



The **Karlsruhe Institute of Technology (KIT)** and its **Institute of Meteorology and Climate Research / Atmospheric Environmental Research (KIT/IMK-IFU)** at Campus Alpin in **Garmisch-Partenkirchen, Germany**, invites applications for:

### **Full time PostDoc/ Researcher position:**

## **“Inventories of C and N environmental N losses (e.g. GHG emissions, leaching) for managed and natural ecosystems at national to global scales”**

The division of “Bio-Geo-Chemical Cycles” at Karlsruhe Institute of Technology (KIT) IMK-IFU in Garmisch-Partenkirchen is looking for a qualified, creative and motivated postdoc/researcher with experience in terrestrial ecosystems modeling and expertise in high-performance computing and data assimilation/visualization. The successful candidate will work in a small team with a research focus on the analysis and modelling of carbon and nitrogen transformations and budgets of arable, grassland and forest ecosystems and its environmental impact. Central questions relate to the calculation of regional and global inventories of biosphere/hydrosphere/atmosphere exchange of environmental important C and N compounds ( $\text{N}_2\text{O}$ /  $\text{NH}_3$ /  $\text{CO}_2$ /  $\text{CH}_4$ /  $\text{NO}_3^-$ / DOC/ DON) for managed and natural land for present day and future climate and landuse/management conditions. Research aims at the identification of sustainable climate-smart management strategies, thereby using the ecosystem model framework LandscapeDNDC (<http://ldndc.imk-ifu.kit.edu>). The successful candidate is strongly encouraged to bring in and pursue own research ideas that are related to the above or other existing or upcoming projects within the research group.

### **Examples of research approaches**

- Acquisition and formatting of model driver data for global cropping systems
- Adaptation of the LandscapeDNDC model to high-performance computing facilities
- Calculation of cropland GHG inventories for past, present, and future land use and climate conditions
- Scenario analysis and accompanying uncertainty analysis for optimized climate smart land management practices of global croplands

## **Your Profile**

- University degree in geosciences, physics, computer science or related fields
- Experience in crop/ecosystem modeling, high-performance computing and data assimilation/visualization
- Sound programming skills (C/C++, Fortran, SVN, Git, Python, R, Bash) and ability to work with large datasets
- Experience with spatial analysis and GIS approaches
- English language proficiency and proven ability to write scientific publications
- Strong communication and teamwork skills

## **We offer**

- International, interdisciplinary and friendly working environment
- Large international network
- Attractive research campus at the foot of Germany's highest mountain
- The gross salary will be equivalent to the public service TV-L13, initially for the duration of three years

## **Applications**

Applications should be sent by email to Prof Dr. Klaus Butterbach-Bahl (klaus.butterbach-bahl[at]kit.edu) and/or PD Dr. Ralf Kiese (ralf.kiese[at]kit.edu) and should include a detailed CV, including personal contact information and three references as well as a two-page research statement addressing your specific interest, motivation and qualifications for the position. Specifically, the following points should be addressed

- What skill and abilities would you bring to the team?
- What skills and abilities would you hope to gain from working on this position? What is your specific research interest regarding agriculture and climate change?

We are looking to fill the position by the end of the year but the application will remain open until a suitable candidate has been found.

*KIT strives to achieve gender balance at all levels of employment. We therefore particularly encourage female candidates to apply for this position. With appropriate qualifications, applications from persons with handicaps will be treated with preference.*