EBERHARD KARLS
UNIVERSITÄT
TÜBINGEN

Collaborative Research Centre
SFB 1070 'ResourceCultures'
Chair of Soil Science and Geomorphology

The focus of the collaborative research centre (CRC) SFB 1070 'ResourceCultures' is the socio-cultural dynamics deriving from the use of resources. The CRC offers the unique opportunity to work with scientist from different disciplines like geosciences, archaeologies, philologies and anthropology. CRCs are part of a high-impact funding scheme of the German Research Foundation (DFG).

PhD position in soil landscape modelling

The PhD candidate will analyse complex interaction of soils and human activities, based on soil functions and services in different time periods from prehistory to modern times. The research in this project is organized in two lines, field work on soils in different countries including sampling and computer work on data analysis and spatial modelling. Data from remote and proximal sensing technologies will be combined with field data to link landscape scale related soil information with archeologically related findings on chronological different subsistence strategies and different spatial perceptions in early societies (e.g. changing human-environmental relationships in mobile and sedentary societies). Mathematical and (geo-)statistical modelling approaches will be used for data analysis to quantify the soil landscape interrelationship (including sampling strategies). The methodology is mainly based on data-driven machine learning approaches evolved from pattern recognition and computational learning theory. It is an approach where new spatial soil information is generated by coupling soil data at survey locations with exhaustive grid-based proxy information.

Your tasks:
• Data mining, model development and spatial prediction of soil properties involving machine learning algorithms, satellite data and digital terrain analysis
• Field work in different countries and cultures for sampling
• Publication of the results in international peer reviewed journals

Your profile:
• M.Sc. in Soil Science, Geoinformatics, Remote Sensing, Geosciences, Environmental Sciences, or other closely related disciplines.
• Profound systemic understanding of soil processes and a sound background in natural sciences and geosciences, knowledge and experience with programming, e.g. R environment, GIS
• Interest of interdisciplinary work especially with human sciences
• Experience in spatial data analysis and machine learning will be appreciated

We offer:
• Excellent and unique technical and research facilities
• The freedom you need to develop your own research profile
• Work in inter-disciplinary, multinational teams and excellent links with national and international research networks
• Interesting career opportunities and an extensive range of training and further education courses

The appointment will be limited to **June 2021 (45 month)**. Work place is Tübingen. Salary will be according to the German public service (TVL E13, 65 %). In case of equal qualification and experience physically challenged applicants are given preference. The CRC aims to increase the share of women in research and encourage female scientists to apply. For more information contact Dr. Karsten Schmidt (karsten.schmidt@uni-tuebingen.de) or 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 **24 July 2017** to Margaretha Baur (margaretha.baur@uni-tuebingen.de).