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

PRE DOCTORAL RESEARCHER

to work on

Designer Ferromagnets BY MEANS OF NANO-SCALE MATERIALS DESIGN

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.

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

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.

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.

We promote teamwork in a diverse and inclusive environment and welcome all applicants regardless of age, disability, gender, nationality, race, religion, or sexual orientation.

The position is expected to **start** on **01.10.2024** in the Nanomagnetism Group.

Candidates should **apply** by completing the **form below** and attaching the following documents grouped in a single PDF file: a. A complete CV

b. A cover letter, stating research interests, and at least two reference letters

The **deadline** for applications is **31.08.2024**.

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