PhD or Postdoc position in vegetation modelling with Machine Learning

At the **Technical University of Munich** (TUM), as part of the MountAInWater project funded by Schmidt Sciences, we offer one

PhD or Postdoc position (m/f/d)

to work on the development and application of a hybrid land surface model combining process-based and machine learning components, designed for alpine regions, **to be filled as soon as possible.**

The successful candidates will be part of the Munich Climate Center and the Earth System Modelling group at TUM (https://www.asg.ed.tum.de/esm/home/) and will be closely involved in the Schmidt Sciences project MountAInWater, coordinated by the Institute for Science and Technology Austria (ISTA). The position is funded for **2 years (Postdoc, 100%, 40h per week) or 3 years (PhD, 75%, 30h per week)**. Remuneration is in accordance with the German public tariff scheme (TV-L), salary group E 13.

About the project:
The MountAInWater project aims to produce a global mountain reanalysis product combining information from observation sites and high-resolution land surface models based on advanced machine learning and emulation approaches.

Key responsibilities:
The candidates will be expected to work on the following tasks

- Develop machine learning (ML) methodologies appropriate for emulating high-resolution process-based land-surface models
- Combine process-based land surface and vegetation model components with data-driven model parts, e.g. in the framework of Neural Differential Equations

Requirements:
- Master's / PhD degree in physics, mathematics, computer science, meteorology, or a related field
- Excellent skills and strong background in programming (Python and Julia) are required
- Experience in working with Earth system model simulations is required
- Experience in machine learning is required
- Willingness to travel for work (project meetings, workshops, and research visits) and take part in further training
- High level of competence in oral and written English

We offer:
- The chance to be part of an interdisciplinary collaboration of leading international research institutions
- Participation at international workshops and conferences
- A stimulating working environment in an internationally leading research institution
- a collective pay scheme and associated benefits

We explicitly encourage women to apply. In cases of equal qualification and within the given legal scope, women will be given preference. Applications by candidates with migration background are also encouraged. Disabled candidates with equal qualifications will be regarded favorably. We also encourage applications by parents returning from parental leave.

Please send your full application (including cover letter, CV with list of publications, contact details of two referees, Master / PhD certificates) **as a single PDF document by Email to esm-jobs.asg@ed.tum.de**. Applications will be reviewed on an ongoing basis until the position is filled.

The size of the file should not exceed 15 MB.

For further information or to discuss the position please contact Prof. Dr. Niklas Boers (n.boers@tum.de).

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Data Privacy Notice:

When applyING for a position at the Technical University of Munich (TUM), you submit personal data. Please note our data privacy information pursuant to Article 13 of the General Data Protection Regulation (GDPR) regarding the collection and processing of personal data in connection with your application. By submitting your application, you confirm that you have read and understood TUM's data privacy notice.