The Nanoscience Cooperative Research Center, CIC nanoGUNE, located in Donostia - San Sebastian, Basque Country (Spain), is currently looking for a

PREDOCTORAL RESEARCHER

to work on

Spin-orbit based devices

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 27 members including senior and junior researchers. The group counts with extensive research facilities for fabrication and characterization of devices and several active research lines spanning from nanofabrication to 2D electronics and spintronics. More information can be found here.

The candidate will work on an international **collaborative project** entitled "FEINMAN 2.0: Super Energy Efficient Devices enabled by Quantum Materials". This project is funded by **Intel Corp**., the world leading microprocessor company. The research topic encompasses the interconversion between spin currents and charge currents (spin Hall effect, Edelstein effect) in novel materials such as Dirac semimetals. The project also foresees the integration of working spin-to-charge nanodevices with tunnel barriers and with magnetoelectric substrates. The final goal is to help implement the magnetoelectric spin-orbit

(MESO) logic technology proposed by Intel [S. Manipatruni et al., Nature **565**, 35 (2019)].

The research will require advanced nanofabrication of devices (thin film deposition, electron-beam lithography, etching), together with their magnetotransport measurements (including harmonic Hall measurements).

The successful **candidate** will have:

- Master's degree in physics or a similar field
- Proficiency in spoken and written English

Although not compulsory, the following points will be considered:

- Experience in nanofabrication techniques (thin film deposition, electron-beam lithography, etching)
- Experience in magnetotransport measurements (including harmonic Hall measurements)
- Previous knowledge of spintronics and spin-orbit torques

We offer an international and competitive environment, state-of-the-art equipment, and the possibility of performing 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.

The PhD student will be enrolled at the University of the Basque Country Doctorate Program. The position is expected to start on 01/09/2022 and go on for up to 3 years in the Nanodevices group.

Candidates should **apply** by completing the form below, attaching the following documents:

1. Complete CV
2. Academic qualifications
3. Cover letter and at least one recommendation letter grouped in a single PDF file.

The **deadline** for applications is **June 30, 2022**.

NOTES:
** All applications will receive an answer after the end of the selection process; but please note that due to the large number of submissions that are expected, we cannot provide individual feedback.*
** Additional information about nanoGUNE's commitment towards HR excellence in Research and Gender Equalityare available on our website.*