

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

**2-3 Positions:
Post-doctoral researcher, Ph.D. student or science programmer in
Modelling terrestrial biogeochemical cycles, climate change-land use change
interactions and feedbacks**

Land-use and land-cover changes (LULCC) are a major contributor to global and regional climate change. Yet our quantitative understanding of the manifold LULCC - climate interactions is still poor. In order to improve our knowledge of climate change impacts on a number of terrestrial ecosystem processes, and of the impacts of LULCC on climate change in turn, we have funding available that could be used **for either post-doctoral researchers, Ph.D. students and/or a scientific programmer, depending on the availability and qualification of candidates.**

In particular we seek to work on the following topics:

- Effects of forest management, secondary forest re-growth and mortality on terrestrial carbon balance
- Coupling models of land-use change with models of terrestrial ecosystems to assess land-system feedbacks (including agent-based modelling)
- Climate change feedbacks: Land-atmosphere biophysical and biogeochemical exchange processes in the Earth system
- Model evaluation, visualisation of model output, development of meta-models and emulators

The work is based on applying the dynamic global vegetation model LPJ-GUESS, and will contribute to the further development and application of the Earth System model EC Earth. The work could also contribute to developing new coupled land-use change – vegetation models (e.g., agent-based modelling).

Funding for these positions is through the EU FP7 (e.g., LUC4C.eu), and the Helmholtz Association. The projects are conducted in close collaboration with Lund University, Sweden, and other institutions in Europe and worldwide. The appointees must be willing to travel on a regular basis (visit partner institutions, attend project meetings), and have very good spoken and written skills in the English language. The work will also include contribution to project management and a small amount of teaching.

Requirements for all positions:

- 1) Ph.D. or M.Sc. degree in a quantitative environmental sciences discipline, for instance meteorology, environmental sciences, environmental economics, plant ecophysiology. Applications from candidates who are close to completion of their Ph.D. or M.Sc. degree will also be considered
- 2) Documented experience in a programming language (ideally: C++), and simulations on Linux clusters
- 3) Documented experience in the statistical analysis and visualisation of large data-sets
- 4) Sense of responsibility, ability to meet deadlines, enjoy working within a multi-disciplinary team

Funding will be for a maximum of three years, depending on qualification and performance.

We offer a position in a young and active team that is placed within a multi-disciplinary, collaborative research environment with excellent research infrastructure and support. Salary and benefits will be based on the Collective Agreement for the German Public Service Sector. The KIT is the fusion of the former University of Karlsruhe and the Forschungszentrum Karlsruhe, combining the missions of a university and that of a national research centre in the Helmholtz-Association. The work is based in the KIT's Department for Atmospheric Environmental Research, located in Garmisch-Partenkirchen, Germany.

Applications must include:

- the preferred level of position (Ph.D. student, post-doctoral researcher, programmer)
- curriculum vitae
- list of publications (for applicants at post-doc level)
- copy of university certificates
- short outline of own skills with respect to the position requirements, and a statement which of the topics listed above would be of interest
- contact information of two (Ph.D. student, scientific programmer) or three (post-doc level) professional referees.

Addressed to:

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Complete applications should be received by 1 November 2015. Only complete applications from candidates who fit the outlined profile will receive full consideration. Foreseen starting date is in the spring of 2016, but the positions will remain open until a suitable candidate has been identified. 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.