

Company Description

BCMaterials, Basque Center on Materials, Applications and Nanostructures, is an autonomous research center launched in June 2012 by Ikerbasque, the Basque Foundation for Science and the University of the Basque Country (UPV/EHU) as a research center for Materials, Applications and Nanostructures. The Center is included in the BERC's (Basque Excellence Research Centers) Network, and its mission is to generate knowledge on the new generation of materials, turning this knowledge into (multi)functional solutions and devices for the benefit of society. Digital technology has intimately invaded our modern life for the last three decades. The recent development of nomadic electronics is pushing the industry to create improved and smaller devices, which could store and manipulate the enormous quantity of data we are producing. But there is one technological limitation dictated by the Moore's Law: computers tend to double in speed and/or halve in size every two years to meet market demand. With the current available technology, computer manufacturers will soon be reaching the physical limits for which the inorganic magnetic materials can be used.

A potential solution to this large problem can be driven by coordination chemistry, a scientific domain that studies hybrid organic-inorganic materials that range from discrete molecules (i.e., Single-Molecule Magnets (SMMs) to 1D

Information

 Deadline: 2023-02-05
 Category: Business
 Province: Bizkaia

 Country: Basque Country
 City: Leioa

Company

BCMaterials



Main functions, requisites & benefits

Main functions

The post-doctoral researcher will design and synthesise novel Metal-Organic Frameworks based on lanthanides and polyoxometalates. Apart from regular structural characterizations (X-ray crystallography, Infrared spectroscopy, elemental analysis, etc.) the spin coherence times and therefore, the performance of MOFs as qubits, will be determined by pulsed EPR. The most interesting MOFs will be exfoliated into thin films and deposited in surfaces.

Requisites

The candidate must have a PhD degree in Materials Science, Chemistry, Physics or related areas before July. Experience in the fields of coordination and polyoxometalate chemistry is required. Knowledge about molecular magnetism, and advanced characterization techniques for qubits (e.g. pulsed EPR spectroscopy, determination of quantum coherence...) are highly welcome. Proficiency in speaking and writing in English. Capacity for teamwork in an interdisciplinary and international environment. Self-motivation and willingness to perform excellence research. Creativity in problem solving. Ability and eagerness to learn new skills outside own discipline. Presentation skills and ability to meet the deadline are also required.

