

Job Advertisement 2024-14

09.08.2024

At the Leibniz Institute of Atmospheric Physics (IAP), a full-time position (40h/week) in the Department "Modelling of Atmospheric Processes" is available as

Postdoc, Turbulence parameterization (f/m/d)

The position is offered for two years with a start at the earliest possible date. The salary is according to class EG 13 TV-L. The fixed-term contract is based on § 2 WissZeitVG.

The position is embedded in the DFG-CRC 181 (<https://www.trr-energytransfers.de/>) "Energy Transfers in Atmosphere and Ocean". The CRC 181 has the goal to improve our understanding of the energetic coupling of various processes in the atmosphere and ocean and their influences on climate and its variability. The advertised position is part of sub-project "Improved Parameterisations and Numerics in Climate Models".

Your Tasks:

As part of the DFG research project TRR-181 "Energy Transfers in Atmosphere and Ocean", the turbulence parameterization gDSM (generalized Dynamic Smagorinsky Model for dynamic estimation of the turbulent mixing length) developed at the IAP is to be transferred to the ICON (ICOsahedral Non-hydrostatic) model. For this purpose, the filtering concepts developed for a spectral model must first be applied to the unstructured grid of the ICON model. Subsequently, the tendencies in the dynamic core are to be adapted in order to fully take into account the interaction of the gDSM with the background. The aim is to use properties of resolved gravity wave from these ICON simulations to validate the MS-GWaM and IDEMIX-a gravity wave parameterizations developed in other TRR subprojects. The activity includes among others:

- the independent development, implementation and evaluation of physical concepts and their transfer to an atmospheric model
- the independent performance of suitable simulations with ICON
- the analysis of gravity waves in temperature and wind data from ICON simulations
- comparison with other data sets (radar measurements, gravity wave parameterization, etc.)
- Summary and publication of the results in the form of scientific publications.

Your Qualifications / Experience:

- PhD in physics, meteorology or a related field interest in atmospheric dynamics
- interest in theoretical meteorology and its geophysical issues,
- good knowledge of scientific programming and data analysis (FORTRAN, C++, Python, etc.) and interest in working with parallel computers.
- great interest in science, a high degree of self-organization and motivation are required.
- ability to work in a team, willingness to work independently and organizational skills

What we offer:

- The DFG-CRC 181 offers a comprehensive and structured training for early career researchers. In addition to self-organized activities such as workshops, trainings and a guest program, the successful candidate will have the opportunity, if desired, to pursue international research visits. The consortium conducts an ambitious program to gradually enhance gender equality across all career levels.
- an attractive working place near the Baltic Sea
- modern equipment
- engagement in an international work environment
- participation in the company pension scheme (VBL)
- employment relationship in accordance with the provisions of the Collective Agreement for the Public Service of the Federal States (TV-L)
- flexible working hours and mobile working within the framework of the applicable regulations
- family office

Who we are: Our mission is to advance the scientific knowledge of the mesosphere and lower thermosphere by developing and exploiting expertise in atmospheric physics, instrumentation, analysis and modelling to serve emerging societal needs – such as questions regarding climate change. On the regional level, we closely cooperate with the University of Rostock and are an integral part of the teaching program of the Institute of Physics. Further, we are networked with the research community worldwide. As an institute of the Leibniz Association, we distinguish

ourselves as a modern and innovative employer that highly values family friendliness, equality of opportunity and flexibility.

Interested?

Please send your application as one pdf with complete, informative documents, including

- motivational letter
- curriculum vitae
- diploma with indication of final grade
- copy of certificates, possibly testimonies and references

under indication of the keyword: **2024-14**

to: personal@iap-kborn.de

The advertisement remains open until a suitable person has been appointed. Unfortunately, application and travel costs cannot be covered by the state of Mecklenburg-Vorpommern. By submitting your application, you consent to the processing of your personal data for the purpose of the application process.

Equal Opportunities: We pursue a family-friendly personnel policy, and strive to increase the proportion of women. Qualified women are therefore explicitly encouraged to apply. People with disabilities are given preference if they have the same qualifications.

Contact: For further information, please contact Dr. Urs Schaefer-Rolffs (e-mail: schaefer-rolffs@iap-kborn.de) or inform yourself under www.iap-kborn.de.

