

The Institute of Environmental Physics (IUP) at the University of Bremen offers offers - under the condition of job release - at the earliest possible date

Postdoc or PhD position (f/m/d)

German federal pay scale E 13 TV-L (65% in case of PhD, 100% in case of PostDoc) limited for 3 years

for the research project

Remote Sensing of Methane from satellites to determine emissions of methane sources on point scale, national scale and global

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.

Methane (CH₄) is a powerful greenhouse gas and the increase in atmospheric methane concentrations has contributed strongly to the global increase in surface temperature. On a 20-year timescale, methane is about an 80-times more potent greenhouse gas than CO₂. Thus, rapidly reducing methane emissions from anthropogenic sources are considered essential to achieve the goals of the Paris Agreement to limit the global warming to 1.5°C. The success of such a climate measure relies critically on our ability to identify and quantify methane emissions sources and to understand their changing emissions with satellites playing a critical role as they can provide observations of the atmospheric CH₄ distributions from a facility-scale to global scale.

The Institute of Environmental Physics (IUP) at the University of Bremen conducts leading international research in the field of remote sensing of greenhouse gases and their exploitation in combination with modelling. To support our research activities within the German Integrated Greenhouse Gas Monitoring project ITMS, the ESA Climate Change Initiative and the EU Horizon Europe Project EYE-Climate, we are looking for a dedicated junior scientist (PhD candidate and/or a postdoctoral researcher). The main focus of the research activities is the development of techniques to derive accurate atmospheric CH₄ data from satellite data (Sentinel-5P, Sentinel-5, PRISMA, EnMAP) and to develop novel methods for estimating emissions from localised emission hotspots. This will also involve the use of high-resolution atmospheric models and machine learning methods.

The research activities are part of national and European research initiatives and will be performed in cooperation with the German Weather Service DWD, the Max-Planck Institute for Biogeochemistry, The Norwegian Climate and Environmental Research Institute NILU, the European Centre for Medium-Range Weather Forecasts ECMWF and the European Space Agency ESA.

Requirements:

- For a PhD Candidate: A university degree (Diplom/Master) in physics, geophysics, meteorology (or similar) with an average grade better than 2.0 in the German system or B in the Anglo-Saxon grading system
- For Postdoctoral Candidate: A PhD in physics, geophysics, meteorology (or similar)

- Good programming skills in at least one high-level programming language (preferably python)
- Initial experience in at least one of the following fields: satellite remote sensing, machine learning, atmospheric remote sensing, atmospheric modelling, greenhouse gas measurements
- Strong interest in the field of satellite remote sensing of the atmosphere
- Good communication skills, due to cooperation with project partners
- Good knowledge of the English language. Willingness to learn German.

The Institute for Environmental Physics offers a good working atmosphere, direct involvement in international research and attractive facilities.

The university is family-friendly, diverse and sees itself as an international university. We therefore welcome all applicants regardless of gender, nationality, ethnic and social origin, religion/belief, disability, age, sexual orientation and identity.

As the University of Bremen intends to increase the proportion of female employees in science, women are particularly encouraged to apply. Disabled applicants will be given priority if their professional and personal qualifications are essentially the same.

Please send your application documents (cover letter, CV, and copy of your degree certificates including high school) until **8 September 2023** by indicating the **job id A165/23** to:

University of Bremen FB1
Institute of Environmental Physics
Secretary of Prof. J.P. Burrows
Mrs Stephanie Drath
Otto-Hahn-Allee 1
D-28359 Bremen
Tel.: +49 421 218 62101

or as a single PDF file via e-mail to sdrath@iup.physik.uni-bremen.de.

Please note that incomplete applications will not be considered.

For questions of the research project please contact:
Dr. Heinrich Bovensmann, e-mail: heinrich.bovensmann@uni-bremen.de

See also for general information on this topic:
http://www.iup.uni-bremen.de/carbon_ghg/

