

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

Post Doctoral Researcher
to work on
development of the FIB-bases methods to characterize residual stress in 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 position is offered in the Electron Microscopy Group, led by Chuvilin, Andrey (a.chuvilin@nanogune.eu). The Electron-Microscopy Laboratory, is established with the aim of providing a high-end electron microscopy support for nanoGUNE's multidisciplinary research team.

The position is in collaborative project with partners from technical university, technological centers and industry on the development of the FIB-bases methods to characterize residual stress in materials fabricated or modified by a number of modern processing technologies: laser welding, 3D printing, shot peening, high speed machining. The research will include development and verification of new geometries for residual strain measurement by FIB milling, implementation of Finite Elements models for stress back propagation, automation of experiments, measurement of residual stresses in the samples depending on fabrication conditions, structural, morphological and micromechanical characterization of materials.

The candidate will join a research line focusing on on the following state-of-the-art facilities:

- ?• (Scanning) Transmission Electron Microscope (TEM/STEM) with an imaging Cs-corrector?
- DualBeam™ (FIB/SEM) nanofabrication tool
- ?• Environmental Scanning Electron Microscope (ESEM)
- ?• Broad range of material-science samples-preparation lines.

More information can be found at <https://www.nanogune.eu/electron-microscopy>.

The aim of the project is the development and verification of new geometries for residual strain measurement by FIB milling, implementation of Finite Elements models for stress back propagation, automation of experiments, measurement of residual stresses in the samples depending on fabrication conditions, structural, morphological and micromechanical characterization of materials.

The successful candidate will have a PhD in Physics, Chemistry, Engineering or a similar field and will have the following theoretical background, experimental skills and competences:?

- Deep knowledge of the plasticity of metals.?
- Expertise in Scanning and Transmission Electron Microscopy techniques, in particular in application to metals and alloys.
- ?• Previous experience in FE simulations of rigid bodies, preferably in COMSOL.?
- Proficiency in one of programming languages: C, C++, C# or Python.
- ?• Proficiency in spoken and written English.
- ?• Previous experience in inventive activity and patenting.
- ?• Ability for independent research and coordination of activities among different research groups.

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 03/06/2024** and for a total length of up to 18 months (03/06/2024 - 31/12/2025) in the Electron Microscopy Group. The contract will be funded by the **Elkartek 2024**.

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

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

The **deadline** for applications is **21/04/2024**.

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.*