PhD student in cumulative risks associated with extreme windstorms in a changing climate

Karlsruhe Institute of Technology (KIT), Institute of Meteorology and Climate Research

KIT is a distinguished research university that combines three core tasks – research, education and innovation – into a single mission. With 9,300 employees and almost 25,000 students, it is one of the largest institutions of research and higher education in natural sciences and engineering in Europe. KIT was awarded the title "University of Excellence" within the German Excellence Strategy launched by the federal and state governments on 19 July 2019. In the area of Atmospheric Science, KIT was ranked #1 in Germany and #8 worldwide in the 2019 Shanghai Ranking.

The Institute of Meteorology and Climate Research (IMK) participates in the KIT Centers "Climate and Environment" and "MathSEE (Mathematics in Sciences, Engineering, and Economics)" and contributes significantly to the program "Changing Earth" of the Helmholtz Association. The department “Troposphere Research” IMK-TRO (http://www.imk-tro.kit.edu/english/index.php) focuses on troposphere research, climate variability and change, water cycle and trace substance budgets. The Working Group "Regional Climate and Weather Hazards" (http://www.imk-tro.kit.edu/english/7144.php) focusses on an integrated analysis of extreme weather and climate events, climate change, climate variability and risk assessment. This includes both fundamental and applied research. Particular attention is given to the links between the weather, climate, regionalisation and risk assessment perspectives associated with extreme events.

We have an open **3-year PhD position** for a new ITN project.

Duties: As a PhD candidate, you will work within the frame of the ITN project: “European weather Extremes: DrIvers, Predictability and Impacts” (EDIPI), funded by the European Union’s Horizon 2020 research and innovation programme under the Marie Sklodowska-Curie grant agreement No. 956396. The consortium is led by Uppsala University, more information on the project can be found at https://edipi-itn.eu/. You will be part of a leading cohort of early-career researchers studying different aspects of climate extremes in Europe, from atmospheric dynamics to public health and agricultural impacts. In addition, you will have access to a rich program of training activities and research exchanges. These are designed to enhance your career prospects in both academia and the private sector.

The PhD project aims at a better understanding of the cumulative risks from extreme windstorms in a changing climate. It focuses on the assessment of windstorm activity over Europe under recent and future climate conditions at high spatial resolution. We will combine diagnostics and modelling to perform a detailed risk assessment of the impact of extreme windstorms on European infrastructure. This includes simulations from the new CMIP6 and EURO-CORDEX initiatives, as well as the application of impact models (e.g. the operational AON UK windstorm model). As part of the project, you will take part in international secondments at Aon UK (London, UK) and CNRS (Paris, FR). Additionally, you will have the opportunity to attend international meetings (EGU, summer/training schools, network wide workshops), subject to health and travel advisories.

Requirements: A Master’s or corresponding degree in Climate Science, Earth Sciences, Physics, Mathematics, Meteorology, or related disciplines preferably obtained no later than one month before starting date. The applicant must be proficient in spoken and written English. In accordance with MSCA rules, applicants must not have resided and not have carried out their main activity (work,

studies, etc.) in Germany for more than 12 months in the 3 years immediately before the recruitment date – unless as part of a procedure for obtaining refugee status under the Geneva Convention. The applicant at the time of recruitment must be in his/her first 4 years (full-time equivalent) of research career and must not have been awarded a doctoral degree. The research career is counted from the date when the researcher obtained the degree entitling him or her to embark on a doctorate.

Additional qualifications: The candidate should be experienced in scientific programming (e.g. linux, python, fortran, idl, ncl, cdo, Matlab, R). Experience with statistical and processed based evaluation of climate model data is a plus. The ranking of the candidates will also accord weight to evidence of analytical thinking, the ability to collaborate, as well as creativity, initiative, and independence. Experience in private sector employment in fields relevant to the position will also be positively evaluated.

The application should contain:

- A Curriculum Vitae.
- A verified list of course grades.
- A cover letter stating your scientific interests and what motivates you to apply for this position.
- Your degree project/thesis (finished or in draft form).
- Contact details (incl. email and telephone number) of two references.

The candidates will be short-listed based on the materials in the application, the top ranked candidates will be interviewed digitally and the references will be collected.

Salary: The salary will follow the European MSCA ITN rules including social security coverage (https://ec.europa.eu/research/mariecurieactions/resources/document-libraries/information-note-fellows-innovative-training-networks-itn_en).

Starting date: 01-09-2021 or as otherwise agreed.

Terms and conditions of employment: In accordance to MSCA-ITN regulations. The group is based on the research campus of KIT located about 10 km to the North of Karlsruhe city centre.

Scope of employment: 100%

For further information about this position please contact: Prof. Dr. Joaquim Pinto, e-mail: joaquim.pinto@kit.edu.

Please submit your application (as single PDF file) by **30 April 2021** to both Joaquim Pinto (joaquim.pinto@kit.edu) and Julia Mömken (julia.moemken@kit.edu), clearly indicating the PhD topic you are applying to in the email title.

KIT actively supports equality, diversity and inclusion, and as an equal opportunity employer, KIT explicitly encourages applications from women as well as from all others who will bring additional diversity to the university's research and teaching. Applicants with disabilities will be preferentially considered if suitably qualified.

Are you considering moving to Germany to work at KIT? If so, you will find a lot of information about working and living in Germany at http://www.intl.kit.edu/ischolar/index.php. You are also welcome to contact the International Scholars & Welcome Office at scholar@intl.kit.edu.

Please do not send offers of recruitment or advertising services.