

2 PhD positions at the Karlsruhe Institute of Technology (KIT)

Three year PhD positions are available at the Institute of Meteorology and Climate Research (IMK-TRO). Salary will be according to German public service positions (TVL $\frac{3}{4}$ E13). Positions will be part of the research activities within the framework of a BMBF Young Investigator group under the project "PREMIUM - Predictive models for Extremes and High Impact Weather under Climate Change. Evaluation of the Multi-scale Impact of Soil-Atmosphere Feedbacks."

Two PhD topics are available, briefly described in the following,

Topic 1

Predictability of High Impact Weather in relation to atmospheric moisture distribution. Assimilation of GPS-derived integrated water vapour in high-resolution regional model simulations.

The main tasks of the student recruited will be,

- Provide an in-depth analysis of the relevance and influence of atmospheric moisture on High Impact Weather occurrence based on sub-seasonal, seasonal and decadal simulations.
- GPS derived IWV assimilation in model simulations.
- Investigation of the impact of IWV assimilation using a seamless approach.

Topic 2

Soil-atmosphere interactions in a changing climate. Impact of SMOS soil moisture initialization on regional weather forecasts and seasonal simulations of high impact weather and extremes.

The main tasks of the student recruited will be,

- Assessment of the relevance of soil-atmosphere interactions, particularly soil moisture-precipitation, in different climatic regions.
- Use of remote sensing products, particularly SMOS soil moisture, for model assimilation and initialization.
- Investigation of the sensitivity of model simulations, especially extreme weather and climate periods, including wet and dry terms.

Education

Graduated with high success in meteorology or physics (for position 1, ideally with a background in model simulations, for position 2, ideally with a background in remote sensing)

Requested Skills

- is computer literate (MS Office, statistical software, R, NCL...) and holds basic skills in at least one programming language; for position 2, a background in remote sensing software and analyses of remote sensing data is appreciated
- has excellent communication skills in English
- has a strong interest in publishing results in international and peer-reviewed journals and in timely doctoral graduation

For further information please contact: samiro.khodayar@kit.edu

Please send a CV and publication record along with a short research statement to samiro.khodayar@kit.edu