PRE DOCTORAL RESEARCHER IN DESIGNER FERROMAGNETS

Company Description

CIC nanoGUNE is a Research Center devoted to conducting world-class nanoscience research for a competitive growth of the Basque Country. nanoGUNE is a member of the Basque Research and Technology Alliance (BRTA) and is recognized by the Spanish Research Agency as a María de Maeztu Unit of Excellence.

Information

Deadline: 2024-08-31
Category: Academia
Province: Gipuzkoa
Country: Basque Country
City: Donostia-San Sebastián

Company

CIC nanoGUNE

Main functions, requisites & benefits

Main functions

We offer a PhD position in novel magnetic materials, oriented towards the fabrication and control of magnetic properties via materials design. The aim of the PhD research project is to design and fabricate nano-scale multilayer structures that allow for novel local and collective magnetic properties, while utilizing symmetry and topological material design strategies. Accordingly, it also includes the structural and magnetic characterization of the associated complex quantum states and thermodynamic properties that result from these designs. The project will include the following activities: fabricate high-quality single crystal magnetic multilayers with predefined depth structure using UHV evaporator and sputter deposition systems; Employ state-of-the-art structural and magnetic characterization methods to enable a detailed analysis of these novel multilayer materials; Develop novel measurement schemes and protocols to gain detailed insight into the symmetry and topology induced collective magnetic states and properties; Process and analyze the acquired experimental data in a comprehensive manner, extract key parameters and quantities, and identify related design and structural trends; Develop theoretical models and simulations to interpret the experimental results and develop a comprehensive understanding of the underlying physics.

Requisites

The successful candidate is expected to hold a Master's degree (or equivalent) in Physics, Materials Science, Nanotechnology, or a related field, and to have demonstrated a background in experimental condensed matter physics, nanoscience, or a closely related discipline. Previous experience with experimental setups, such as film deposition systems, X-ray material characterization methods or magnetometry will be advantageous. Additionally, the candidate should demonstrate excellent written and verbal communication skills in English, including the ability to present research findings effectively. The position is expected to start on 01.10.2024 in the Nanomagnetism Group

Benefits

The candidate will join an International Research Team focusing on fundamental and applied magnetic materials research, nano-scale fabrication and magneto-optics. More information can be found at: https://www.nanogune.eu/en/research/groups/nanomagnetism
We promote teamwork in a diverse and inclusive environment and welcome all applicants regardless of age, disability, gender, nationality, race, religion, or sexual orientation.