JOB OFFER

JUNIOR RESEARCHER

Position: Junior researcher Prototyping
Offer Date: WEB Publication
Project: CIIAE – Refª IJ2-PROTOTIPADO (ALMACENAMIENTO DE ENERGÍA TÉRMICA)
Department: Thermal Energy Storage
Estimated starting date: 2023

Workplace:	Iberian centre of energy storage research (CIIAE) located at Cáceres Campus of University of Extremadura, Spain.
Tasks to be developed:	CIIAE is the research centre focused on contributing to the following research lines: • Electrical energy storage such as technologies of Li-ion, Na-ion, flow batteries, supercapacitors, metal-air, *etc*. • Circular Economy topics such as recycling, reuse, eco-design, *etc*. • Hydrogen generation, catalysis for production of synthetic fuels, CO_2 capture, and industrial applications of hydrogen. • Thermal energy storage technologies As a Junior Researcher in Prototyping, the successful candidate will work closely with the senior researchers and engineers to design and develop prototypes for the systems related to the above-mentioned research lines. The successful candidate will work together with a multidisciplinary team of engineers and scientists to design new ideas for prototypes, test equipment, and laboratory configurations. And will design, build and integrate devices such as prototypes, components, or auxiliary equipment. You will get the opportunity to work with different energy storage systems, but with a possibility to implement the research concepts of prototyping. The objective is to be focused on turning ideas into physical objects, solving technical challenges, and integrating them into a functional device. It is a fundamental piece to validate the theoretical work that other researchers/engineers are developing on a laboratory scale. The selected candidate is expected to: - Exhibit a development engineering profile who is able to effectively collaborate with the other research groups of CIIAE to develop prototypes. The work will be focused on energy storage systems such as electrochemical and thermal batteries, hydrogen storage, electrolyzers, *etc*. - Have expertise in design engineering focused on 3D modeling, CAD designing, and manufacturing of devices. - Development experience gained through the Fabrication / Assembling of the machine elements will be beneficial. - ability to collect data through measurements of key parameters such as temperature/pressure/flow rate. - Perform commissioning of the prototypes/test benches/pilot plant through leakage testing using inert gases, and testing of the sensors/gauges/valves. - Ability to understand electrical drawings. The wiring diagrams can be for the control systems and 2-phase / 3-phase power supply for

<table>
<tr><td></td><td colspan="3">motors/pumps to be used for prototypes. Any hands-on experience will be preferred.
- Ability to understand piping drawings and any hands-on experience will be preferred.
- Experience with data analysis software such as Python.
- Collaborate with universities, research institutes, and companies at a national and international level.
- Occasional support in the supervision and tutoring students of degree programmes.
- Drafting of the work procedures and reports.</td></tr>
<tr><td>Duration of the contract and salary (per annum):</td><td colspan="2">Fixed term contract.
Initial duration: September 2025, having possibility of extension</td><td>Gross Salary Range: 35 000 - 38 000 €</td></tr>
<tr><td>Academic background required:</td><td colspan="3">PhD in engineering in Mechanical, Chemical, Electrical / Electronics, Physics, Materials Science, or related fields.</td></tr>
<tr><td>Other professional education:</td><td colspan="3">Valuable training/knowledge in: Mechanical Design, Instrumentation Control Systems, Solid Modelling, CAD / CAM, Laboratory Automation, Wiring layouts, Wiring drawings softwares, Piping Softwares</td></tr>
<tr><td>Professional experience:</td><td colspan="3">– Hands-on work experience with prototyping and fabrication techniques.
– Have experience in selection of machine elements such as pipe fittings, bearings, gears, threads, etc.
– design and development of research instrumentation; mechanics, electrical, computer interfaces and data acquisition.
– Fab Lab experience is a plus.</td></tr>
<tr><td rowspan="4">Job requirements (have to be fulfilled):</td><td>Specific techniques (analytical, software, calculations, prototyping, etc.)</td><td colspan="2">- Experience in workshop. Practical knowledge of mechanical manufacturing techniques: welding equipment, lathes, milling machines, moulders.
- Experience in the manufacturing of home-made equipment (by using in-house parts or by integrating parts from external suppliers)
- User knowledge of softwares used in research and industry will be valued such as Matlab, Auto-Cad, and others.
- Experience in 3D CAD design.
- Knowledge of design softwares: Fusion360, Solidworks, Inventor, Rhinoceros or similar will be valued</td></tr>
<tr><td>Participation and/or collaboration in R&D&I/business projects</td><td colspan="2">Previous experience in research projects will be valued.</td></tr>
<tr><td>Languages</td><td colspan="2">English. Valuable: Spanish and Portuguese</td></tr>
<tr><td>Cross-cutting competences</td><td colspan="2">– Ability to supervise and to work as part of a team
– Ability to work with precision, safety and care</td></tr>
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	Willingness to travel and stay abroad	This position requires occasional participation in events outside of Extremadura
	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.	Valuable publications. Valuable experience in the preparation of reports or technical guides.

To be evaluated (adds points to the final evaluation)

- Motivation letter: please include a letter describing the skills you consider of value for the position of Junior researcher in solid-state PCMs, as well as some general objectives of the research you would like to develop at the CIIAE.
- Reference letters: please provide two reference letters (from employers and/or professors, together with their contact information, e-mail and telephone number) highlighting the technical and soft skills identified by the reference in the candidate, and that are of relevance for the position.
- Research projects: please include a list of the R+D+i projects you have been involved
- Experience in writing proposals for competitive calls (even if funding has not been obtained, in this case, please attach the evaluation letter).
- Having obtained funding or competitive research contracts
- Having been a principal investigator in R+D+i projects
- Demonstrated experience in supervising work teams
- Having supervised end-of-degree projects (TFGs), end-of-master projects (TFMs)
- Being the first author or the corresponding author in scientific articles
- Having completed specific training courses, relevant to the offered position
- Experience in industrial collaborations and/or previous experience working in industry.
- Patents.
- Awards, mentions or other achievements

Note: To facilitate the evaluation process, it is recommended to include a list or table, itemizing the merits you consider that should be evaluated for each of the requirements (Ex: Requirement: Experience working with solidworks program. Candidate: brief description of experience with solidworks program reflected in scientific articles, theses, courses, projects, etc.)

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Selection Tests:

TECHNIQUES: Oral knowledge test YES ☐ NO X

LANGUAGE: ORAL YES X NO ☐ **(Will be evaluated during the interview)**

JOB INTERVIEW: YES X NO ☐

Interested candidates:

Please send all the documentation required in THE CONDITIONS OF THE CALL and THE JOB OFFER, no later than 15 calendar days from the day after publication on the WEB, indicating **Refª IJ2-PROTOTIPADO (ALMACENAMIENTO DE ENERGÍA TÉRMICA)** to either of the following contact details.

Address:

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