



**PhD position in Soil Science** at the SFB1070 ResourceCultures, project B07 ‘**A Hunt for Resources? - Spatial Models in the Resource Cultures of the Northern Periphery of Mesopotamia**’

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**The Chair of Soil Science and Geomorphology** is offering a four-year PhD position (pay grade 13 TV-L, 65%) focusing on the resources soils, settlements, water and physical infrastructure in Mesopotamia or neighboring regions in northern Iraq within the framework of an interdisciplinary cooperation between soil sciences and archaeology. Extensive investigations of soils and settlements are available from the first funding phase of SFB1070, whereby a surprisingly high number of 529 ancient settlements or archaeological sites in the 4.400 km<sup>2</sup> area were recorded and intensively examined for the first time. Initial analyses indicate the outstanding role of the four resources mentioned and their interaction to form overarching resource complexes in the region. This is clearly visible in the findings of the archaeological survey by settlement systems that are structurally consistent across epochs and seems to be linked with a better quality of the soils. However, their role in the structural continuity of the settlement systems across epoch boundaries is still unclear. In order to entangle these relationships, the spatial relations between the aforementioned resources will be analyzed and modelled, using state-of-the-art methods of soil analysis for large numbers of samples (including FTIR spectroscopy) and innovative machine learning methods (ML, including Deep Learning) for spatial modeling. Doing so, the project will also contribute to the synthesis of the overall resource concept of the SFB1070 along a long durée perspective of resource cultures. Information on the SFB 1070 Resource Cultures and the Chair of Soil Science and Geomorphology can be found at [www.uni-tuebingen.de/forschung/forschungsschwerpunkte/sonderforschungsbereiche/sfb-1070.html](http://www.uni-tuebingen.de/forschung/forschungsschwerpunkte/sonderforschungsbereiche/sfb-1070.html) and at [www.uni-tuebingen.de/soilscience](http://www.uni-tuebingen.de/soilscience).

**Your task** is extremely exciting, diverse and demanding and you will get extensive support in all areas from the SFB1070, the Chair of Soil Science and Geomorphology and the Institute for Ancient Near Eastern Cultures. The work includes field work in northern Iraq followed by a laboratory work phase to analyze the soil samples. A second block of tasks is dedicated to spatial modeling, using ML methods and GIS techniques. The laboratory analyses are supported by student assistants and laboratory staff. The modeling work is supervised by scientists from the Cluster of Excellence "Machine Learning for Science" at the University of Tübingen.

**You bring** a scientific university degree in soil science, geocology, geography, archaeology, computer science, geosciences or a related subject with above-average results and are aiming for a doctorate. You are interested in working with other cultures and have experience in at least one of the research areas mentioned. You want to deepen and broaden this knowledge and are interested in collaborating with archaeology.

**We are happy to receive your application.** The position is open from August 1, 2021 or as soon as possible thereafter. Severely disabled persons will be given preferential consideration if they are equally qualified. The University of Tübingen aims to increase the proportion of women in research and teaching and therefore invites applications from suitably qualified female academics.

For further information, please contact Prof. Thomas Scholten ([thomas.scholten@uni-tuebingen.de](mailto:thomas.scholten@uni-tuebingen.de)). Please send your application with the usual documents (cover letter, curriculum vitae, references) in the form of a **single pdf document by e-mail to Margaretha Baur ([margaretha.baur@uni-tuebingen.de](mailto:margaretha.baur@uni-tuebingen.de)) by 15.07.2021.**