

Expression of Interest



Contact Person/Scientist in Charge

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Universitat Jaume I de Castellón (UJI)

Department / Institute / Centre

- **Name:** Institute of Advanced Materials (INAM) / Universitat Jaume I de Castellón (UJI)
- **Address:** Av. de Vicent Sos Baynat, s/n 12006
- **Province:** Castellón

Research Area

- Chemistry (CHE)

Brief description of the institution:

Universitat Jaume I de Castellón (UJI), is the public university in the north of the Valencian Community, created on 1991. It has obtained the 500+ Golden Seal of European Excellence by the Excellence in Management Club.

The UJI offers 31 undergraduate degrees, 19 postgraduate studies, 43 official postgraduate master's degrees, 15 UJI-specific master's degrees and has 14,000 students. It counts on about 1000 researchers distributed in 27 university departments and 12 research institutes.

The UJI is the third University and fifth entity of the Valencian Community, including companies and other research institutes, which have obtained more money from the European Research and Innovation Framework Programmes. Currently it is involved in 26 ongoing European research actions, including several European programmes (such as H2020, FP7, Interreg, SUDOE, LIFE, etc.).

The UJI offers modern research facilities among which stand out the different scientific structures that support research, such as the Central Scientific Instrumentation Service, the Animal Experimentation

Service (SEA) or its prestigious Library.

A specific program for newcomers helps researchers with the administrative procedures in order to become familiar with the facilities and standard practices, as well as an accurate integration. Moreover researchers can access additional services such as Sports Service, The University Residence, the Language Learning Centre (CAL) that offers an annual program of languages for foreigner researchers and the health centre available to the University community.

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

The Research Institute of Advanced Materials at the University Jaume I (Institute of Advanced Materials, INAM) created by *Generalitat Valenciana* on May, 4th 2015, is conceived as a center of interdisciplinary science and technology in the fields of physics, chemistry, and related fields, applied to advanced materials, with vocation towards the progress of the socioeconomic environment and scientific excellence with international influence and impact.

Project description:

The area of catalysis is now at the forefront of the chemical sciences in light of environmental and economic issues. The development of new approaches in transition metal catalysis is of utmost importance since it provides the future tools required to arrive at a sustainable society. This research project aims to search for non-traditional catalysts based on cooperating metal-ligand systems by using rigid polyaromatic ligands. Therefore, the project aims to search for non-conventional substrate-catalyst interactions. This underlying objective will be pursued by developing the following specific actions: 1) Study of the catalytic benefits provided by polymetallic complexes with rigid polyaromatic ligands, 2) Preparation of three-dimensional organometallic molecules with cavities, for the recognition of small molecules and selective catalysis, and 3) Preparation of redox-active ligands for redox-switchable catalysts. The first of these actions aims to study the catalytic benefits provided by non-covalent interactions (mostly pi-stacking) between aromatic substrates and rigid polyaromatic ligands. The second action refers to the preparation of supramolecular organometallic systems for the detection and selective transformation of organic molecules. The third action deals with the design of redox-containing ligands for the preparation of redox-switchable catalysts, based on the different activity that a catalyst must possess depending on the electron-power of the ligand. This underlying objective responds to a realistic evaluation of the capabilities of our group, considering our research experience, together with our will to approach new studies with potential practical relevance.

Applications

Please submit the next documentation:

- CV, including scientific background, research interests, list of publications, etc.

- Recommendation letters will be highly appreciated.

* Candidates with less than 7 highly ranked scientific articles will not be considered.

Deadline: 30/07/2016