

 UNIVERSITÉ DE PAU ET DES PAYS DE L'ADOUR e2s U P P A energy environment solutions	Laboratoire de Mathématiques et de leurs Applications de Pau CNRS-UMR 5142 Université de Pau et des Pays de l'Adour IPRA, Avenue de l'Université, 64000 Pau Tél. : 05 59 40 75 47 brahim.amaziane@univ-pau.fr http://lma-umr5142.univ-pau.fr/live/	 cnrs dépasser les frontières
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Date: October 21th, 2026

POST DOCTORATE POSITION

Subject: Modeling and development of a code for numerical simulation of CO₂ storage reservoirs containing impurities

Laboratory: [LMA](#) UMR CNRS 5142 – Pau, France.

Location: [Université de Pau et des Pays de l'Adour](#), France.

Opening: : January 2027.

Duration: 2 years.

Contract: Fixed-term work contract for a duration of 2 years. Salary: approx. 2500 € 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++ and experience with the [DuMuX](#) simulation platform. Knowledge in numerical simulation of flow and transport in porous media and interest in interdisciplinary cooperation will be appreciated.

Contact: Brahim Amaziane, brahim.amaziane@univ-pau.fr

This postdoctoral research is part of the EU Co-Fund/ANR project CETP INTACT (Integrated Assessment of Chain Tolerance to CO₂ Impurities), within Work Package 5 (WP5), which focuses on high-performance THMC modeling of CO₂ storage reservoirs containing impurities.

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. 2 Reference letters will be appreciated. **Applications should be submitted as a single PDF document by e-mail to brahim.amaziane@univ-pau.fr**

The review of applications will start on November 15th, 2026, and will continue until the position are filled, but early application is strongly encouraged.

Post doc research project:

The research will focus on the development, implementation, and validation of advanced numerical models for coupled Thermo-Hydro-Mechanical-Chemical (THMC) processes in geological CO₂ storage systems containing impurities. Particular attention will be paid to the impact of impurities on fluid thermodynamic properties, multiphase flow, heat and mass transfer, and geochemical reactions. The study will investigate the complex interactions between these processes and their influence on the behavior and long-term performance of CO₂ storage reservoirs. The research will involve the development and analysis of numerical methods, their implementation within the DuMuX simulation platform, and the execution of large-scale numerical simulations using high-performance computing (HPC). Benchmarking and validation activities will be conducted to assess the accuracy, robustness, and computational efficiency of the developed models. reservoir scale.