

University of Augsburg

The **Faculty of Applied Computer Science** of the **University of Augsburg, Institute of Geography, Chair for Regional Climate and Hydrology** is offering a

PhD position in the field of rainfall observation and data fusion using weather radars and commercial microwave link networks

with a duration of three years, starting at **earliest convenience**.

The PhD student will participate in a research project entitled *“Spatial rainfall estimates using improved observations from commercial microwave links and statistical data fusion” (SpraiLINK)*, which is funded by the Deutsche Forschungsgemeinschaft (DFG) in cooperation with the Czech Science Foundation (GACR). One core element of SpraiLINK is the usage of data from commercial microwave link (CML) networks to derive rainfall information. The project partners at the TU Munich and the Czech Technical University Prague will focus on improving the rainfall estimates of the individual CMLs. The work at University of Augsburg will be dedicated to merging CML and weather radar data from Germany and Czech Republic. The goal is to produce the first transboundary rainfall maps from CML data and to seamlessly merge it with the transboundary weather radar data. This will be accomplished by extending and applying the sophisticated statistical data fusion method Random Mixing Whittaker-Shannon (RMWSPy).

The major objectives for the position are:

1. The mathematical development of an observational uncertainty representation for the RMWSPy method and its implementation using Python
2. The development of an estimation technique for weather radar errors and uncertainty
3. The generation and evaluation of transboundary CML rainfall fields
4. The generation and evaluation of transboundary rainfall fields derived from merged CML and weather radar data

To be successful the potential candidate should have:

- A MSc degree in mathematics, natural sciences (meteorology, physics, etc.) or geoscience (remote sensing, physical geography)
- Strong math skills, in particular in statistics
- Good programming skills, preferably in Python
- Basic knowledge of, or willingness to learn, best-practices for scientific programming (version control, reproducibility, open-sourcing code)
- Good communication skills in English

This position can be varied as part-time employment, provided that job sharing ensures the full-time performance of the tasks. The salary is based on personal and collectively agreed conditions according to *Entgeltgruppe 13 TV-L*.

The University of Augsburg promotes the professional equality of women. Female candidates are explicitly invited to submit their application. The University of Augsburg stands up for compatibility of family and professional life. For more information, please contact the woman's representative office. Severely disabled applicants are given preferential consideration in the event of equal qualification.

Please send your detailed application electronically and in one pdf-file to harald.kunstmann@geo.uni-augsburg.de and verena.wedler@kit.edu **until 23rd of February 2020** latest (CV with proof of required skills, focused letter of motivation, contact details of 2-3 referees).

Prof. Dr. Harald Kunstmann
University of Augsburg
Institute of Geography
Chair for Regional Climate and Hydrology
Alter Postweg 118
86159 Augsburg

Institute of Meteorology and Climate Research IMK-IFU
Karlsruhe Institute of Technology
Campus Alpin
Kreuzteckbahnstrasse 19
D-82467 Garmisch-Partenkirchen
Phone: +49 8821 183 208
Email: harald.kunstmann@kit.edu