

We invite applications for three positions (funded by the German Research Foundation) at the Institute for Earth and Environmental Sciences, University of Potsdam, Germany:

**Research scientist (Post-Doc position)<sup>1</sup>**

(salary scale : TVL 13)

**2 research scientists (PhD candidates)<sup>2,3</sup>**

(salary scale : TVL 13 (75%))

The contracts are limited to 2 years, with the possibility of a one-year extension, and will commence as soon as possible (or later, by agreement). Evaluation of applications will begin 3 weeks after announcement and will continue until positions are filled.

**Subject: Semi-arid hydrology; erosion and sediment research**

The project builds upon the completed "SESAM"- project (*Sediment Export from large Semi-Arid catchments: Measurements and Modelling*, <http://brandenburg.geoecology.uni-potsdam.de/projekte/sesam>). The research comprises the observation, quantification and modelling of water and sediment transport processes and their connectivity in two meso-scale dryland catchments in NE Spain and NE Brazil.

In that context, the research fields are outlined as follows:

**<sup>1</sup> Research position in project coordination and integrated erosion/ sediment transport modelling at the meso-scale (Post-Doc)**

This position comprises project coordination and research in capturing hydrologically and erosion-related landscape properties and drivers to assess water and sediment connectivity. Suitable approaches for upscaling field-work derived data will be developed. In close cooperation with the involved senior, Post-Doc and PhD scientists, the respective results will be integrated in a common model framework, requiring broad scientific and programming skills.

**Required qualifications:**

- Doctoral degree in geoecology, hydrology, water management or similar
- Advanced knowledge in the involved disciplines (i.e. hydrology, geomorphology, soil sciences, remote sensing, etc.)
- Organisation and coordination skills
- Solid data-management and programming skills, preferably Fortran and R

Contact: [till.francke@uni-potsdam.de](mailto:till.francke@uni-potsdam.de)

**<sup>2</sup> Research position in water and sediment connectivity (PhD)**

In close cooperation with 1 and 3, this position encompasses field studies of processes relevant for water and sediment transport (e.g. sediment generation and conveyance to the river, transmission losses), the development of modelling approaches and their parameterisation for a large scale basin. A subsequent analysis of model-frameworks quality and sensitivity and the assessment of simulations for water and sediment scenarios will help to address scientific and practical questions of river basin management.

**Required qualifications:**

- Masters or Diploma degree in geoecology, hydrology, water management or similar
- commitment to engage in the above mentioned, especially willingness to conduct extensive fieldwork in the study areas
- Solid programming skills, preferably Fortran and R

- Experiences in management of geo- and time-series data are welcome  
Contact: [till.francke@uni-potsdam.de](mailto:till.francke@uni-potsdam.de)

### **<sup>3</sup> Research position in erosion-related remote sensing (PhD)**

The successful candidate will derive soil and vegetation information relevant for erosion modelling by field work, geo-statistical approaches and analysis of remote sensing data. Furthermore, s/he will analyse erosion and sedimentation processes by observing and monitoring topography, particularly erosion features, using terrestrial laser scanning technique and by identifying sediment sources using innovative fingerprinting methods.

#### **Required qualifications:**

- Masters or Diploma degree in soil sciences, geosciences, geoecology or related disciplines with a strong background in remote sensing (preferably hyperspectral remote sensing and/or laser scanning)
- Willingness to conduct extensive fieldwork in the study areas
- Good knowledge in soil erosion processes
- Experience in field and/or imaging spectroscopy is desirable.

Contact: [saskia.foerster@gfz-potsdam.de](mailto:saskia.foerster@gfz-potsdam.de)

#### **Further requirements for all applicants:**

- Good command of the English language; knowledge of Spanish, Catalan or Portuguese is welcome
- Willingness to work in an inter-disciplinary, multi-national cooperation including the German Research Centre for Geosciences (GFZ) Potsdam, the Universitat de Lleida (Spain), the Forestry Institute of Catalonia (Spain) and the Universidad Federal do Ceará (Brazil)

The University of Potsdam is endeavouring to increase the number of women in scientific positions and thus particularly encourages applications from women. Applications from suitably qualified persons with disability will be favoured.

Applications with the usual documents should be sent as soon as possible to

**Universität Potsdam  
Institut für Erd- und Umweltwissenschaften  
Prof. A. Bronstert  
Karl-Liebnecht-Straße 24-25  
14476 Potsdam, Germany**

**or by email to [axelbron@uni-potsdam.de](mailto:axelbron@uni-potsdam.de)**

