

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

MASTER STUDENT

to work on

Depth-resolved magnetometry using transmission Magneto-Optical Ellipsometry

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 **position** is offered in the **Nanomagnetism Group**, led by Andreas Berger and co-led by Paolo Vavassori. The Group is conducting world-class basic and applied research in the field of magnetism in nano-scale structures. The Group staff has a longstanding expertise and proven track record in fundamental and applied aspects of nano-magnetism, especially in the development and use of magneto-optical methods. **More information** can be found at <https://www.nanogune.eu/en/research/groups/nanomagnetism>

The goal of this **master project** is to enhance the capabilities of our state-of-the-art generalized magneto-optical ellipsometer (GME) to allow for sample orientation dependent transmission measurements and the associated characterization of complex magnetic materials. With such methodological advances, the instrument will have the potential to allow for very precise magneto-optical magnetometry measurements, such as depth-resolved magnetometry.

The project will consist of two parts. In the **first part**, an existing GME set-up will be reconfigured to facilitate transmission geometry measurements. Once the system is operational, measurements on magnetic thin film, multilayer, and nano-structure samples (also produced in our labs) will be made to explore the performance levels that can be achieved with the new characterization capabilities that this unique experimental tool offers. This work will include modifications of the experimental set-up and control software to run these novel experiments (LabView programming platform). In the **second part**, the experimental results will be analyzed so that quantitative data of the dielectric tensor for different films and materials can be extracted, as well as depth-resolved magnetometry demonstrated, which would represent a very significant methodological advance. This part will include data analysis programming, the use of commercial analysis software and will furthermore benefit from a good understanding of electromagnetism, optics and ferromagnetism.

Application

If you are a (prospective) master student and you are interested in this project, please **get in touch with** the scientist in charge: Andreas Berger (a.berger@nanogune.eu).

To **apply** for a master scholarship follow the instructions and recommendations of the general call and fill in the form below attaching the following documents:

- a. A complete CV
- b. Academic record
- c. A cover letter

The **deadline** for applications is **06/04/2026**.

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.*