

The research group **Theory of Atmospheric Dynamics and Climate** at the Institute of Atmospheric and Environmental Sciences of the **Goethe University in the city of Frankfurt** (<https://frankfurt.de/english/about-frankfurt>) invites applications for a

**Research Assistant (m/f/d)  
Postdoctoral Scientist  
(E13 TV-G-U)**

The position is limited until 28.02.2026 and it is funded by the VESRI project DataWave (<https://datawaveproject.github.io/>), with international partners at Stanford University, New York University, Rice University, the UK Met Office, the École Normale Supérieure in Paris, and the Max Planck Institute for Meteorology in Hamburg. The salary grade is based on the job characteristics of the collective agreement (TV-G-U) applicable to the Goethe University.

The proposed research will deal with the **theory and efficient modeling of atmospheric gravity waves**. The focus will be on mountain waves in the advanced gravity wave module MS-GWaM in the UA-ICON weather and climate model. A parameterization for gravity wave excitation by mountains will be developed and coded in UA-ICON/MS-GWaM. This will be optimized using machine learning (ML) in comparison with measurements and wave-resolving simulations. Collaboration with other groups to use UA-ICON/MS-GWaM for training ML-based gravity wave parameterizations is also envisioned. Contributions to related theoretical work in the research group would be welcome.

Information on the research group can be found at <http://www.goethe-university-frankfurt.de/45681958/Theory-of-Atmospheric-Dynamics-and-Climate>. Its focus is on scale interactions in atmospheric dynamics, applied e.g. to large-scale low-frequency variability or gravity-wave dynamics. Middle-atmosphere dynamics is another field of work. Methods employed are e.g. multi-scale asymptotics, stochastics, and numerical simulations. Inquiries should be addressed to Prof. Dr. Ulrich Achatz ([achatz@iau.uni-frankfurt.de](mailto:achatz@iau.uni-frankfurt.de)).

**Requirements**

Applicants should have a very good PhD in meteorology, physics, applied mathematics, fluid dynamics, or a related field. Expected is a strong background in theory and/or modeling.

The university is committed to equal rights for women and men and therefore strongly encourages women to apply. Severely disabled persons are given priority in the case of equal qualifications.

**Applications and deadline**

Please send applications as one single pdf file to [achatz@iau.uni-frankfurt.de](mailto:achatz@iau.uni-frankfurt.de), including (i) a letter of motivation, (ii) a CV, (iii) copies of all relevant certificates, and at least two contacts for reference letters **by 28.02.2022**. For further information, please contact [achatz@iau.uni-frankfurt.de](mailto:achatz@iau.uni-frankfurt.de).

We look forward to your application!