

**Jobnumber: 26635**  
**Institutskennziffer: 532610**



## **Research Assistant/Associate**

### **Applied Geophysics & Geothermal Energy**

#### **Our profile:**

The Institute of Applied Geophysics and Geothermal Energy (GGE) at RWTH Aachen University is searching for a computational scientist. The position is for one year within the EU Horizon 2020 funded "Energy Oriented Centre of Excellence for computing applications" (EoCoE-II). GGE participates as 'linked third party' of Forschungszentrum Jülich. The GGE work packages focus on optimization of model based parameter estimation for geothermal reservoirs.

The institute for Applied Geophysics and Geothermal Energy performs application-oriented research in the fields of geothermal energy, numerical simulations of flow and transport processes, petrophysics and seismic imaging. The institute hosts an international and interdisciplinary team of PhD students and postdocs and operates a well-equipped petrophysics laboratory.

The Energy oriented Centre of Excellence for Computing Applications is a European network of expertise in energy science, scientific computing and High Performance Computing (HPC). It consist of 18 partners from seven countries including three European Supercomputing Centers.

#### **Your profile:**

The successful candidate holds a PhD degree (or MSc. with sufficient working experience) in a field of computational sciences such as computer science, physics, engineering, geophysics or any other relevant field.

The position requires significant experience in programming with FORTRAN, expertise in parallel programming and HPC technologies, as well as experience with software development and management. We are looking for a candidate with proficiency in oral and written English and good interpersonal and team working skills.

Additional helpful skills are:

- Knowledge of HDF5, experience with I/O libraries
- Knowledge of numerical solvers
- Experience in geothermics or heat flow simulations
- Interest in interdisciplinary work and research
- Experience in writing scientific reports

#### **Your responsibilities:**

The optimization of our FORTRAN based in-house code SHEMAT-Suite for simulation of fluid flow and heat transport through porous media. The successful candidate would support our research in geothermal modeling by enabling the code towards exascale platforms.

The successful candidate's work would cover particularly:

- Implementation and integration of the Parallel Data Assimilation Framework (PDAF) in order to provide a parallel and scalable data assimilation method in SHEMAT-Suite.
- Integration of a portable data interface (PDI) in SHEMAT-Suite.
- Improvement of simulation outputs.
- Interfacing the AGMG solver with PETSc.

Furthermore, the responsibilities include:

- Preparing and submitting deliverables in form of written reports, code performance measures and code demonstrators.

**What we offer:**

The position is for 12 Month and to be filled as soon as possible.

This is a full-time position. It is also available as part-time employment per request. The employment period will be extended accordingly.

The successful candidate does not have the opportunity to pursue a doctoral degree in this position.

The salary corresponds to level TV-L 13.

RWTH Aachen University is certified as a "Family-Friendly University". We particularly welcome and encourage applications from women, disabled persons and ethnic minority groups, recognizing they are underrepresented across RWTH Aachen University. The principles of fair and open competition apply and appointments will be made on merit.

**Your contact person**

For further details, please contact

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For further information, please visit our website at: <http://www.gge.eonerc.rwth-aachen.de>

Please send your application by April 23, 2019 to

**RWTH Aachen**

**Applied Geophysics & Geothermal Energy**

**Mathieustr. 10**

**52074 Aachen**

You can also send your application via email to [post\\_gge@eonerc.rwth-aachen.de](mailto:post_gge@eonerc.rwth-aachen.de). Please note, however, that communication via unencrypted e-mail poses a threat to confidentiality as it is potentially vulnerable to unauthorized access by third parties.