



## CALL FOR APPLICATIONS - July 2022

### Post-doctoral Position

Donostia International Physics Center (DIPC) is currently accepting applications for Post-doctoral positions. This is a unique opportunity for junior researchers with a recent PhD degree in Physics or related fields to join one of DIPC's high-profile research teams. A description of each of the available openings, contact information and deadlines can be found on the following pages.

Openings with a duration of more than one year are for a 1-year contract, renewable based on performance and availability of funding.

Although candidates are welcome to contact the project supervisors to know further details about the proposed research activity, please be aware that the application will be evaluated only if it is submitted directly to the email address listed as "application email".

Applications received by the deadline will be evaluated by a Committee designed by the DIPC board on the basis of the following criteria:

- CV of the candidate (40%)
- Adequacy of the candidate's scientific background to the project (40%)
- Reference letters (10%)
- Other: Diversity in gender, race, nationality, etc. (10%)

Evaluation results will be communicated to the candidates soon after. Positions will only be filled if qualified candidates are found.

The DIPC may revoke its decision if the candidate fails to join by the appointed time, in which case the position will be awarded to the candidate with the next highest score, provided it is above 50 (out of 100).

However, the selected candidate may keep the position if, in the opinion of the Selection Committee, the candidate duly justifies the reasons why he or she cannot join before the specified deadline, and as long as the project allows it.

**Ref. 2022/39**  
**On-surface trapping of Ba ions by functionalized surfaces**

**Supervisor(s):**

*Celia Rogero (crogero@gmail.com)*  
*Juan José Gómez Cádenas (jjgomezcadenas@dipc.org)*

**Duration\*:** 2 years

**Application Deadline:** 21/07/2022

**Application Email:** jobs.research@dipc.org

We are seeking a postdoc with demonstrated experience in growth of organic materials in ultra-high vacuum (UHV) conditions and their surface science characterization techniques (as XPS, NEXAFS and STM). The candidate will explore the ion chelation mechanism of fluorescence molecules in contact with a surface and determine how the molecule-surface interaction affects the final emission of the organic molecules.

This research is integrated in the framework of the BOLD project, funded by the European Research Council Executive Agency (Synergy Grant Agreement number 95128). This project contributes to the development of the NEXT international experiment (<https://next.ific.uv.es/next/>) which aims to detect by the first time neutrinoless double-beta decay. The confirmation of the existence of this type of reaction will be a major scientific achievement, with a very deep impact in some of the most important current Physics Models, like the Standard Model and the Big Bang. The final goal of the BOLD project is the development of a chemical sensor, able to capture Ba<sup>2+</sup> dictation. This sensor is under exploration as potentially unique tools in the field of neutrino particle physics. The application of such chemosensors to the field of particle physics is totally novel and requires experimental demonstration of their suitability in the ultra-dry environment of a xenon gas chamber.

The candidate will join the Nanophysics Laboratory (NanoLab) in the Centro de Física de Materiales in San Sebastián (Spain) (<https://cfm.ehu.es/nanophysicslab/>), an experimental surface science group devoted to the study of structural, electronic, magnetic and chemical properties of nanostructures. The research will be carried out in collaboration with the other groups involved in the BOLD project, located at University of the Basque Country, Harvard, University of Manchester and the Donostia International Physics Center, and also interacting with the multidisciplinary teams of scientist and engineers who are in charge of developing, building and commissioning the NEXT detectors. We are looking for highly motivated candidates, who will join this world-class, thrilling environment with many opportunities for professional development.

**Interested candidates should submit an updated CV and a brief statement of interest to the application email listed above. Reference letters are welcome but not indispensable. The reference of the specific opening to which the candidate is applying should also be stated in the subject line.**

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European Research Council  
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