
PhD Researcher

Position: PhD Researcher. Prototyping.

Offer Date: Publication DOE

Project: CIIAE – Ref^a PD-PROTOTIPADO (ALMACENAMIENTO DE ENERGÍA TÉRMICA)

Department: Thermal Energy Storage

Estimated starting date: 2023

Centro de trabajo:	University of Extremadura. Cáceres Campus
Tasks to be developed:	<p>CIIAE is a research center focused on contributing to the following lines:</p> <ul style="list-style-type: none">- Electrical storage: Li, Na, flow batteries, supercapacitors, metal-air, etc.- Circular Economy: recycling, reuse, ecodesign, etc.- Hydrogen generation, catalysis for the production of synthetic fuels, CO₂ capture, industrial applications of hydrogen.- Thermal storage. <p>We are looking for 2 highly motivated PhD candidates to join our research team and develop research work related to the implementation of the above research lines, but focusing on prototyping.</p> <p>The PhD 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.</p> <p>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.</p> <p>The candidate is expected to acquire the title of PhD, through the reading of its research work in front of a court in a public session.</p> <p>The selected candidate is expected to:</p> <ul style="list-style-type: none">- Exhibit a profile who can effectively perform research tasks on the above-mentioned topics to develop prototypes.- Have ability 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.- Conduct literature reviews and assist in the development of research proposals related to prototyping sub-topics.- Assist in the design and execution of research studies related to prototyping, including data collection, analysis, and interpretation.- Collaborate with cross-functional teams to develop and refine prototypes for testing with end-users.- Assist in the preparation of research reports and presentations for internal and external audiences.- Participate in team meetings and contribute to the overall success of research projects.- Ability to understand electrical drawings. The wiring diagrams can be for the control systems and 2-phase / 3-phase power supply for

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	<p>motors/pumps to be used for prototypes. Any hands-on experience will be preferred.</p> <ul style="list-style-type: none"> - Ability to understand piping drawings and any hands-on experience will be preferred. - Have ability to draft research articles. - Can develop the "design of experiments" for the research work. - Experience with data analysis software such as Python and MATLAB. - Collaborate closely with CIIAE colleagues. 	
Duration of the contract and salary (per annum):	Fixed-term contract. End: September 2025. Possibility of extension	Gross Salary: 19 065.34 €
Academic background required:	Bachelor's or Master's degree of engineering in Mechanical, Chemical, Electrical / Electronics, Physics, Materials Science, or related fields.	
Other education:	<p>Valuable training/knowledge in:</p> <ul style="list-style-type: none"> - Mechanical Design, Instrumentation Control Systems, Solid Modelling, CAD / CAM, Laboratory Automation, Wiring layouts, Wiring drawings softwares, Piping Softwares. - Microcontrollers. Instrumentation Control Systems, Controller Design Laboratory Automation, Automation and Control PCB Design, Microcontroller Programming, Mechanical Design. 	
Professional experience:	<p>Valuable practical work experience in:</p> <ul style="list-style-type: none"> - Prototyping and manufacturing techniques. - Extensive experience in design and development of research instrumentation; mechanics, electronics, computer interfaces and data acquisition. - Fab Lab. 	
Job requirements (have to be fulfilled):	Specific techniques (analytical, software, calculations, prototyping, etc.)	<p>To be valued:</p> <ul style="list-style-type: none"> - 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 some software used in research and industry will be valued (Matlab, LabView, Auto-Cad, SolidWorks, etc.) - Experience in 3D CAD design. - Knowledge of design software: Fusion360, SolidWorks, Inventor, Rhinoceros or similar.
	Participation and/or collaboration in R&D&I/business projects	Not required
	Languages	English. Valuable: Spanish and Portuguese

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	Cross-cutting competences	<ul style="list-style-type: none"> - Ability to work as part of a team - Ability to work with precision, safety and care
	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.	Not required
<p>To be evaluated (adds points to the final evaluation)</p> <ul style="list-style-type: none"> - Motivation letter: Please include a letter describing the skills you consider of value for the position. - Reference letters: please provide two reference letters (for example of professors/tutors with their contact details). highlighting the technical and soft skills identified by the reference in the candidate, and that are of relevance for the position. - Academic record. - Having carried out laboratory or R&D work outside of regulated studies. - Scientific publications / participation in scientific meetings - Having obtained competitive research contract. - Patents. - Awards, mentions or other achievements. - Experience in scaling from laboratory to prototypes. - Experience in industrial collaborations and/or previous experience working in industry. <p>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 in LabView. Candidate: brief description of experience in LabView reflected in scientific articles, theses, courses, projects, etc.)</p>		
<p>Selection Tests:</p> <p>TECHNIQUES: Oral knowledge test YES <input type="checkbox"/> NO <input checked="" type="checkbox"/></p> <p>LANGUAGE: ORAL YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> (Will be evaluated during the interview)</p> <p>JOB INTERVIEW: YES <input checked="" type="checkbox"/> NO <input type="checkbox"/></p>		

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 PD-PROTOTIPADO (ALMACENAMIENTO DE ENERGÍA TÉRMICA)** to

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



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