

**JOB OFFER**

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## PhD RESEARCHER

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**Position: PhD researcher in computational fluid dynamics (CFD) (2 positions)**

**Offer date: CIIAE web**

**Project: CIIAE – Ref. PD-CFD (HIDRÓGENO Y POWER-TO-X)**

**Department: Hydrogen and Power-to-X**

**Estimated starting date: 2023**

<b>Workplace:</b>	University of Extremadura. Cáceres campus	
<b>Tasks to be developed:</b>	<p>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.</p> <p>The successful candidate is expected to perform the following tasks:</p> <ul style="list-style-type: none"><li>– Creating CFD simulations for various types of energy storage and hydrogen technologies</li><li>– Collaborations with experimental researchers from CIIAE and beyond</li><li>– Providing recommendations to decision makers based on modelling results</li><li>– Writing 1 paper p.a. as first author in high-ranked journals</li><li>– Project management and project administration (internal and external), also towards the CIIAE</li></ul> <p>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.</p>	
<b>Duration of the contract and salary:</b>	Temporary Contract Initial duration: September 2025, with the possibility of extension	Gross Salary + S.S. Fees Set by law
<b>Academic background required:</b>	A Master in engineering (with several possible disciplines, e.g., chemical, energy and industrial), physics, chemistry, mathematics or related discipline	
<b>Other education:</b>		
<b>Professional experience:</b>		

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<b>Job requirements (have to be fulfilled):</b>	<b>Specific techniques (analytical, software, calculations, prototyping, etc.)</b>	<ul style="list-style-type: none"> <li>– Excellent knowledge of physics and chemistry applied to energy storage, e.g., electrochemistry, combustion, heat transfer and fluid dynamics,</li> <li>– Some first learning or working experience with CFD software, e.g., Ansys and/or Comsol</li> <li>– Some programming experience, e.g., Python and Matlab</li> <li>– Statistical skills, for example statistical tests and regression</li> <li>– Excellent analytical skills</li> <li>– Knowledge of energy technologies including renewables, storage, hydrogen and power-to-X</li> </ul>
	<b>Participation and/or collaboration in R&amp;D&amp;I/business projects</b>	
	<b>Languages</b>	Excellent oral and written skills in English
	<b>Cross-cutting competences</b>	<ul style="list-style-type: none"> <li>– Commitment to open science in terms of research methods, data and publications</li> <li>– Ability to work in a diverse and flexible academic environment in a team-oriented, but independent way</li> </ul>
	<b>Willingness to travel and stay abroad</b>	The candidate is expected to travel, both nationally and internationally, in the context of projects and conferences
	<b>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.</b>	A successfully completed master thesis on a relevant topic (completed or as-advanced-as-possible thesis to be included in the job application. The final, successful thesis will be required for starting with the position)
<b>To be evaluated (adds points to the final evaluation):</b> <ul style="list-style-type: none"> <li>– Some Knowledge of electromagnetism and superconductivity.</li> <li>– Some Programming experience in Fortran, Open Foam and/or FreeFem.</li> <li>– Experience with statistical learning models and machine learning.</li> <li>– Knowledge of Spanish and/or Portuguese.</li> <li>– Experience with industrial collaborations and/or previous experience working on industry.</li> <li>– Grades in master's and bachelor's degrees (documents to be included in the application).</li> <li>– Motivation letter (maximum 1 page) included in the application.</li> <li>– Evaluation provided by 2 referees via telephone conversation. The contact details of the referees (e-mail and telephone) are provided by the candidates in their application.</li> </ul>		
<b>Selection process details:</b>  <b>Technical test:</b> NO  <b>Language (English):</b> yes (will be evaluated during the interview)  <b>Job interview:</b> yes		

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### **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. PD-CFD (HIDRÓGENO Y POWER-TO-X)**

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