SENIOR RESEARCHER

Position: Senior researcher in computational fluyd dynamics (CFD)
Offer date: CIIAE web
Project: CIIAE – Ref. IS-CFD (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:	CFD plays an important role for the development of energy storage and hydrogen conversion systems. Numerical modelling is an indispensable tool for understanding and optimization, allowing to determine good design practices that can be applied experimentally. The successful candidate is expected to perform the following tasks: — Developing an attractive research agenda in the field of CFD — Creation of CFD simulations for various types of energy storage and hydrogen technologies — Collaborations with experimental researchers from CIIAE and beyond — Providing recommendations to decision makers based on modelling results — Acquisition of competitive funding, both private and public, for example, doctoral students and postdocs. — Successful collaboration with universities, research institutes and companies nationally and internationally. — Successful orientation of doctoral, postdoctoral and master's students, i.e. who meet their own requirements — Writing the publication as first author (e.g., 1 article per year in a high-ranking journal) — Project management and project administration (internal and external), also towards the department and CIIAE Challenges: Among the main scientific challenges in CFD, it is worth noting the development of transient and multi-scale models that can reliably predict the performance and durability of energy storage and hydrogen conversion systems.

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 engineering (with several possible disciplines, e.g., chemical, energy and industrial), physics, chemistry, mathematics or related discipline
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
Job requirements (have to be fulfilled):	**Specific techniques (analytical, software, calculations, prototyping, etc.)**	— In-depth knowledge and understanding of physics and chemistry applied to energy storage, e.g., electrochemistry, combustion, heat transfer and fluid dynamics, — Excellent analytical skills and experience in Ansys and/or Comsol — Programming experience, e.g., Python and Matlab — Statistical skills, e.g., statistical tests and regression — Excellent analytical skills
	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 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):

— Knowledge of electromagnetism and superconductivity.
— Programming experience in Fortran, Open Foam and/or FreeFrem.
— Experience with Paraview or similar.
— Experience with statistical learning models and machine learning.
— More than 2 years of post-doc experience.
— Be 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.

JOB OFFER

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: **Refª IS-CFD (HIDRÓGENO Y POWER-TO-X)**

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