

Karlsruhe Institute of Technology (KIT) – The Research University in the Helmholtz Association creates and imparts knowledge for the society and the environment. It is our goal to make significant contributions to mastering the global challenges of mankind in the fields of energy, mobility, and information. For this, about 9300 employees of KIT cooperate in a broad range of disciplines in research, academic education, and innovation.

The **Institute of Meteorology and Climate Research (IMK-IFU) Campus Alpin** in Garmisch-Partenkirchen, Germany, Division Regional Climate Systems, Research Group Atmospheric Variability and Trends, is looking for a

PostDoc / Senior Scientist (f/m/d)

for the installation and implementation of the National Facility „Aerosol Remote Sensing“ being a part of the research infrastructure within the BMBF project **ACTRIS-D**.

The position is limited for 2 years. An extension is possible. Employment and payment will be in accordance with German public service positions (TV-L, E 13).

Job description:

For the measurement of vertical profiles of tropospheric aerosols, water vapor and temperature, two lidar systems will be installed at the institute at Garmisch-Partenkirchen. Additionally, an existing lidar system at the high altitude environmental research station Schneefernerhaus at Mt. Zugspitze will be complemented and prepared for a remotely controlled / automated operation. For measuring aerosol optical properties of the atmosphere two sun photometers will be installed in the valley and on Mt. Zugspitze.

The instruments will importantly contribute to the pan-European ACTRIS research infrastructure. This allows for a better exploration of atmospheric processes in the climate system. Furthermore, this will contribute to a better identification and analysis of future variations and trends. To some extent, the measurements contribute to the international „Network for the Detection of Atmospheric Composition Change“ (NDACC), the „European Aerosol Research Lidar Network“ (EARLINET) and the “Aerosol Robotic Network” (AERONET).

In this project position you will work on the hardware installation of optical remote sensing devices and the implementation of data handling. The scope of your job reaches from setting up optical systems and electronic devices in the field of lidar technique (lasers, optical detection, signal processing) to the ongoing development of data retrieval algorithms and the implementation of processing and archiving measurement data according to the rules and strategies defined within ACTRIS.

Your Tasks:

- Taking part in the installation and implementation of two lidar systems and two sun photometers.
- Taking part in upgrading of a lidar-system at the environmental research station Schneefernerhaus (laser system, optical detection system).
- Implementing data processing from raw-data to ready-to-archive data products.
- Scientific analysis of diurnal variability of the vertical distribution of aerosols and water vapor in the planetary boundary layer and their passage to the free troposphere and their influence on the aerosol optical properties of the atmosphere.
- Publication of scientific results.

Your Profile:

- A PhD in Physics, Physical Engineering, Photonics, or related fields with a superior university degree.
- Practical experience in the field of optics / laser / remote sensing.
- Advanced skills in programming Python or an equivalent programming language (e.g. Perl). Experience in working on Linux computers is a benefit.
- Willingness to experimental work and self-motivated approach to technical and scientific questions.
- Interest in working on superordinate and multi-disciplinary scientific questions of climate research together with an international research community.
- Self-motivated personality, with strong communication and coordination skills to work within a multi-disciplinary team.
- Proficiency in the field electronic controls and data acquisition is a benefit.
- Very good skills in English (spoken and written), German (spoken and written) is a benefit.

We offer:

- An interesting employment within in a vital, international, interdisciplinary and friendly working environment.
- Work on relevant scientific questions in the field of climate research.
- Technical challenges with a strong link to relevant future applications in the field of lasers and contactless spatial sensors.
- An attractive research campus at the foot of Germany's highest mountain with a great potential for outdoor activities in the nature.
- An employment for two years, with the possibility of extension. The payment will be in accordance with German public service positions (TV-L E13).

Applications:

Applications should be sent by email as one pdf file to Dr. Hannes Vogelmann (vogelmann@kit.edu) until **28.02.2023**. Your application should include a detailed CV with personal contact information, copies of the certificates of your Bachelor, Master, Diploma, PhD. Please add a letter with your motivation and a description of your personal skills qualifying you for this position (maximum 2 sides). In separate pdf files, please send a copy of your Master/Diploma thesis and a copy of your PhD thesis.

The application will remain open until a suitable candidate has been found.

The **KIT** prefers to balance the number of employees (f/m/d). Therefore, we kindly ask female applicants to apply for this position. Recognizable severely disabled persons will be preferred if they are eligible and equally qualified.

Start of application phase: 31.01.2023