

Company Description

CIC energiGUNE is the Research Center for electrochemical and thermal energy storage, a member of the Basque Research and Technology Alliance- BRTA, and, a strategic initiative of the Basque Government. CIC energiGUNE was created in 2011 to generate excellent research in materials and systems for energy storage, maximizing the impact on results to the Basque Business Network, through collaboration with universities, research centers, and companies. Located in the Alava Technology Park is considered one of the top 3 reference centers in Europe, thanks to the positioning of its research lines, its research team, and its characterization, testing, and prototyping platforms that make it the reference laboratory in southern Europe. The center works in an extensive network of collaborators, which includes clusters, initiatives, companies, universities, and research institutes, all of which are references in the international field of energy storage. These collaborations aim to obtain valuable results for both electrochemical and thermal storage applications. The European Commission has recently awarded CIC energiGUNE with the 'HR Excellence in Research' which reflects its commitment to achieving fair and transparent recruitment and appraisal procedures and certifies the existence of a stimulating and favorable work environment for researchers in the institution. For more details on CIC energiGUNE's research activities please visit our

Information

 Deadline: 2021-01-31
 Category: Business
 Province: Araba / Alava

 Country: Basque Country
 City: Vitoria-Gasteiz

Company

CIC energiGUNE



Main functions, requisites & benefits

Main functions

CIC energiGUNE is seeking for a young researcher to develop a PhD thesis in the field of advanced cooling systems for electronic components. The position is open within "Systems engineering and technology transfer" research group which, among other topics, investigates novel cooling/heat management solutions for electronics, power electronics or battery systems. This group is part of a complete and experimented research team <https://cicenergigune.com/en/thermal-storage-research> and infrastructure <https://cicenergigune.com/en/platforms-facilities> devoted to materials and heat transfer intensification development to provide new knowledge and disruptive thermal solutions to the industry. Cooling requirements in electronics are increasing significantly as new CPUs or GPUs are launched in the market. Nowadays, it is estimated that cooling power required in these components is around 100 W/cm² while, in certain hotspots it may reach up to 500 W/cm². These powers make, in most cases, traditional forced-air cooling systems useless to ensure an appropriate cooling of the main electronic components. One of the main constraints this type of systems presents is the need of evacuating this heat from very small surfaces (in the scale of few square millimeters). Taking this into account, high power cooling systems adapted to each system (from personal laptops to workstations or data centers) are required. The selected candidate will work in the design, development and validation of novel cooling systems for electronics heat dissipation. The PhD thesis will lever up in three main pillars: To develop a computational fluid dynamics (CFD) model to design add-on and optimized cooling systems. ANSYS Fluent and ANSYS Icepak will be used for this purpose. To construct a specific test bench to validate the proposed cooling solutions and the proposed theoretical models. To develop new heat exchanger concepts and/or new heat transfer fluids with improved thermal transport properties.

Requisites

Master degree in Engineering or Physics with academic background on thermal management. Excellent speaking and writing skills in English. A good team player who can collaborate with other scientists. Highly motivated person.

Benefits

A predoctoral employment contract that covers the whole period of the thesis elaboration with a competitive salary within the category. Access to a complete set of existing laboratory infrastructure and equipment, as well as to the needs identified during the project development to ensure a fruitful stay and the fulfillment of the objectives in due time. Integration in an enthusiastic and multidisciplinary young group with great projection and commitments with sustainability and research quality. CIC energiGUNE is located close to the city of Vitoria-Gasteiz (Spain), in the heart of the Basque Country. The Basque Country is the region with the highest R&D investment in Spain, with more than 20.000 researchers. The Basque research ecosystem comprises a solid and collaborating community composed of universities, technology and cooperative research centers which leads the return per capita in the European H2020 programme.