

JOB OFFER

SENIOR RESEARCHER

Position: Senior researcher in electrochemical CO2 reduction

Offer date: DOE publication

Project: CIIAE - Ref^a IS-REDUCCIÓN (HIDRÓGENO Y POWER-TO-X)

Department: Hydrogen and Power-to-X

Estimated starting date: January 2023

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| Workplace: | University of Extremadura. Cáceres campus | |
| Tasks to be developed: | <p>The electrochemical conversion of CO₂ to fuels and chemicals via renewable electricity is an attractive and sustainable alternative to the mass utilization of fossil resources.</p> <p>The selected candidate is expected to perform the following tasks:</p> <ul style="list-style-type: none"> – Developing an attractive research agenda in the field of electrochemical CO₂ 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 <p>Challenges: Increasing the efficiency, reducing the cost, improving the lifetime and reducing the environmental impacts of green and synthetic fuels with electrochemical conversion.</p> | |
| Duration of the contract and salary: | Temporary Contract Initial duration: November 2024, with the possibility of extension | Gross Salary + S.S. Fees Gross Salary Range: 41 000 € - 45 000 € |
| Academic background required: | A PhD in material sciences, electrochemistry, chemistry, chemical engineering, or similar. | |
| Other education: | | |
| Professional experience: | <ul style="list-style-type: none"> – 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.) | <ul style="list-style-type: none"> – Excellent knowledge of synthesis of electrocatalysts (solid phase) – 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), 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 electrolyzers, alkaline-PEM), e.g., DC methods and AC impedance spectroscopy, rotating disc electrodes measurements, potentiostatic/galvanostatic polarization methods. |
| | 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 | <ul style="list-style-type: none"> – Ability to lead a team towards financing and objectives – 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): | | |
| <ul style="list-style-type: none"> – Experience in materials and reactions related to photocatalysis, and/or thermal CO₂ 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, Infra-red.) – 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 post-doc 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. | | |

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- 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 the curriculum vitae, with the deadline being 15 calendar days from the day following the publication in the DOE (Official Journal of Extremadura) indicating the following reference: **Ref^a IS-REDUCCIÓN (HIDRÓGENO Y POWER-TO-X)**

FUNDECYT-PCTEX (Edificio Parque Científico Tecnológico), Avda. de la Investigación, s/n, Edificio PCTEX, Campus de la Universidad de Extremadura – 06006 Badajoz (España)

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