



The work groups of Hydrogeology and Environmental & Engineering Geophysics at the Department of Geosciences of the University of Tübingen announce

two open positions for PhD students (m/f/d)

in the project "*Water and Solute Fluxes and their Structural Controls at Margins of Floodplain Aquifers*"
who will work in the fields of

Hydrogeology and Hydrogeophysics

River valleys often accommodate floodplain aquifers which have important environmental filter functions, e.g., controlling groundwater runoff and the transfer and turnover of contaminants. The hydrogeological functioning of such aquifers depends on the presence of major geological features, and water and solute fluxes within the aquifers are strongly influenced by fluxes across the aquifer margins. The goal of this project is to reveal the hydrogeological drivers that determine water and solute fluxes at margins of a floodplain aquifer and to assess the relative importance for the fluxes at the margins to the overall water balance and the solute turnover within floodplain aquifers.

PhD project #1 will further develop and apply geophysical surveying and hydrogeological methods for the characterization of geological features at floodplain margins that determine the water and solute fluxes through the floodplain aquifers. The geological information gathered in the project will help to identify the geological processes that determine the presence of geological structures at floodplain margins controlling exchange fluxes.

PhD project #2 will investigate the water fluxes and solute loads crossing the floodplain margins and quantify their relative contributions within the floodplain aquifer. The field data will inform a numerical model of the floodplain aquifer for predicting signals of hydrogeological measurements and interpreting the results of the estimated fluxes.

The research will be conducted in the Ammer valley close to Tübingen (Southwest Germany), field work will be supported by a field technician, and a close collaboration with the State Geological Survey is intended. The project also foresees a research stay for up to a month at another institution or geological survey abroad.

The positions provide the opportunity for the candidates to be creative and innovative, and to work on a challenging topic that combines various methods from the field of hydrogeology and environmental geophysics.

The applicants need to hold a MSc (or Diploma) in the field of hydrogeology, geophysics, geosciences, environmental engineering or comparable disciplines. Further requirements are:

- The ability to work independently and in a team, especially a strong collaboration between the two PhD students and the field technician is inevitably required.
- Willingness to work in the field, partly under physically demanding conditions (e.g., lifting of heavy equipment < 25 kg, moving in uneven terrain, cold and hot weather conditions) in a sensitive environment (e.g., bird protection area), which requires anticipatory planning and behavior during field work.
- Good English language skills, German language skills will help in the management of the project as well as in the communication with local authorities and site owners.
- Especially PhD position #2 requires programming and groundwater modeling skills.
- Experience in (hydro)geological and / or geophysical field work and preferably good knowledge about the geology of Southern Germany, which is especially required for PhD position #1.
- A German / EU-driver's license is helpful for independent field work, however e-cargo bikes are also available for field work.

The project is funded by the German Research Foundation (DFG) for 3 years, starting date is preferably **June 2023 or as soon as possible thereafter**. Employment (TV-L E13, 75%) will be arranged by the administration of the University of Tübingen. The university is committed to equal opportunities and diversity. It therefore takes individual's situation into account and asks for relevant information. People with disabilities will be given preferential consideration if they are equally qualified. The University of Tübingen strives to increase the proportion of women in research and strongly encourages qualified women to apply.

Applications including CV, a motivation letter, and contact information of academic references should be sent by e-mail in one pdf-file until February 28th, 2023 to:

Dr. Carsten Leven, University of Tübingen, Department of Geosciences – carsten.leven-pfister@uni-tuebingen.de

