

JOB OFFER

JUNIOR RESEARCHER

Position: Junior researcher in CO₂
Offer date: CIIAE web
Project: CIIAE – REF. IJ-CO2 (HIDRÓGENO Y POWER-TO-X)
Department: Hydrogen and Power-to-X
Estimated starting date: 2023

Workplace:	University of Extremadura. Cáceres campus	
Tasks to be developed:	<p>The emission of CO₂ and other global warming gases causes anthropogenic climate change. However, CO₂ is also a versatile industrial gas, with important applications. In the context of the energy transition, the production of synthetic fuels is an important circular economy concept, with CO₂ capture being an enabler.</p> <p>The selected candidate is expected to perform the following tasks:</p> <ul style="list-style-type: none"> – Developing competitive research projects in the field of carbon capture, utilisation and storage. – Writing publications as first author and co-author in high-ranked journals – Writing research proposals and contributing towards acquisition of competitive funding, both private and/or public – Collaborations with experimental researchers from CIIAE and beyond – Successful collaboration with universities, research institutes and companies at national and international level. – Project management and project administration (internal and external), also towards the department and CIIAE – Becoming gradually more independent, in order to conduct, manage and lead an independent project <p>Challenges: Increasing the efficiency, reducing the cost, improving the lifetime and reducing the environmental impacts of CO₂ capture.</p>	
Duration of the contract and salary:	Temporary Contract Initial duration: September 2025, with the possibility of extension	Gross Salary + S.S. Fees Gross Salary Range: 35 000 € - 38 000 €
Academic background required:	A PhD in chemical engineering, industrial engineering, energy engineering, chemistry or related discipline	
Other education:		
Professional experience:	Proven experience in supervising grade and/or master students	

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Job requirements (have to be fulfilled):	Specific techniques (analytical, software, calculations, prototyping, etc.)	<ul style="list-style-type: none"> – Excellent lab and analytical skills including synthesis and characterization of materials for CO₂ capture (e.g., aminated adsorbents, zeolites, MOFs, calcium oxides...) – Demonstrated experience with some analytical techniques related to CO₂ capture: thermogravimetry analysis (TGA), volumetric analysis, fixed or fluidized beds. – Experience with analytical techniques to obtain textural properties, mainly N₂ and Ar physisorption.
	Participation and/or collaboration in R&D&I/business projects	Proven participation on at least 1 R&D projects
	Languages	Excellent oral and written skills in English
	Cross-cutting competences	<ul style="list-style-type: none"> – Commitment to open science in terms of research methods, data and publications – Ability to work in a diverse and flexible academic environment in a team-oriented, but independent way – Experience on collaborating with other colleagues from the same department and beyond
	Willingness to travel and stay abroad	The candidate is expected to travel, both nationally and internationally, in the context of projects and conferences
	Publications: scientific articles (in journals indexed in Web of Science and/or Scopus), theses (PhD and/or Master's), presentations at conferences, reports, technical reports, technical guides, etc.	Strong track-record of publications as first author and co-author as the candidate is expected to publish in top journals in the field. Alternatively, a monograph thesis may also be considered, as well as conference publications

To be evaluated (adds points to the final evaluation):

- Experience with some diffraction, microscopic and spectroscopic characterization techniques for structural and microstructural characterization such as X-ray diffraction (XRD), scanning electron microscopy (SEM), transmission electron microscopy (TEM).
- Experience with different analytical techniques (IR, RMN).
- Experience with differential thermal analysis (DTA) and calorimetry.
- Knowledge of molecular simulation software for adsorption and some programming skills.
- Experience is scaling up from lab to prototypes.
- Knowledge of Spanish and/or Portuguese.
- Experience with industrial collaborations and/or previous experience working on industry.
- Motivation letter (maximum 2 pages) included in the application.
- Evaluation provided by 2 references via telephone conversation. The contact details of the references (e-mail and telephone) are provided by the candidates in their application.

Selection process details:

Technical test: NO

Language (English): yes (will be evaluated during the interview)

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Job interview: yes

Interested candidates:

Please, send all the documents requested by the terms and conditions of the call for the proposal, with the deadline being 15 calendar days from the day following the publication in the CIIAE web indicating the following reference: **REF. IJ-CO2 (HIDRÓGENO Y POWER-TO-X)**

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