

RESEARCHER PHOTOELECTROCHEMICAL SYSTEMS

We are pleased to offer a fully funded PhD position within a collaborative research framework between Leitat Technological Center and the Universitat Autònoma de Barcelona (UAB). This opportunity includes a permanent employment contract at Leitat and enrollment in a PhD program at UAB.

The selected candidate will benefit from close mentorship, access to cutting-edge research infrastructure, and integration into a dynamic environment that bridges fundamental science and industrial application.

LEITAT is a private non-profit entity specialized in generating value from innovation and technological development. Founded in 1906, it complies with the highest quality standards and management systems in the execution of ambitious R&D projects with big industrial companies and SMEs. We collaborate with more than 45 countries and develop more than 200 projects in the fields of biotechnology, health, advanced materials, industrial chemistry, renewable energies and new production processes.

JOB DESCRIPTION. We are looking for a motivated candidate to incorporate as RESEARCHER in the group of “*Solar Conversion Technologies*”, which is mainly dedicated to the design and development of PhotoElectroChemical (PEC) Reactors for sustainable green fuels and chemicals.

The PhD will focus on developing advanced photo(electro)catalytic systems capable of generating green hydrogen and converting CO₂ into valuable chemicals such as ethylene or ethanol, using low-cost materials with minimal environmental footprint. Key challenges to be addressed along with the PhD include:

- Modulation of the optoelectronic properties of semiconducting bidimensional covalent organic frameworks materials through molecular engineering.
- Fabrication of homogeneous thin films via scalable and controlled deposition techniques.
- Post-functionalization with catalytic centers to enhance reaction performance and selectivity.
- Full optical and (photo)electrochemical characterization.

The final goal is to develop light-powered devices that can efficiently produce fuels and fine chemicals, enabling sustainable, solar-driven synthesis pathways.

Together with the experimental activities, the candidate will also be involved in the drafting of scientific papers and technical reports, along with participating into international/national scientific conferences and dissemination activities.

EDUCATION

Master's in chemistry / Electrochemistry / Physics / Materials Chemistry / Renewable Energies / Chemical Engineering / Materials Engineering

CANDIDATE PROFILE

- Hands on in laboratories.
- Knowledge of organic synthesis, fundamental electrochemical techniques (cyclic voltammetry, electrochemical deposition, impedance spectroscopy, etc) is a plus.
- Strong interest in applied research and sustainability.

PERSONAL SKILLS

- Work in multidisciplinary teams
- Efficient use of time and resources
- Flexibility and positive attitude

LANGUAGE

Good English

Good Spanish (optional)

Good Catalan (optional)

EMPLOYMENT CONDITIONS:

- Type of contract: permanent position at Leitat Technological Center
- PhD enrollment: Universitat Autònoma de Barcelona (UAB) - [UAB Doctoral School](#)
- Location: [LEITAT](#) [Terrassa (Barcelona) - Spain] with regular collaboration within the [CatSyNanoMat Group](#) in the Department of Chemistry of UAB [Cerdanyola del Vallès (Barcelona) – Spain]
- Expected start date: September-October 2025

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