

Company Description

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 Nanooptics Group at CIC nanoGUNE has pioneered the development of scattering-type scanning near-field optical microscopy (s-SNOM) and Fourier transform infrared nanospectroscopy (nano-FTIR) [Nature Mater. 10, 352 (2011); Nano Lett. 12, 3973 (2012); Nature. Rev. Mater. 10, 285 (2025)]. These advanced techniques enable imaging and spectroscopy at visible, infrared, and terahertz frequencies with spatial resolution improved by a factor of 100 to 1000 compared to conventional optical methods. Our research has not only laid the foundation for s-SNOM and nano-FTIR technologies but also demonstrated their immense potential across a wide range of applications, including nanoscale conductivity mapping, chemical identification of materials, and the exploration of exotic optical phenomena in 2D and quantum materials.

Information

 **Deadline:** 2025-12-31
 **Category:** Academia
 **Province:** Gipuzkoa

 **Country:** Spain
 **City:** Donostia-San Sebastián

Company

CIC nanoGUNE



Main functions, requisites & benefits

Main functions

We are seeking highly motivated candidates for fully funded 3-year PhD positions. As a PhD researcher in our group, you will contribute to one or more of the following exciting research directions: 1. Development of next-generation s-SNOM and nano-FTIR instrumentation and nanoscale spectroscopy techniques; 2. Applications in materials science, including 2D materials and polymers, as well as quantum systems.

Requisites

We are looking for motivated, curious, and committed PhD candidates with the following qualifications: A Bachelor's and Master's degree (or equivalent) in Physics, Materials Science, Engineering, or a related field; Knowledge in general optics, nanooptics, and solid state optics; Experience with scanning probe microscopy, infrared spectroscopy, optical instrumentation, or related techniques is a plus; Proficiency in data processing using Python; Strong motivation for hands-on experimental research; Proficiency in written and spoken English is essential.

Benefits

What We Offer: A fully funded PhD program with dedicated supervision and access to state-of-the-art research facilities; A vibrant, international, and interdisciplinary research environment; Opportunities to publish in top journals and present your research at international conferences; The chance to live and work in San Sebastián, a beautiful coastal city in the Basque Country, at one of Europe's leading nanoscience institutes. The position is expected to start on January 2026.

