Postdoctoral position in geology in Prague, Czech Republic

Modelling and laboratory investigation of bentonite for nuclear waste repositories

Hypo-plastic model for unsaturated expansive clays has recently been implemented into an inhouse finite element code SIFEL developed at Czech Technical University. It has been used successfully in simulating behaviour of bentonite buffer in planned nuclear waste repositories. Recently a European framework funded project BEACON has been setup to investigate the process of homogenization of bentonite blocks and pellets to guarantee adequate sealing properties of the buffer. In the proposed project it is planned to both investigate the behaviour of the buffer in laboratory experiments and to numerically model its behaviour. Laboratory testing will be performed on newly acquired THM unsaturated oedometric apparatus, enabling to perform tests up to 150 °C. Numerical modelling will be done using SIFEL finite element code with hypo-plastic constitutive model. The project will thus stimulate both laboratory and numerical skills of the applicant, while he will have a freedom to decide specific orientation of the project depending on his/her interests.


Profile of an ideal candidate:

- Completed Ph.D degree or a fixed date of Ph.D defense
- Excellent knowledge of English (FCE equivalent or better)
- Excellent knowledge of problematics

Project supervisor: doc. RNDr. David Mašín, Ph.D

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The applicant should provide the following documents before 1.8.2019 to the project supervisor and in copy to email foreign@natur.cuni.cz:

- Application Form
- Letter of Reference
- Detailed CV
- List of publications
- Copy of university diploma