### PhD position – Statistical characterization of meteorological forcing and its impact on near- surface melting and re-freezing processes using hybridized modeling techniques

The RWTH Aachen University/Graduate School AICES is looking for a highly motivated PhD student (m/f/d) joining the team of the research group ,Geofluiddynamics' (Prof. Julia Kowalski) in order to support the KISTE (<u>https://kiste-project.de/</u>) project. In an interdisciplinary and multinational team, we are working on predictive models for earth science applications focusing on near-surface processes, geohazards and cryosphere physics.

# Your task will be centered around:

- Developing computational models for near-surface phase-change processes
- Assembling and analyzing the meteorological forcing for selected near-surface regimes using machine learning tools
- Developing a hybridized workflow to couple both
- Present and discuss the developed tools in a series of colloquia and conferences
- Write articles about your technical developments, results and insights on the interaction between meteorological forcing and near-surface melting and refreezing
- Be part of the creation of a massive open online course to make your developed methods usable to a broad audience

## Your background:

- University degree in earth sciences, physics, applied mathematics, computer science or a related discipline
- Expertise in HPC systems and numerical modelling workflows
- Experience with handling large data files and large datasets and / or Python
- Strong interest in AI, machine learning and statistical data analysis
- Very good communication and organizational skills
- Very good command of the English language

### What we offer:

- A highly motivated local group, close collaboration opportunities within the interdisciplinary research project KISTE (AI strategies for earth system data), as well as an international and interdisciplinary working environment
- Ideal conditions for successfully completing a doctoral degree
- Chance of participating in (international) conferences and project meetings
- Further development of your personal strengths, e.g. via a comprehensive training program
- Pay in line with 100 % of pay group 13 (TVL).

### About us:

The Aachen Institute for Advanced Study in Computational Engineering Science (AICES) at RWTH Aachen University offers a doctoral training at the interface between the applied sciences and engineering, mathematics and computer science.

RWTH Aachen University is certified as a Family-Friendly University and particularly welcomes and encourages applications from women, disabled persons and ethnic minority groups, recognizing they are underrepresented across RWTH Aachen University. For information on the collection of personal data pursuant to Articles 13 and 14 of the General Data Protection Regulation (GDPR), please visit: http://www.rwth-aachen.de/dsgvo-information-bewerbung.

Please send your application by email (in one pdf-file) to: <u>kowalski@aices.rwth-aachen.de</u>. Please include CV, letter of motivation, interest in research and continuing learning regarding the position, diplomas and two contacts for references.