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
MINECO_RETOS_2018_PHOTOTHERMAG_CIC01_Vavassori

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 Berger, Andreas / Vavassori, Paolo (a.berger@nanogune.eu / p.vavassori@nanogune.eu). The Nanomagnetism Group is conducting basic and applied world-class research in the field of magnetism in nanoscale structures. The group staff has a long-standing expertise and proven track record in fundamental and applied aspects of nanomagnetism, magnetic materials, and magnetic characterization, especially magneto-optical methods..

The candidate will join a **research line** focusing on the material growth and nanofabrication, non-magnetic characterization and magnetic characterization. More information can be found at https://www.nanogune.eu/nanomagnetism.
The aim of the **project** is to Project: CIC012018003 - Nanomagnet logic via photothermal excitation of nanomagnetic networks - PHOTOTHERMAG

- Introduction: In the last decade, and driven by the strong development of nanotechnology, there has been an increased interest in the study of the light interaction with metallic nanostructures. It was found that tailor designed nanostructured materials (so called metamaterials) offer unrivaled means to control propagation, localization, and polarization of light at the nanoscale. Particularly relevant are composite metamaterials integrating ferromagnetic nanoelements because their intertwined optical and magnetic properties.

- Work Plan: The goal of this Master project is to design, create novel optical metamaterials combining ferromagnetic and noble metal nanostructures with designed and tunable optical properties.
To this purpose, advanced modeling tools based on electromagnetic theory, which has been specifically devised to deal with nano-scale optical objects, will be utilized for the design of the metamaterials in the first part of the Master project. Subsequently, selected metamaterials will be created using the modern nano-lithography tools available in the Center, and their optical and magnetic properties, as well as their mutual dependence, investigated using laser-based spectrometers and magnetometers also available at CIC nanoGUNE.
Such multifunctional magneto-photonic metamaterials are not only of substantial scientific, but also technological interest since they are currently under intense exploration for ultrasensitive molecular sensing applications, opto-activated nanomagnetic logic devices, and ultrathin optical meta-devices..

The successful **candidate** will have a .
Additionally, the candidate should demonstrate experience in the following skills:
Although not compulsory, the following points will be considered:

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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 in 01/10/2021 and for a total length of up to 10 months (01/10/2021 - 31/07/2022) in the Nanomagnetism Group. The contract will be funded by the .

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

a. A complete CV
b. A cover letter and at least two reference letters grouped in a single PDF file

The **deadline** for applications is **30/06/2021**.

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.