



For a new DFG-funded research project investigating the influence of biological soil crusts on soil erosion control under forest vegetation, we invite applications for a

### PhD position (Soil Science/Geoecology)

(Starting date 1<sup>st</sup> October 2018, 3 years, 65 %, public service pay grade E13 TVÖD).

**Soil erosion** is not exclusively occurring in agricultural landscapes, but has also been observed in zones of **vegetation disturbance** in forests. An important mechanism for soil erosion control under forest is an intact forest floor cover. In this regard, **biological soil crusts** appear as pioneer vegetation in disturbed areas within mesic forests.

This project will explore how bryophyte-dominated biological soil crusts affect soil erosion processes after vegetation disturbance by skid trails in a **temperate European forest ecosystem**. The field site is situated in the Schönbuch Nature Park, which is a natural laboratory to study how soil covering vegetation and microtopography interact. The work will be conducted in cooperation with Nees-Institute for Biodiversity of Plants in Bonn and within an interdisciplinary team from soil science, geomorphology, botany and ecology.

**Your tasks** will be to record skid trails on different substrates and identify understory vegetation in the field. You will assist in state-of-the-art DNA-barcoding at Nees-Institute for Biodiversity of Plants and conduct a baseline soil survey together with X-ray granulometry and elemental analyses in the laboratory. These methods will be coupled to rainfall simulation experiments and laser scanning of skid trails, plus soil structure experiments with splash cups. Furthermore, you will test how cultivated bryophytes can be restored in disturbed forest areas to mitigate soil losses. The results are to be statistically evaluated and communicated in English.

**You are qualified by** a Master/Diploma in Biology, Geoecology, Geography, Soil Science or related sciences. Expertise in plant and vegetation community identification and/or soil experiments is required, and experience in field and laboratory work, as well as advanced knowledge of statistics (preferably with R) are highly recommended. You should be interested in understanding and investigating interactions of biological and geological systems in an interdisciplinary environment and be independent in developing experimental approaches in such areas. Furthermore, excellent teamwork skills, fluency in English, and a willingness to present results at international conferences are expected. A class B driving licence is required.

**You can expect** a very diverse and challenging job within an international scientific team. We offer an enthusiastic, motivating work environment with ample opportunities for cooperation in the Geoscience Department, as well as nationally and internationally. The chair of Soil Science and Geomorphology accommodates a wide range of scientific methods and leaves room for independent professional development.

Eberhard Karls Universität Tübingen is one of Europe's oldest universities. Tübingen is a beautiful place to live, as it combines a historical and venerable flair with the bustle of a young and cosmopolitan student town. The compatibility of professional and family life is of particular concern to our university and we provide a work environment that encourages this.

Please submit your application by **19<sup>th</sup> August 2018** as single PDF file to Ms. Margaretha Baur ([margaretha.baur@uni-tuebingen.de](mailto:margaretha.baur@uni-tuebingen.de)). Please include a cover letter, a short abstract of your final thesis, a full CV, certificates, and the names of two potential referees. For further information, you are welcome to contact Dr. Steffen Seitz ([steffen.seitz@uni-tuebingen.de](mailto:steffen.seitz@uni-tuebingen.de)).