EBERHARD KARLS
UNIVERSITÄT
TÜBINGEN

Faculty of Science
Department of Geoscience

PhD Position (Soil Science)

(Start date 1st June 2023, 36 months, 75 %, salary: pay grade E13 TV-L).

The Chair of Soil Science and Geomorphology is offering a three-year **PhD position** within the DFG-funded (German Research Foundation) project on soil erosion in agricultural landscapes in the context of dynamic changes of land use patterns and structures (**DYLAMUST**). The candidate (m/w/d) will analyze the dynamic of today's agricultural landscapes and its interrelation with soil erosion processes. We ask whether, why, and to what extent changing landscape patterns and structures affect the hydrological and sedimentological connectivity of agricultural landscapes. Soil erosion modeling with data driven machine learning and conceptual erosion models is at the center of the project. Such hybrid landscape scale modeling can open the possibility of identifying optimal land use patterns that reduce on-site and off-site damage from soil erosion. In-field measurements are located in Germany. Project work will be performed in close collaboration with another PhD student from the Water and Soil Resource Research Group (Prof. Dr. Peter Fiener, University of Augsburg, Germany).

Your responsibilities are:

- research on the perspectives and application of machine learning for soil erosion modeling,
- apply novel machine learning methods in close collaboration with the research group
- at the University of Augsburg,
- documentation and publication of results in international peer reviewed journals,
- presentation of results at national and international scientific meetings, and
- contribution to the teaching activities of the group to a limited extent.

We expect:

- completed MSc in Soil Science, Geoecology, Geoinformatics, Remote Sensing, Agriculture,
- Geosciences, Environmental Sciences, or other closely related disciplines,
- a research interest in the application of machine learning in soil science,
- expertise in spatial statistical analysis and/or big data modeling and /or soil erosion modeling,
- experience in programming (R and/or Python) and GIS software (QGIS), and
- very good communication skills (oral and written) in English.

We offer:

- an excellent, interdisciplinary and dynamic research environment in an international team
- (http://www.uni-tuebingen.de/soilscience) and a vibrant city (https://www.tuebingen.de/en/), and
- a close collaboration with the Tübingen cluster of excellence 'Machine Learning: New Perspectives for Science' (http://www.machinelearningforscience.de) and the Collaborative Research Center 'ResouceCultures' (SFB1070) including interesting career opportunities and an extensive range of training and further education courses.

The appointment will be limited to **June 2026 (36 month)**. Workplace is Tübingen. Salary will be according to the German public service (TVL E13, 75 %). In case of equal qualification and experience physically challenged applicants are given preference. The University of Tübingen aims to increase the share of women in research and encourage female scientists to apply. For more information contact Prof. Dr. Thomas Scholten (thomas.scholten@uni-tuebingen.de). Please send your application (one pdf-formatted document) with detailed curriculum vitae, and statement of research interests, certificates/transcripts before **17 April 2023** to Margaretha Baur (margaretha.baur@uni-tuebingen.de).