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Area: Advanced Materials for Energy Applications
Head of the Area: Prof. Joan Ramon Morante
Group: Energy Storage
Head of Group: Prof. Joan Ramon Morante

Title: Researcher in Energy Storage and Energy Harvesting Laboratory

Profile: Chemical energy storage: materials components and systems 1

Chemical energy storage: materials components and systems 2

Description:

The Energy Storage and Energy Harvesting group (ESEH) is focused on the development of i) electrochemical energy storage: materials components and systems; ii) chemical energy storage: materials, components and systems and iii) energy harvesting: materials, components and systems.

We are looking for a researcher able to cover our activity in chemical energy storage: materials components and systems. Therefore, candidate with expertise and skills on several of the following activities are the scope of this position:

- i) Developing materials, components and systems based on the electrochemical oxidation or reduction of chemical species or electro-conversion. Expertise and skills on hydrogen production and /or CO₂ reduction products will be appreciated.
- ii) Developing materials, components and systems based on the photo catalysis and photo electrochemical oxidation or reduction of chemical species or photosynthesis artificial. Expertise and skills on hydrogen production and /or CO₂ reduction products will be appreciated.
- iii) Developing materials, components and systems based on the thermo-conversion processes. Expertise and skills on heterogonous catalyst will be welcome. Expertise and skills on CO₂ and CO hydrogenation processes and technologies will also be welcome.
- iv) Developing materials, components and systems based on the bio-conversion technologies. Expertise and skills on syngas production and its transformation will be appreciated as well.
- v) Expertise and skills on structural and morphological characterization methods as well as electrochemical and functional techniques will be welcome.
- vi) Expertise and skills on material synthesis technologies and material deposition techniques.
- vii) Expertise and skills on catalyst materials (heterogeneous and homogeneous catalysts)

Requirements:

- PhD in Physics, or Chemistry or Chemical Engineering or Materials Science and fluent English are mandatory

- Strong and complementary scientific and technological record of actions (to be evaluated according to the career stage of the candidate):
 - Original research articles
 - Patents
 - Conferences, proceedings and books
 - Outreach actions
 - Participation in national and international research projects
 - PI/coordination of national and international research projects/WPs
 - Expertise and skills in industrial projects
- Proved experience in the following aspects is also mandatory:
 - Material synthesis and characterization
 - Electrodes and system preparation and fabrication
 - Electrochemical and photo electrochemical characterization of electrodes and systems.
 - In situ and ex situ techniques
 - Wearable endurance test. Degradation mechanisms.
- Proved experience in the following aspects will be positively evaluated:
 - Mentoring and team leading (PhD thesis, Master/Bachelor thesis, etc)
 - Participation or leading technology transfer and innovation actions
 - Funding searching
 - Research in international teams (research visiting, pre-doctoral and post-doctoral research stays, international partnerships, etc)

Proposed Jury:

Presidència	Titular	Prof. J.R.Morante (IREC)
Vocal 1	Titular	Eva Maria Pellicer Vilà
Vocal 2	Titular	Marcel Placidi