Hans-Ertel-Zentrum
für Wetterforschung

UNIVERSITÄT BONN

The Meteorology Section of the Institute for Geosciences at the University of Bonn invites applications for a fixed-term 2,5-year position in the Hans-Ertel-Centre for Weather Research (HErZ) research area “Climate Monitoring and Diagnostics” as a

Research Scientist (PostDoc, 100% E13 TV-L)

Background:
Within the current 4-year funding period of the Hans-Ertel-Centre, the possibility of a post-processed reanalysis data set (i.e., surface reanalysis) will be explored. This approach aims to increase the quality of the regional and local representation of climate in regional reanalysis data sets. Therefore, a post-processing data assimilation system at or below 1km horizontal grid spacing will be developed and applied to existing high-resolution regional reanalysis data (especially the COSMO reanalyses formerly developed in our group) with observations not previously assimilated.

The intended system aims at improving the representativeness of parameters such as 2m temperature and humidity, precipitation or cloudiness. In addition, the system will also produce estimates for wind speeds up to 200m above ground. This is expected to enhance the representation of lower boundary layer winds at wind turbine hub heights thus supporting the group’s ongoing efforts in energy meteorology. The successful candidate will develop and test the new post-processing system under the supervision of Dr. Jan Keller and Prof. Andreas Hense.

The position is based at the Institute of Geosciences at the University of Bonn (Germany) within the Climate Monitoring and Diagnostics group of the Hans-Ertel-Centre for Weather Research. This is a joint research group of the University of Bonn and University of Cologne. The successful candidate will closely cooperate with other group members in Bonn and Cologne as well as colleagues in the German Meteorological Service (DWD) departments “Research and Development” and “Climate and Environment”.

Responsibilities:

- Implement the planned data assimilation post-processing system on DWD’s or ECMWF’s high-performance computing facilities.
- Setup and conduct experiments and evaluate the system’s performance to identify its potential benefit especially for DWD’s future climate monitoring purposes.
- Collaborate closely with other members of the “Climate Monitoring and Diagnostics” group in Bonn and Cologne especially regarding the aspect of renewable energy.
- Present research results at scientific conferences or workshops and in scientific journals

Required Qualifications:

- PhD / Doctorate in Meteorology, Climate Physics or another relevant field
- Demonstrated skills in working with large data sets preferably from numerical weather predication / climate models or reanalyses
- Experience in at least one of the two following areas of expertise with a publication record in peer-reviewed, international journals (experience in both areas is considered a plus):
    - Data assimilation
    - Statistical modeling / post-processing
- Working experience with shell scripting and programming languages especially Fortran
- Working experience with data analysis software (e.g. R, Python)
- Evaluation / verification of weather forecasts or reanalysis data is desirable
- Experience in working on HPC systems is considered a plus
- Proficiency in English (German is considered a plus)

Further information:

We are looking to fill the position as soon as possible as it has a fixed end date corresponding to the end of our current funding period at 31 December 2022. Salary is according to German public sector salary grade TV-L West E13 (100%) including comprehensive health care and social security benefits. The University of Bonn is committed to diversity and equal opportunity and is certified as a family-friendly university. It aims to increase the proportion of women in areas where women are under-represented and to promote their careers in particular. It therefore urges women with relevant qualifications to apply. Applications will be handled in accordance with the State Equality Act (Landesgleichstellungsgesetz). Applications from suitable individuals with a certified serious disability and those of equal status are particularly welcome.

Application:

To apply for this position, please send a letter of application, CV, and the names and contact information of two references via email to herz-application@uni-bonn.de as PDF attachment. Review of potential candidates will begin on 4 May 2020 and continue until the position is filled. Due to the covid-19 pandemic, all interviews are conducted via teleconference. For further information or in case any questions arise, please feel free to contact Dr. Jan Keller (jkeller@uni-bonn.de).