ORHYON

Micro-Organisms and Reactivity of Hydrogen in the Subsurface

The ORHYON industrial chair, funded by the ANR and Engie, is based on the complementary strengths of Engie, UPPA and IFPEN. This project, in line with the partner activities, will focus on H $_2$ mobility and bi chemical reactivity in natural porous media, from deep environments to surface.

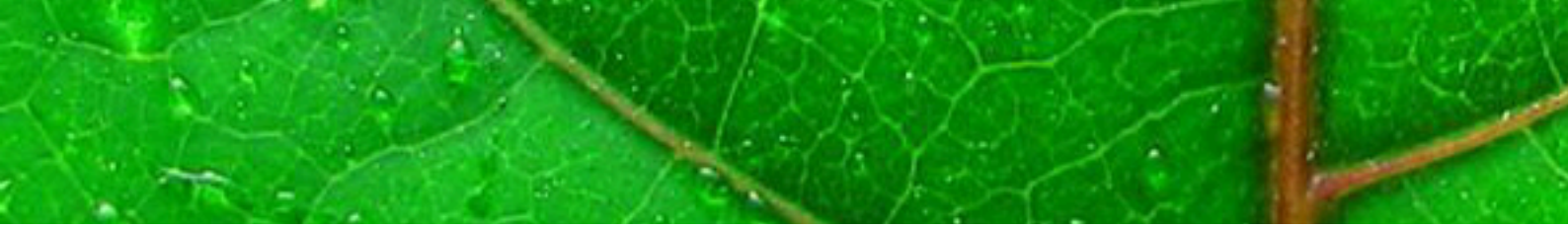
Hydrogen (H_2) is a very promising resource but it is mainly obtained by hydrocarbon reforming, though it can also be generated by water electrolysis using the excess of energy produced by renewables. It can be transported and stored in large amounts into underground natural reservoirs, such as aquifers. Although quantities remain to be determined, H_2 is also produced as a geological resource from natural emissions.

The results of the chair will lead:

- to a better understanding of the processes controlling H_2 migration and retention in geological formations;
- to new tools and methodologies to reduce the **risks associated with geological storage**;
- to provide technical guidance for its exploration and production.

Project Leader

Dr. Anthony Ranchou-Peyruse is a member of IPREM (CNRS/UPPA).



As part of his research activity, he is interested in understanding the functioning of deep continental microbial ecosystems and has been collaborating for more than 10 years with industrialists exploiting geological resources.