

Company Description

CIC energiGUNE is the research center of electrochemical and thermal energy storage, a strategic initiative of the Basque Government. CIC energiGUNE was born in 2011 to generate excellent research in materials and systems for energy storage. The goal of CIC energiGUNE is to maximize the impact on results to the Basque business network through collaboration with universities, research centers, and companies. CIC energiGUNE is a private non-profit foundation, located in the Alava Technology Park and a member of BRTA (BASQUE RESEARCH & TECHNOLOGY ALLIANCE). Today, it is considered one of the top 3 reference centers in Europe, thanks to the positioning of its research lines, its research team and its state of art characterization, testing infrastructure, and prototyping platforms that make it the reference laboratory in southern Europe. Its highest governing body is the board of members, made up of public and private entities, which are responsible for reinforcing the possibility of rapid implementation and transmission to society of progress made in the field of research in energy storage. Intending to be an international reference, the center works in an extensive network of collaborators, which includes platforms, clusters, initiatives, companies, universities, and centers, all references in the international field of energy storage. The objective of these collaborations is to obtain valuable

Information

 Deadline: 2021-03-16
 Category: Business
 Province: Araba / Alava

 Country: Spain
 City: VITORIA-GASTEIZ

Company

CIC energiGUNE

CIC
energi
GUNE
MEMBER OF
 BASQUE RESEARCH
 & TECHNOLOGY ALLIANCE

Main functions, requisites & benefits

Main functions

In order to facilitate rapid battery development, it is critical to establish a good understanding of the mechanisms and processes which determine performance. This project will establish an enhanced approach to characterisation by coupling Thermal Imaging (TI) and Raman spectroscopy (RS), thereby enabling a greater depth of information to be obtained (both in situ and ex situ). Initially, work will focus on continuing the development of both tools through validation with model cells and components – particularly solid-state systems. Subsequently, this non-destructive analytical tool (NDA) will be deployed and used for a wider range of applications – generating impact in battery research and analysis, and supporting development in general. TECHNIQUES TO BE USED: Ex situ, in situ, and in operando Raman spectroscopy and thermal imaging, to be coupled with electrochemical characterization. Pre- and post- test analysis of battery components by a range of techniques – e.g. atomic force microscopy (AFM), transmission electron microscopy (TEM), gas physisorption, thermogravimetric analysis (TGA), Fourier transform infrared spectroscopy (FTIR), X-ray diffraction (XRD) and X-Ray photoelectron spectroscopy (XPS). Electrode preparation, cell integration, and component characterization. Electrochemical performance tests.

Requisites

A Master's degree, ideally with academic background in materials science, electrochemistry, and/or analytical chemistry. A good team player who can collaborate well with other scientists. A Highly motivated person with an interest in research. A good level of spoken and written English.

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. Candidates will join an integrated, enthusiastic, and multidisciplinary institute making high quality research and impactful contributions to the energy storage and sustainability fields. 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.