Laboratoire de Mathématiques et de leurs Applications de Pau CNRS-UMR 5142
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Date: January 2022

POST DOCTORATE POSITION

Subject: Development of a code for numerical simulation of **THMC** Thermal-Hydrologic-Mechanical-Chemical processes in porous media.
Laboratory: LMAP UMR CNRS 5142 – Pau, FRANCE.
Location: Université de Pau et des Pays de l'Adour, FRANCE.
Opening: : 2022, as soon as possible.
Duration: 1 to 2 years.
Contract: Fixed-term work contract for a duration of 12 months (renewable once). Salary: approx. 2000 € net per month including healthcare cover.
Qualifications: PhD or equivalent in applied mathematics, Fluid Physics/Mechanics or computational engineering and a strong background in numerical modeling, discretization methods, and scientific computing. Computer and programming skills in C++.
Knowledges in numerical simulation of flow and transport in porous media and interest in interdisciplinary cooperation will be appreciated.
Contact: Etienne Ahusborde, etienne.ahusborde@univ-pau.fr,
Brahim Amaziane, brahim.amaziane@univ-pau.fr
To apply: send your CV in English or French including your background in numerical analysis, discretization methods and scientific computing, a list of your publications, and a cover letter explaining interests and goals, and two reference letters. Applications should be submitted as a single PDF document by e-mail to
etienne.ahusborde@univ-pau.fr and brahim.amaziane@univ-pau.fr.
The review of applications will start on February 1st, 2022, and will continue until the positions are filled, but early application is strongly encouraged.

Post doc research project:
The objective of this project consists in developing a code in C++ in the framework of DuMu^x to couple the Thermal (T), Hydrologic (H), Chemical precipitation/dissolution (C) and the Mechanical (M) processes in deformable porous media. The applications that will be highlighted are geological storage of CO_2 and sequestration of nuclear wastes.
Our goal consists in developing numerical simulation of compositionnal flows with reactive transport in porous media. The goal is to integrate new developments in the platform DuMu^x. The simulator thus constructed is designed to be easily used by the scientific community and to provide users with efficient algorithms for the simulation of THMC processes in porous media. Due to the size of the considered problems and consequently the long computational time, high performance computing (HPC) will be used.