

Expression of Interest

Contact Person/Scientist in Charge

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Universidad de Alicante

Department / Institute / Centre

- **Name of institution:** Electrocatalysis and Polymer Electrochemistry Group, Materials Institute. University of Alicante
- **Address:** Carretera Alicante - San Vicente
- **Province:** Alicante

Research Area

- Chemistry (CHE)

Brief description of the institution:

The University of Alicante (UA) was created in 1979. Today it educates and trains more than 36.000 students -2.500 of them are international students - and offers more than 80 undergraduate and 96 postgraduate programmes: consequently it is proportionally one of the fastest growing universities in Spain. The UA houses 227 research groups in Social and Legal Sciences, Experimental Sciences, Technological Sciences, Human Sciences, Education and Health Sciences and 15 Research Institutes (Water & Environment, Materials, Electrochemistry, Biodiversity, Chemical Processes and Organic Synthesis, and Modern Languages, among others). Thus, the UA employs over 2.400 researchers/ professors and has a complex management /administration structure of 1.300 people, which involves an annual budget of 175 million Euros.

UA is a young and dynamic university with vast experience in implementing EU funded projects in different programmes and areas, with presence in more than 60 countries worldwide. In the last 10 years, UA has successfully acted as coordinator of many Tempus, Alfa, Edulink projects involving Third Countries and Lifelong Learning and Framework Programme (FP, DG Research) Projects. Moreover, the participation in FP has been increasing in the last years, taking part in 25 5th FP, 26 6th FP, 45 7th FP projects (13 of them coordinated by UA), and 6 in H2020.

It is worth underline the big effort performed by UA in order to meet the commitment with the principles set out in the European Charter for Researchers and in the Code of Conduct for the Recruitment of Researcher

Brief description of the Centre/Research Group:

The research Group in Electrocatalysis and Polymer Electrochemistry (GEPE) is ascribed to the Department of Physical Chemistry and also to the Institute of Materials at the University of Alicante (IUMA).

GEPE's field of research is directly related to electrochemistry and the group has a wide expertise in the study and synthesis of electroactive materials such as conducting polymers or metallic oxides.

Furthermore, GEPE scaled up its activity using these materials to industrial applications centered on environmental and bioanalytical fields (energy transformation systems, sensor devices, water treatment, etc.).

The GEPE field of research is related to electrochemistry in the following areas:

- a) synthesis and characterization of conducting polymers (especially polyaniline, polypyrrole and derivatives),
- b) synthesis and characterization of hybrid composites such as conducting polymers-metal nanoparticles, conducting polymer-carbon materials and conducting polymer-silica,
- c) preparation of metal oxides-based electrodes,
- d) electrochemical characterization of carbon materials,
- e) energy storage applications (supercapacitors and fuel cells),
- f) environmental and bioelectrochemical applications (treatment of wastewater and sensors).

<https://web.ua.es/electro/>

Project description:

Design and development of non-noble metal electrocatalysts, metal-free ones based on carbon materials, metal oxides and conducting polymers, tailoring the porous texture and their functionalization. These electrocatalysts will be studied in the carbon dioxide reduction

Applications

CV

Deadline 15 July, 2019