The University of Bremen, **Faculty 1 (Physics/Electrical Engineering), Institute for Environmental Physics (IUP), AG Kanakidou** - under the condition of job release – at the earliest possible date – offers the position of a

Research Assistant (PhD) (f/m/d)
German Pay Scale EG 13 TV-L
with a working time of 19,6 hrs./week, limited for 3.5 years

The time limitation is subject to the scientific qualification according to the Act of Academic Fixed-Term Contract, §2 (1) (WissZeitVG – Wissenschaftszeitvertragsgesetz). Therefore, candidates may only be considered if they dispose of the respective scope of qualification periods, according to §2 (1) WissZeitVG.

The Institute of Environmental Physics (IUP) is seeking to hire one (1) qualified and motivated PhD student to enhance our understanding of the sources and sinks of methane.

The PhD student will reinforce the research team of the Excellence Chair Prof. Maria Kanakidou. The ultimate scientific goal of the Excellence Chair programme is the evaluation of the impacts of anthropogenic emissions on climate and ecosystems within the Earth System in a carbon and nitrogen driven economy. In this respect a unique modelling framework will be build that combines traditional and modern modelling tools with Earth observation data products, including satellite and ground-based remote sensing observations. It will be used to optimize estimates of the surface fluxes i.e., emission or deposition of greenhouse gases and other climate-relevant pollutants that are needed for the evaluation of their impacts on climate and ecosystems, respectively, using Earth System Models.

The research team is hosted in the Laboratory for Modeling and Observation of the Earth System (headed by Prof. Mihalis Vrekoussis). LAMOS is the most recent branch of the internationally renowned Institute of Environmental Physics (IUP) (http://www.iup.uni-bremen.de/lamos, http://www.iup.uni-bremen.de/eng) of the University of Bremen (UB).

Field of activity:

The successful PhD student will work on inverse modelling of CH_4 emissions focusing on permafrost and contribution to CarbonTracker Europe network.
This PhD inverse modeling project will make use of data products retrieved from various satellite instruments combined with ground-based observations in the TM5-4dvar model to enable the investigation and attribution of the recent and unexpected increasing trends of methane and the respective changes in methane surface fluxes. This latter is of significant importance as the boreal forests, and the Arctic permafrost are large reservoirs of organic carbon and regions close to a tipping point. Global warming could enable the abrupt release of greenhouse gases from permafrost, while simultaneously, absorption of carbon dioxide from boreal forests could increase.

Prerequisites:

Master degree in natural or computational sciences such as physics, chemistry, mathematics, computer science, or any other relevant field with a grade at least 2.0 or better of the German system

- Good knowledge of programming in Python or Fortran
- Familiar with Linux/Unix environment.
- Fluency in oral and written English

Additional (desired) **skills**

- Experience in working with large datasets (analysis and visualization)
- Hands-on experience with atmospheric modeling
- Hands-on experience in inverse modeling
- Knowledge of atmospheric chemistry

The University of Bremen strives to increase the number of females in science; therefore women are explicitly encouraged to apply. Applicants with a migratory background are highly welcome. Disabled candidates will receive preferred consideration over mainly equally qualified contenders.

Contact

Questions concerning scientific issues:
Prof. Dr. Maria Kanakidou, mariak@uni-bremen.de

Please send your application (cover letter, cv, and copy of your degree certificates) until the **6 April 2021** by indicating the **job id A28/21** to:

University of Bremen / FB1
Secretary of Prof. Vrekoussis
Mrs P. Renken (NW1- S 3130)
Otto-Hahn-Allee 1
D-28359 Bremen
Germany

or by e-mail: prenken@uni-bremen.de , phone: +49 421 218 62141

Paper-based applications are only required as a copy (no folders); they will be destroyed after the closure of the application procedure.

Veröffentlichung:	***Kopie an:***
-Uni HP 11.03.2021	*- K*
	- FB
Bewerbungsschluss:	*- Dez. 2*
06.04.2021	*- PR*
	- Zentrale Frauenbeauftragte
	- Vertrauensfrau d. Schwerbehinderten