

An assistant professor position is opened at Toulouse INP (France) this year, with a research activity that could be carried out within the Porous and Biological Media (MPB) group of the Toulouse Institute of Fluid Mechanics (IMFT).

This position is part of the 2024 recruitment campaign, and applications can be submitted until March the 29th. Please circulate this announcement and the background information below to any members of your scientific community who may be interested. For further information, please contact Paul Duru, head of the MPB group (paul.duru@imft.fr).

The target theme is the study of transfers in porous media for low-carbon energy. In particular, the candidate will propose a project aimed at developing research activity in the fields of multi-scale porous systems (including down to the nanometric scale) in the presence of phase changes, coupled transfers with chemical/electrochemical reactions and/or mechanical effects (deformations of the porous matrix).

The successful candidate will be required to develop advanced modelling and numerical simulation approaches based on 3D images, derived from multi-scale imaging techniques (X-ray tomography, FIB-SEM) or digital generation of synthetic images. The work developed could also be based on micro/nanofluidic experiments on model porous media.

The field of application for this research is the use of porous media in the energy sector. It will strengthen the MPB group's activities in relation to proton exchange membrane fuel cells and lithium-ion batteries. In particular, they will be developed in collaboration with the other laboratories on the Toulouse site involved in the development of the PACAERO platform and the H2 techno-campus at Francazal.