

SENIOR RESEARCHER

Position: Senior Researcher. PCM (Phase Change Materials) for thermal storage.
Offer date: WEB publication
Project: CIIAE -Refª IS-PCM S-L (ALMACENAMIENTO DE ENERGÍA TÉRMICA)
Department: Thermal Energy Storage
Estimated starting date: 2023

Workplace:	University of Extremadura. Cáceres campus.	
Tasks to be developed:	<p>The storage based on the PCM uses phase transitions to storage latent heat.</p> <p>The selected candidate must develop the following tasks:</p> <ul style="list-style-type: none"> - Rational design, PCMs synthesis and characterization exhibiting high enthalpy solid-liquid phase transitions. - Evaluation and screening of PCMs under development: heat capacity, cyclability and additives influence on these properties. - Long-term storage optimization. - Scale-up for further testing in heating/cooling storage systems. - Study of the interaction between PCMs and the physical structures containing them, such as thermal storage tanks, pipes, ducts, etc. Corrosion studies. - Acquisition of competitive funding, both private and public. - Project management and administration. - Close interdisciplinary collaboration with CIIAE colleagues. As well as collaboration with universities, research institutes and companies at national and international level. - Support, supervision and mentoring of doctoral students, postdoctoral and master´s students. - Writing of scientific publications and presentation of results at international conferences. <p><u>Challenges:</u> output power increase by increasing thermal conductivity, improving stability, cyclability and encapsulation for higher system performance.</p>	
Duration of the contract and salary (per annum):	Fixed-term contract. End: September 2025. Possibility of extension.	Gross Salary: 45 000 €
Academic background required:	A PhD in Physics, Chemistry, Chemical Engineering, Materials Science or similar.	
Other education:	Valuable master's degree in: Materials for Energy Storage and energy conversion, Crystallography and Nanotechnology.	
Professional experience:	<ul style="list-style-type: none"> - At least two years of postdoctoral experience. - Demonstrated experience in team supervision. - Experience in proposal writing and procurement of competitive projects, e.g. obtaining funding for projects or training grants (FPU, MSCA, ...). 	

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Job requirements (have to be fulfilled):	Specific techniques (analytical, software, calculations, prototyping, etc.)	<p>Experience/competence to be valued:</p> <ul style="list-style-type: none"> - Demonstrated competence in materials synthesis and characterization - Experience in thermal analyses: Differential scanning calorimetry (DSC) and thermogravimetric analysis (TGA), thermal conductivity. - Experience in characterization techniques: XRD, TEM, SEM, FTIR, Raman, NMR, AFM, XPS, etc. - Experience in the study of PCMs for thermal energy storage applications, phase change kinetics, charge/discharge rate, encapsulation, etc.
	Participation and/or collaboration in R&D&I/business projects	Valuable proven experience in the participation and/or collaboration of R&D projects
	Languages	English. Valuable: Spanish and Portuguese.
	Cross-cutting competences	<ul style="list-style-type: none"> - Excellent leadership and communications skills. - Ability to supervise and work in teams. - Commitment to open science practices, e.g., open access publications, dissemination activities, open educational resource development, open source software development. - Experience in collaborations inside and outside the own department
	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.	<p>Solid publication record in scientific journals. It will be valued the number and relevance of scientific publications/congresses related to the position main topic.</p>
To be evaluated (adds points to the final evaluation)		
<ul style="list-style-type: none"> - Motivation letter: Include a motivation letter describing the qualities that the candidate considers suitable for the position, as well as some general objectives of the research that he/she would like to develop at CIIAE. - Reference letters: Include two professional reference letters (from employers and/or professors, with their contact information, email and phone) highlighting the technical and transversal qualities that they have identified in the candidate and that are relevant to the position. - Research projects: Include a regional/national or international projects list in which the candidate has participated. - Writing proposals for competitive calls experience (even if no funding has been obtained, in this case, please attach the evaluation letter). - Having obtained competitive research contracts, such as, FPU, FPI, Torres Quevedo, Juan de la Cierva, Ramón y Cajal, Marie Skłodowska Curie, or equivalent - Have been principal investigator in R&D projects. - Demonstrated experience in supervising work teams. - Have supervised bachelor's final projects, master's final projects or PhD. - First author or corresponding author in scientific articles. - Have completed specific training courses relevant to the position offered. - Experience in lab scale-up to prototypes. - Experience in modelling/simulation directly or through collaborations. - Experience in industrial collaborations and/or previous experience working in industry. - Patents. - Awards, mentions or other achievements 		

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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 thermal analysis. Candidate: brief description of experience in thermal analysis reflected in scientific articles, theses, courses, projects, etc.)

TECHNIQUES: Oral knowledge test YES NO X

LANGUAGE: ORAL YES X NO

It 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: Ref^a **IS-PCM S-L (ALMACENAMIENTO DE ENERGÍA TÉRMICA)** to:

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