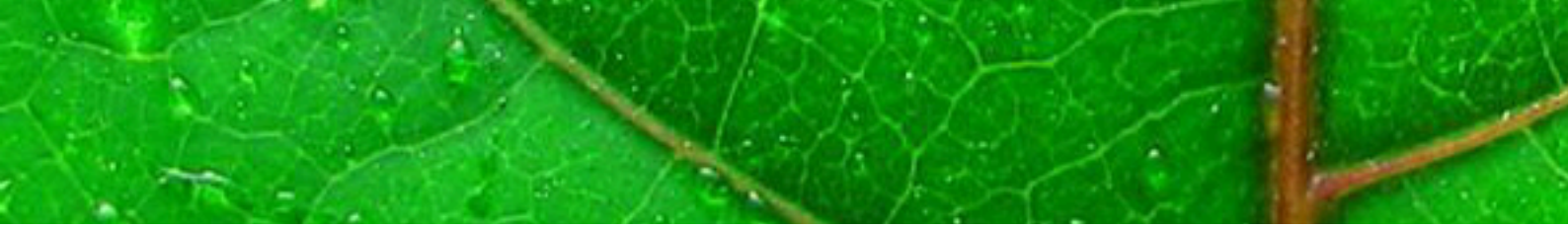


RESEARCH ENGINEER TO WORK ON CCS CHALLENGES

About the job

Reference : CDICCS-2023-09-01

Start date: as soon as possible

Location: Office/Remote/Hybrid

Salary: DOE

As part of the Energy transition initiative, CHLOE is recruiting a Research Engineer on a position to simulate CO2 - or H2 – storage conditions into either depleted geological gas reservoir, or saline aquifers. Research objectives will be to study the main identified storage mechanisms and physical phenomena including relevant thermo- and hydro-mechanical effects.

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. For the accomplishment of your mission, you will have to:

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

Job requirements

The successful candidate should possess a PhD degree, a background in reservoir engineering or in related disciplines including physics or applied mathematics, mechanical / chemical engineering. Also, candidates with relevant qualifications (Engineer degree or Master) with 3 or more years of research experience in the industry will be considered.

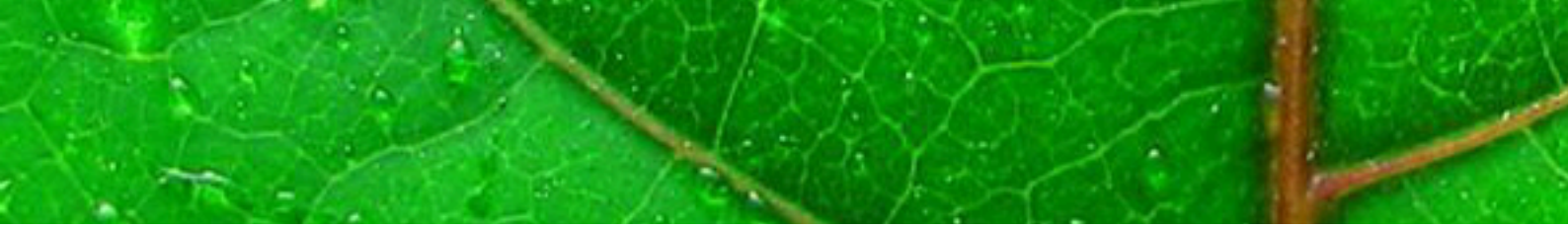
Desirable skills

Knowledge of fluid flow in porous media, mechanics, and thermodynamics, and skills in numerical modelling will be valued. Participation in industrial projects will be a plus.
Computer science skills are desirable: mastery of reservoir simulation software, proficiency in modern coding languages (Java, Python, Matlab), proven experience in programming.
Professional proficiency in English is required and some knowledge or the willingness to acquire the French language will be 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 CO2, or new energy vectors (like H2), derive relevant models and methodologies, evaluate coupled reservoir-geomechanics 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.fr