CIC NANOGUNE: POST-DOCTORAL RESEARCHER ON SPINTRONICS IN 2D MATERIALS

Company Description

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.
The Nanodevices group, co-led by Prof. Luis E. Hueso and Prof. Fèlix Casanova, is currently composed of 30 members including senior and junior researchers. The group has extensive research facilities for the fabrication and characterization of devices and research lines spanning from nanofabrication to 2D electronics and spin transport. More information can be found at http://nanodevices.nanogune.eu

Information

Deadline: 2025-07-02
Country: Spain
Category: Business
City: Donostia-San Sebastián
Province: Gipuzkoa

Company

CIC nanoGUNE

Main functions, requisites & benefits

Main functions

The research topic encompasses spin transport and interconversion between spin currents and charge currents in 2D materials and van der Waals heterostructures. Phenomena that exploit spin-orbit coupling will be studied, such as the spin Hall and the Rashba-Edelstein effects. The project also foresees the integration of working systems into functional nanodevices. The research to be performed will require the exfoliation and stacking of 2D materials into van der Waals heterostructures, the nanofabrication of devices (thin film deposition, electron beam lithography, etching), and magnetotransport measurements (high magnetic fields and low temperatures). The following is a selection of publications related to our team's recent work on this research topic: Adv. Mater. 36, 2310768 (2024); Nat. Mater. 23, 1502 (2024); Nat. Electron. 8, 15–23 (2025)

Requisites

The candidate must have a Ph.D. in physics, materials science or chemistry. Proficiency in spoken and written English is also required. Although not compulsory, the following points will be considered: Experience in any of these experimental techniques: e-beam lithography, materials growth and characterization, etching, exfoliation of 2D materials, electrical transport measurements. Previous knowledge in spintronics. Strong track record in publications at the highest level. Self-motivated and a team player willing to coordinate the research in a particular topic.

Benefits

We offer an international and competitive environment, state-of-the-art equipment, and the possibility to perform research at the highest level. We promote teamwork in a diverse and inclusive environment and welcome all kinds of applicants regardless of age, disability, gender, nationality, race, religion, or sexual orientation.