JOB OFFER

JUNIOR RESEARCHER

Position: Junior Researcher. Development of molten salt systems for thermal storage
Offer Date: Web Publication
Project: CIIAE – Refª IJ-SALES FUNDIDAS (ALMACENAMIENTO DE ENERGÍA TÉRMICA)
Department: Thermal Energy Storage
Expected date of incorporation: 4th quarter 2024

Workplace:	University of Extremadura. Cáceres Campus	
Tasks to be developed:	Molten salts are ionic compounds, in solid state at room temperature and atmospheric pressure, that melt when heated above their melting temperature. In the liquid phase, these salts have high volumetric heat capacities, which is why they allow a lot of heat to be stored while occupying the minimum amount of physical space and being easy to transport. Sensible heat storage with molten salt is a very mature and commercially proven technology. The greatest challenge of this technology is to improve the chemical compatibility between the salts and the tanks or components in contact with them to reduce corrosion problems. The selected profile must develop the following tasks: – Conduct an exhaustive review of the state of the art of the assigned storage topic. – Coordination and/or execution of corrosion experiments in molten salts in controlled environments – Characterization of thermophysical tests for the evaluation of materials for thermal storage with molten salts. – Carrying out experimental tests in pilot plants or reactors belonging to own or external facilities used for the storage of thermal energy, in accordance with the assigned topic. – Validation of other equipment used in thermal energy storage: heaters, pumps, etc. – Close interdisciplinary collaboration with CIIAE colleagues. As well as collaboration with universities, research institutes and companies at a national and international level. – Preparation of technical and dissemination presentations. – Support, supervision and mentoring of doctoral students and master's students – Writing scientific publications and presenting results at international conferences – Acquisition of competitive financing, both private and public.	
Duration of the contract and salary (per annum):	Temporary Contract Initial duration: 2025 September, with the possibility of extension	Annual Gross Base Salary: 36.775,48 €
Academic background required:	PhD in: Materials Science, Nuclear Engineering, Chemistry, Chemical Engineering, Renewable Energy, Solar Energy, Physics or similar	
Other professional education:	Valuable master's degree in: – Materials for Energy Storage and Conversion – Chemical engineering – Materials science – Structural integrity and durability of materials, components and structures – Solar energy – Thermal energy systems – Solar thermal – Renewable energy	
Professional experience:	– Postdoctoral experience not required	

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Expediente financiado por el Mecanismo de Recuperación y Resiliencia.

Job requirements (have to be fulfilled):	Specific techniques (analytical, software, calculations, prototyping, etc.)	– The candidate's experience in the study of molten salts and/or materials, etc. will be valued. – Experience and understanding of the basic principles of corrosion and material degradation will be an advantage. – Experience in the use of microstructural characterization techniques such as optical microscopy, scanning electron microscopy, X-ray diffraction, Raman microscopy, transmission electron microscopy will be an advantage. ICP-MS
	Participation and/or collaboration in R&D&I/business projects	Demonstrated experience in participation and/or collaboration in R&D&i projects will be valued.
	Languages	English. Valuable Spanish and/or Portuguese
	Cross-cutting competences	– Communication skills – Capacity for teamwork – Experience in collaborations inside and outside the working department
	Willingness to travel and stay abroad	The position offered requires occasional participation in events outside 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.	The number and relevance of scientific publications and conferences referring to the main topic of the position will be assessed.

Following attachments will adds points to the final evaluation:

- Motivation Letter: Include a motivation letter describing the qualities that the candidate considers suitable for the position of Junior researcher in molten salts, as well as general objectives of the research that he or she would like to develop at the CIIAE.
- Reference letters: Include two professional reference letters (from employers and/or teachers, with their contact information, email and telephone number) that highlight the technical and transversal qualities that have been identified in the candidate and that are relevant. for the position.
- Research projects: Include a list of regional/national or international projects in which the candidate has participated.
- Experience in writing proposals for competitive calls (even if funding has not been obtained, in which case, attach the evaluation letter).
- Have obtained funding or competitive research contracts, such as FPU, FPI, Torres Quevedo, Juan de la Cierva, Ramón y Cajal, Marie Sklodowska Curie, or equivalent
- Having been a principal investigator, or line coordinator in R&D&i projects
- Having directed research projects (for example, bachelor's degree, master's degree)
- Be the first author or corresponding author in scientific articles
- Have completed specific training courses, relevant to the position offered (for example, in molten salts, thermal storage, etc.)
- Experience in scaling from laboratory to prototypes
- Experience in modeling/simulations either directly or through collaborations
- Experience in industrial collaborations and/or previous experience working in the 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 (e.g.: Requirement : Experience in corrosion studies. Candidate: brief description of the experience in corrosion studies reflected in articles, theses, courses, projects, etc.)
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 documents requested by the terms and conditions of the call for proposals, together with all the documents requested by this job offer, with the deadline being 15 calendar days from the day following the publication in the CIIAE web, and indicating the following reference **Refª IJ-SALES FUNDIDAS (ALMACENAMIENTO DE ENERGÍA TÉRMICA)**.

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