

Chair for the characterization of petroleum systems

(UPPA-CNRS)-2012-2017



The purpose of the chair is to study the mineralogical and geochemical changes in reservoirs over the geological history of sedimentary basins. This subject has applications in the field of conventional and unconventional oil and gas reservoirs. It is intended to improve our understanding of reservoir evolution, which depends on several parameters such as temperature, pressure, sedimentation rate, tectonics and fluid flow. The ultimate aim is to be able to predict the conditions required for the optimal preservation of reservoir properties during storage (porosity, permeability). Several approaches are used to tackle these challenges. These include direct examination on rocks in the field or on drilling cores, but also optic and electronic microscopy (Cathodoluminescence, Scanning Electron Microscopy), geochemistry (stable and radiogenic isotopes, electron probe microanalyzer, EPMA), microthermal analysis of fluid inclusions and modeling fluid-rock interactions.

Since his arrival at the LFCR, Guilhem Hoareau has co-supervised four PhD students, three of whom received funding from Total S.A. He set up a microscope laboratory “with optical microscopes, a cathodoluminescence assembly and a microthermetric stage for fluid inclusions. He obtained approximately € 410 k of public funding and industrial partnerships, in addition to the budget allocated for the chair (€50 k), and has established partnerships with several public and private research laboratories both national and international (Uni. of Montpellier, Paris, Kansas State University, British Geological Survey, BRGM, IFPEN, Total, etc.).