Research Fellowship in the field of numerical mathematics with applications to computational geosciences

OFFER DESCRIPTION

We offer research fellowship for **postdocs** or **researchers** interested in a wide range of topics from numerical mathematics to computational geosciences that are specified below. The fellowship is available **since May 2022** and can continue to **December 31, 2023**.

Research topic

The [Institute of Geonics of the Czech Academy of Sciences](#) (UGN) located in Ostrava, Czech Republic, is carried out scientific research on the Earth's crust and its landscapes, to contribute to the utilization of its research results, and to provide a research infrastructure. [Department of Applied Mathematics and Computer Science](#) (DAMCS) has research activities in development, analysis, implementation and application of models and numerical methods motivated by geo-applications like deep nuclear waste repositories or geotechnical stability assessment. The focus is on elastic and plastic models, flow in porous media with or without fractures and heat transport. The research of the DAMCS includes advanced topics as coupling of these models (thermo-hydro-mechanics), inverse analysis, limit load analysis, uncertainty treatment, Bayesian inverse analysis or machine learning. Particular interest is in iterative techniques, solvers, high-performance computing methods for demanding applications and software development.

The activities performed by the DAMCS Team attempts to encourage interactions between mathematical and engineering communities, and we would like to get benefit from the fact that engineering motivates development or extension of many mathematical theories and, conversely, a contemporary mathematical background can substantially improve engineering computations.

Responsibilities

Your responsibilities will include:

- Carrying out research related to team activities and projects.
- Close collaborations with our partners.
- Presenting project results at international conferences and in scientific journals.
- Cooperation on preparation new projects (national and international).

There are no teaching duties associated with the position. Nevertheless, the cooperation with surrounding universities is welcome.

Candidate profile

We are looking for candidates who:

- Hold a Ph.D. degree (or equivalent) in Applied Mathematics, Optimization, Computer Science, Computational Mechanics or related fields;
- Have the ability to perform independent research, with a strong emphasis on prior English-language publications in high-quality refereed journals;
- Possess good written/verbal knowledge of English;
- Have good skills in at least one of the following computer languages: Matlab, Python, C/C++, PETSc, Fortran.

We offer

- Participation in interdisciplinary research projects and in international collaborations;
- Opportunities for professional growth by contributing to the Department's research mentioned above;
- Flexible working-time, the possibility of part-time work, work-life balance
- Full social and health insurance;
- 25 days paid leave of absence (holidays) per year + 3 days of paid sick leave in addition to the statutory insurance;
- Additional benefits such as subsidized meals, yearly benefits supporting recreational and sports activities, as well as health care programs;
- Relocation assistance via the EURAXESS Czech Republic office.
- Location at the campus of VSB-Technical University of Ostrava including possibilities for accommodation or children care in the nurse.

Application procedure

The applications are to be sent to podatelna@ugn.cas.cz and should contain:

- Academic curriculum vitae including a detailed list of publications;
- Motivation letter (up to two pages), stating personal goals and research interests and their relation to the research topics of DAMCS;
- A proof of the obtained degree.
- Optionally, letters of recommendation, sent directly to podatelna@ugn.cas.cz.

For full consideration, complete applications must be received by **15st April 2022**, but applications will be accepted until the position is filled.

Please, write in the subject line of your email "Research Fellowship OAMI 2022". The invitation for the interview is based mostly on the motivation letter we receive. We strongly encourage women and underrepresented minorities to apply.

For more information

- About research topics: please feel free to contact Mgr. Stanislav Sysala, Ph.D. at stanislav.sysala@ugn.cas.cz.
- About employment conditions or living in the Czech Republic: please consult the comprehensive info collected by EURAXESS Czech Republic.