



CALL FOR APPLICATIONS - January 2023

Engineer Position

Donostia International Physics Center (DIPC) is currently accepting applications for Engineer positions. This is a unique opportunity for engineers or technical graduates; or sciences doctorates with a strong background in engineering 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.

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 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. 2023/07

Neutrino Physics at the European Spallation Source (Engineering Position)

Supervisor(s):

Juan Collar (collar@uchicago.edu)

Juan José Gomez Cadenas (jjgomezcadenas@dipc.org)

Duration*: 1 year

Application Deadline: 21/01/2023

Application Email: jobs.research@dipc.org

The Neutrino Physics Group at DIPC is involved in the development and operation of several particle physics experiments worldwide, including NEXT (double-beta decay Xe detector installed in Canfranc, Spain), Hyper-kamiokande (large scale neutrino detector to be built in Kamiokande, Japan) and the development of next-generation neutrino detectors to be installed at the upcoming European Spallation Source (ESS, Lund, Sweden). The construction of these instruments involves solving complex scientific, technological, and industrial challenges. The DIPC is currently consolidating a multidisciplinary team that will address these challenges and will coordinate the collaboration with relevant academic and industrial players.

Within this context, we are currently looking for an Electronics Engineer. The successful candidate will contribute to the design of essential electronics to be integrated into the detector systems for acquisition, processing, and storage of data, as well as for control and monitoring of the detectors. The job will also relate to similar tasks regarding practical implementation of these technologies in applied areas (development of PET scanners for medical diagnosis, for instance). Experience and/or interest in the design and development of photon sensors and low-noise electronics will be a valuable asset for the applicants.

This full time job will be based at the Donostia International Physics Center (DIPC) headquarters in Donostia - San Sebastian (Spain). Successful candidates will report directly to the Technical Coordinator, although they will be expected to work autonomously and in collaboration with the rest of the team. Travelling will be required for assembly, commissioning, and operation of the detectors at their sites. The position is for a one-year contract, renewable to up to five years, following review. The candidate must hold a degree in Technical Engineering, Engineering or equivalent with sufficient overlap with the relevant areas of knowledge. Namely: FPGA platforms, embedded operating systems, data-acquisition software development in C, C++, Python, or LabVIEW, and the design and testing of electronic systems. Ability to speak English at working level must be demonstrated, either through appropriate certificates or at the time of the interview. Additional skills that will be valued can be listed:

- Ability to integrate into the multidisciplinary work team while working autonomously.
- Ability to interact with a network of collaborators and suppliers with very different Backgrounds.
- Ability to adapt to complex and demanding situations, and to the stress imposed by hard deadlines.
- Analytical, goal-oriented thinking.
- Innovative spirit and initiative to propose independent solutions.
- Ability to acquire complementary knowledge beyond the area of electronics, that will help the candidate to understand the structure and purpose of the particle detectors.

- Willingness to travel to experimental sites for assembly, commissioning, and data-taking campaigns.
- Foreseen responsibilities:
- Design and simulation of electronic circuits.
- Prototyping and testing of electronic circuits.
- Integration of electronics into particle detectors.
- Assembly of electronic systems at the detector operation sites.
- Ensuring correct operation of the electronics during commissioning period.
- Design of strategies for preventive maintenance, servicing, and fast repair of electronic systems.
- Writing of technical reports.
- Contact and coordination of industrial partners, and management of supplies.
- Homologation and quality control of industrial suppliers.
- Safe preparation and testing of equipment where appropriate and completion of necessary documentation to ensure quality.

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.

This project has received funding from the European Research Council (ERC) under the European Union's Horizon ERC 2021 Advanced research and innovation programme, under grant agreement No 101055120_ESSCEvNS.



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