www.geomar.de or www.helmholtz.de.

GEOMAR is committed to a non-discriminatory personnel selection. Our job advertisements address all people.



The TOTAL E-QUALITY award is presented to GEOMAR for efforts in terms of human resource management aimed at providing equal opportunity.