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

POSTDOCTORAL RESEARCHER

to work on

Spintronics in 2D materials

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 athttp://nanodevices.nanogune.eu

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)

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.

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.

The position is **expected to start** on **01/12/2025** and for a total duration of up to 3 years in the Nanodevices group.

The candidates should **apply** by completing the **form below**, attaching:

a) A complete CV

b) A cover letter

The application **deadline** is **July 2, 2025**.

NOTES:

(i) All applicants 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.

(ii) Additional information about nanoGUNE's commitment towards HR excellence in Research and Gender Equality are available on our website.

(iii) We encourage you to subscribe to our HR mailing list to receive information related to nanoGUNE's open positions and open calls for different training and talent attraction programs.

CIC nanoGUNE
MEMBER OF BASQUE RESEARCH & TECHNOLOGY ALLIANCE