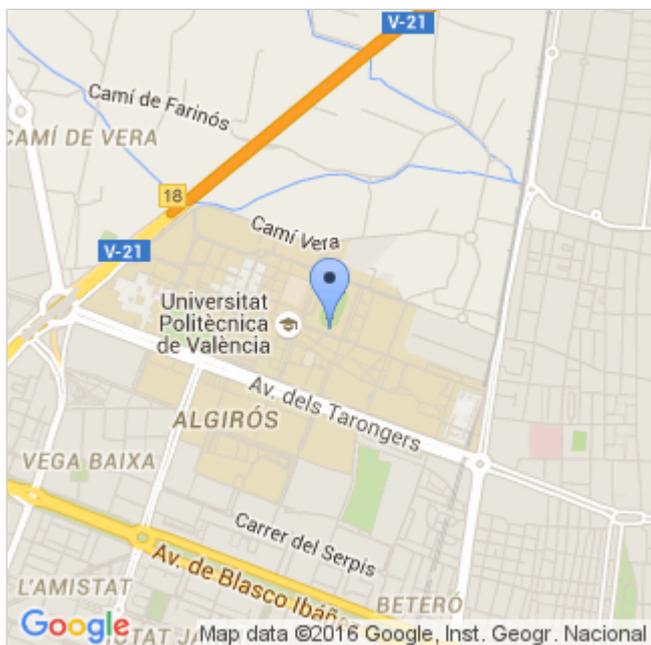


Expression of Interest



Contact Person/Scientist in Charge

- **Name and surname:** Francesc X. Llabrés i Xamena
- **Email:** fllabres@itq.upv.es

Universitat Politècnica de València (UPV)

Department / Institute / Centre

- **Name:** Instituto de Tecnología Química (ITQ) UPV-CSIC
- **Address:** Campus de Vera; Camino de Vera, s/n; Valencia (46022)
- **Province:** Valencia

Research Area

- Chemistry (CHE)

Brief description of the institution:

Universitat Politècnica de València (UPV) is the single Spanish Technical University that features in the main University world rankings. It is within the top 5 Spanish Universities with the highest revenue from both public research and knowledge transfer activities, and a national leader in patent license income and start up creation. Constituted in 1971, it comprises nearly 30.000 students, over 2500 academics, and 17 university research centres of excellence.

UPV has a relevant experience in the participation in international research programmes, with over 100 FP7 projects and 40 H2020 projects in the period 2014-2015. UPV researchers are also actively involved all H2020 life program stages, from workprogramme drafting discussions, to project coordination. It is also taking part in several major partnering initiatives (JTIs, PPPs, KICs...).

Brief description of the Centre/Research Group (including URL if applicable):

The ITQ is a joint research center of the Technical Univ. Of Valencia (UPV) and the National Research Council (CSIC).

The ITQ is an international reference centre in the area of catalysis and new materials (specially zeolites). Due to its excellent fundamental and oriented research level and multidisciplinary character, the ITQ develops research in different fields, with an extraordinary flexibility and capability to adapt itself to new research challenges.

The ITQ has specialized personnel as well as forefront facilities for research in chemical technology and materials. It has close to 200 researchers from all over the World including personnel from the CSIC and UPV, invited professors, engineers, technicians, administrative staff and many post- and pre-doctoral students.

Besides Regional, National and European grants, ITQ obtains a substantial part of its funding from R&D agreements with multinational companies from all around the World, as well as from royalties of licensed technologies developed at the institute.

ITQ offers an excellent environment for the formation of technicians and scientists through doctoral theses, masters in science, final year projects, and postdoctoral stays.

Dr. Llabrés i Xamena leads a small but very active group focused on the study of Metal-Organic Frameworks (MOFs). In the last decade, we have pioneered the application of these compounds for catalytic applications, as reflected by more than 30 publications and several reviews and book chapters. More information can be found at our website: (<http://personales.upv.es/filabres/>)

Project description:

Tuning the catalytic properties of Metal Organic Frameworks (MOFs) for the synthesis of fine chemicals

The research project in which the post-doctoral researcher will be involved is focused on the synthesis and post-synthesis modification of new Metal-Organic Framework compounds (MOFs) and their application as heterogeneous catalysts for the synthesis of high added value fine chemicals. These crystalline and porous compounds have attracted tremendous attention in the last decade in the field of heterogeneous catalysis, motivated by the vast possibilities to design and tune their properties through the appropriate combination of chemical composition and pore architecture. In this way, it is possible to engineer catalytic materials with active centers located at the metal nodes, at the organic linkers, encapsulated inside the structural pores, or even a combination of two or more types of centers simultaneous introduced in the same compound. This last situation leads to the controlled design of multifunctional catalysts, thus opening the door to synergetic catalytic effects (cooperative catalysis) as well as multistep processes involving sequential transformations

in one pot. To this, and important feature of MOFs is the relative ease with which chiral centers can be introduced, thus paving the way to asymmetric catalysis (including organocatalysis) for the synthesis of enantiomeric pure compounds.

The ER will have an excellent background in organic synthesis, necessary for the preparation and modification of organic linkers. Expertise in asymmetric catalysis is also a plus.

Applications

Interested candidates must send a motivation letter and a complete CV (including list of publications) to flabres@itq.upv.es