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**Code: Combenergy**

**Project: COMBINING ENERGY SOURCES TO ENHANCE CATALYTIC PROCESSES IN THE ENERGY AREA**

**Area: Advanced Materials for Energy**

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

**Group: Functional Nanomaterials Group**

**Group leader: Prof. ICREA Andreu Cabot**

The Functional Nanomaterials Group in the Advanced Materials for Energy Area of IREC announces a PhD student position available for a highly motivated candidate to work in the Combenergy Project: COMBINING ENERGY SOURCES TO ENHANCE CATALYTIC PROCESSES IN THE ENERGY AREA

### **R1 First Stage Researcher Position**

COMBENERGY will explore combinations of thermal energy with light and electricity, aiming at identifying scenarios where a strong synergy between energy sources is reached. The combination of these energy sources in industrial catalytic processes is relatively unexplored and a large controversy/ignorance on the energy efficiency and technological potential, i.e. cost-effectiveness, of these strategies exist. Within this project, we will not consider the case of photo-electrocatalysis, which is being extensively studied by other groups. We will also not consider the more complex triple combination of energy sources, thermo-photo-electro, which will be considered in a future extension of the project. To validate reliably our strategy, we will explore three paradigmatic catalytic processes and several catalytic formulations. Besides, consistently with the project motivation, we will aim at using solar energy as the source of heat and/or light.

Candidates must have a bachelor degree in Chemistry, Physics, Material Science or equivalent. Candidates must also have a master degree or finish it before July 2021. Previous experience in nanoparticle synthesis and characterization, and/or in the field of catalysis will very valuable for the position.

#### **Additional information:**

CV, personal references and a motivation letter have to be sent to Dr. Andreu Cabot (acabot@irec.cat).

**Deadline for applications:** 22 March

**Incorporation:** May 2021

**Duration of the contract:** 8 month

The recruitment process will follow the guidelines of the European Charter of Researchers. Further information can be directly obtained from: Andreu Cabot (acabot@irec.cat).