ICCRAM-UNIVERSITY OF BURGOS (Spain) has a PostDoc vacancy related to the design, characterization, and modeling of Receivers for Advanced Concentrated Solar Power Plants.

DESCRIPTION:

Concentrated solar power (CSP) systems generate solar power by using mirrors or lenses to concentrate a large area of sunlight, or solar thermal energy, onto a small area. Electricity is generated when the concentrated light is converted to heat, which drives a heat engine connected to an electrical power generator or powers a thermo-chemical reaction. The component that receives the concentrated sunlight, called the receiver, is subject to thermal cycles and high thermal gradients, which can lead to internal failure of the component, thus reducing its lifetime. Therefore, comprehensive knowledge of the underlying physical and chemical processes to which the receiver is subjected are fundamental for improving its design and lifetime.

The Excellence Research Center ICCRAM (http://wwww.ubu.es/iccram) **has a 24 month PostDoc vacancy for the design, characterization, and modeling** of (ceramic- or metal-based) receivers used in Concentrated Solar Power (CSP) plants. On the one hand, the PostDoc candidate will perform tasks related to the engineering design of both the damage-tolerance materials as well as the receiver component, using thermo-structural, thermodynamic, and CFD modeling at multiple time- and length-scales.
On the other hand, the candidate will be involved in experimental characterization to determine thermo-physical properties, thermo-mechanical resistance, thermal shock resistance, and mechanical performance and durability of both the materials and the receiver component. The PostDoc candidate will be integrated in the **H2020-NMBP-NEXTOWER project**, collaborating with scientists across Europe.

We are looking for highly motivated, ambitious and talented PostDoc researchers. The selected candidate will be based at the Excellence Research Center ICCRAM in Burgos, Spain, possibly performing research stays at the research and development agency ENEA in Rome, Italy, and the University of Oxford, UK.

PROFILE:

Candidates must have a PhD in Physics, Chemistry, Engineering, Mathematics, or a related field. The working language will be English, although knowledge of the Spanish language is desirable.

Experience and interest in the following will be positively valued:

- Thermodynamic modeling (i.e. CalPhad method).
- Computational Fluid Dynamics (e.g. ANSYS Fluent, OpenFOAM).
- Computational methods (e.g. Finite Element Methods, Finite Difference Methods).
- Numerical programming skills (e.g. C/C++, Fortran, Python, Matlab).
- Multi-scale modeling (Finite Element/Difference, meso-scale modeling, molecular dynamics).
- Capacity to work in a team, flexibility, willing to carry out international research stays and research motivation and enthusiasm.
- Strong written and oral communication skills in English.
- Broad experience, published articles, participation in European projects.

OFFER:

Postdoctoral contract with an annual gross income of €30.000-€35.000 dependent on the candidate's experience.

ABOUT ICCRAM:

ICCRAM (International Research Center in CRMs for Advanced Industrial Technologies), is an International Excellence Research Center located at Universidad de Burgos facilities, which is developing activities in the following areas: Biophysics, Biotechnology, Industrial Technology, Materials science, Nanosafety, Materials design, Nanotechnology, Nuclear technology, Resource management efficiency, Eco-innovation and Substitution of critical raw materials. ICCRAM is a major partner in international organizations such as EU-NANOfutures or the International Nanotechnology Industries Association (NIA) with participation in eleven H2020 European projects (http://wwww.ubu.es/iccram/highlighted-projects) and 3 international actions in the framework of COST, EERA, and ITER.

INTERESTED CANDIDATES, SEND YOUR CV TO:
oficina.iccram@ubu.es; director.iccram@ubu.es