JOB OFFER

SENIOR RESEARCHER

Position: Senior Researcher in electrochemical CO_2 reduction
Offer date: CIIAE web
Project: CIIAE – Ref. IS-REDUCCIÓN 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 develped:	The electrochemical conversion of CO_2 to fuels and chemicals via renewable electricity is an attractive and sustainable alternative to the mass utilization of fossil resources. The selected candidate is expected to perform the following tasks: – Developing an attractive research agenda in the field of electrochemical CO_2 reduction – Acquisition of competitive funding, both private and/or public, e.g., PhD students and postdocs. – Successful Collaboration with universities, research institutes and companies at national and international level. – Successful guidance of PhD, postdocs and master students, i.e. they meet their own requirements – Writing papers as first authors (e.g., 1 paper p.a.) in a high-ranked journal – Project management and project administration (internal and external), also towards the department and CIIAE Challenges: Increasing the efficiency, reducing the cost, improving the lifetime and reducing the environmental impacts of green and synthetic fuels through the electrochemical conversion.	
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: 45.000 €
Academic background required:	A PhD in material sciences, electrochemistry, chemistry, chemical engineering, or similar.	
Other education:		
Professional experience:	– At least 2 years of post-doctoral experience – Proven experience in acquiring and/or writing competitive project proposal, for example, project or career funding – Proven experience in supervising PhD and/or master students (for example, as daily supervisor	

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Job requirements (have to be fulfilled):	**Specific techniques (analytical, software, calculations, prototyping, etc.)**	– Excellent knowledge of synthesis of electrocatalysts (solid phase) – Experience with 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), atomic force microscopy (AFM), energy-dispersive analysis (EDS), X-Ray photoelectron spectrometry (XPS) – Demonstrated experience with some fabrication and testing of polymeric membrane electrochemical cells (PEMFC, PEM electrolysers, alkaline-PEM). Experience in the use and applications of DC and AC impedance spectroscopy methods, rotating disc electrodes measurements, potentiostatic/galvanostatic polarization methods, among others.
	Participation and/or collaboration in R&D&I/business projects	Proven participation on at least 3 R&D projects
	Languages	Excellent oral and written skills in English
	Cross-cutting competences	– Ability to lead a team towards the achievement of the objectives as well as in the acquisition of financing – Commitment to open science in terms of research methods, data and publications – Proven experience with industrial collaborations and/or previous experience working on industry – 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 academic publications as first author and co-author as the candidate is expected to publish in top journals in the field. At least 10 publications in Scopus indexed journals.

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

- Experience in materials and reactions related to photocatalysis, and/or thermal CO_2 hydrogenation.
- Experience in analysis and quantification of gases and liquids outputs, e.g., GC, LC, mass spectrometry and NMR.
- Demonstrated experience with operando and in-situ spectroscopic techniques (e.g., XAS, XRD, near ambient-pressure XPS, Raman, FT-IR, etc.).
- Ability to test new electrocatalysts in electrolyser cell setups to test performance, degradation, mass transportation and electrical resistance.
- Experience in collaborations of experimental work and simulations, e.g., atomistic simulations and CFD.
- Experience in membrane processing and electrochemistry is highly desired.
- Previous research experience on photochemistry and/or electrochemistry.
- Experience is scaling up from lab to prototypes.
- More than 2 years of postdoctoral experience.
- Being the principal investigator of at least 1 project.
- Publications as last author.

– Knowledge of Spanish and or Portuguese. – 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)** **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. IS-REDUCCIÓN CO2 (HIDRÓGENO Y POWER-TO-X)**

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