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**Code:**

**Project: CO2SAF**

**Area: Advanced Materials for Energy**

**Area leader: Prof. Joan Ramon Morante**

**Group: Energy Storage, Harvesting and Catalysis**

**Group leader: Prof. Joan Ramon Morante**

## **Pre-doctoral Research Position on Catalysis for Sustainable Aviation Fuel**

The Energy Storage and Catalysis Group announces a first stage researcher position (R1.4) in the field of chemical engineering and catalysis. The candidate will work on developing breakthrough material and process engineering concepts for the synthesis of sustainable aviation fuel (SAF).

The candidate will join the thermo-catalytic laboratory activities of the CO2SAF project (One-stage syngas to Sustainable Aviation Fuel unit from electrolyzed CO<sub>2</sub>). The main aim of the overall CO2SAF project is to develop an innovative one-stage syngas to Sustainable Aviation Fuel unit, by coupling Fischer-Tropsch and hydro-cracking catalytic materials and processes.

We offer a two years pre-doctoral contract (with extension possibilities). Joining a team of highly qualified and motivated researchers working in the frontiers of knowledge in science and technology, and industrial collaboration with leading industries in the energy field.

### **Tasks**

The candidate will work on developing innovative SAF synthesis routes, including Fischer-Tropsch and hydro-cracking reactions.

The main tasks will be:

- Shaping of catalytic supports from powders to extrudates
- Develop new catalyst formulations
- Coupling two catalytic processes in a single reactor, Fischer-Tropsch and Hydro-cracking reactions
- Experimentation under mild operation conditions
- Result analysis, writing and oral communication activities.

## Selection criteria

We are looking for a highly motivated researcher, methodical, team player and results-oriented with writing and communication skills.

- MSc in Chemical Engineering, Material Engineering, Nanotechnology or related with an outstanding academic qualification record. Candidates who are in the final phase of the official master's degree will be considered
- Experience in experimental studies (TFG, TFM, practices) related to the chemical reactor engineering; catalysis synthesis, characterization and evaluation.
- Fluent English is mandatory, Catalan and Spanish are advantageous
- Prior participation in research projects related to the subject.
- Aimed at solving a problem related to energy transition and economy decarbonization.

## What we offer:

A 2-year contract (with extension possibilities to complete the PhD), a salary corresponding to the R1.4 category as stated in the professional career plan of IREC.

## Incorporation

The candidate should be available for incorporation from at the beginning of 2023.

## Application

Applicants should send a detailed Curriculum Vitae and a motivation letter to [irecjobs@irec.cat](mailto:irecjobs@irec.cat) (with copy to Dr. Jordi Guilera, [jguilera@irec.cat](mailto:jguilera@irec.cat)) indicating "CO2SAF".  
Deadline for applications: 21/12/2022

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