



POST-DOC or FIXED-TERM RESEARCH ENGINEER

About the job

Reference : PDCCS-2023-09-13

Start date: January 2024

Location: Office/Remote/Hybrid

Salary: DOE

Work period: 12 months, extendable to 18 months

As part of the Energy transition initiative, CHLOE is recruiting a Post-Doc or a Research Engineer on a position to simulate gas (CO₂, H₂,...) storage conditions into either depleted geological gas reservoirs, or saline aquifers. Research objectives include the study, at lab and reservoir scales, of the main identified storage mechanisms and physical phenomena, modeling and simulation of gas/brine/rock interactions and stored gas/reservoir fluids mixtures.

Your role

You'll be working on challenging tasks to add new physics, build simulation models and tools, in close collaboration with a multidisciplinary team: CHLOE researchers at the University and the TotalEnergies' Technical Center teams. For the accomplishment of your mission, you will have to:

- o get advanced understanding of physical mechanisms at relevant scales (laboratory to basin),
- o make proposals based on the existing analysis,
- o define and benchmark simulation tools adapted to represent either the near wellbore area, reservoir unit, or up to a larger scale,
- o integrate multiple data sets into a realistic 3D subsurface simulation model,
- o carry out coupled multiphysics modeling.

Job requirements

The successful candidate must hold a PhD, with an academic background in multiphase and thermodynamic flows, reservoir engineering, or related disciplines such as physics, applied mathematics. However, candidates with relevant qualifications and around three years' research experience at a recognized institution will also be considered.

Desirable skills: Experience of fluid flow modeling methods in porous media, geochemical modeling and/or reactive flow is highly regarded. Proficiency in computational methods for multiphase flow is also desirable. Professional proficiency in English and knowledge or the willingness to acquire the French language is appreciated.

About us

CHLOE is a scientific R&D platform based at the University of Pau (France), since 2006, and legally housed within ADERA (a company specialized in the management of multi-partner research contracts for over 40 years). CHLOE collaborates with other laboratories at the University and is sponsored by a major Energies company.

The missions of CHLOE are:

- to develop relevant tools and workflow for pore scale simulations (PNM...),



- to significantly improve the understanding of geological storage conditions of gases (CO₂, new energy vectors like H₂), derive relevant models and methodologies, evaluate coupled thermo-hydro-chemical and hydro-mechanical simulators, and assess industrial projects,

- to develop models to be implemented in multiphysics simulators,

- to assess underground energy production techniques.

How to apply: If interested, please send your CV and a cover letter (with job reference) to: [chloe-rh@univ-pau.f](mailto:chloe-rh@univ-pau.fr)