



4 Doctoral Candidate Positions

CIC bioGUNE opens applications for Doctoral Candidates (DC). Four FPI contracts, funded by the AEI (State Agency for Research, Spain) are open for applications from July 28th. The positions will hold 4 years contract, social security, and health insurance.

CIC bioGUNE is a research center in biosciences located in Bilbao (Spain), where fundamental research goes hand in hand with oriented and applied perspectives. It offers an international, multidisciplinary scientific environment, hosting over 200 researchers working on chemical biology, cancer, genomics, biophysics, immunology, and many more. CIC bioGUNE is also equipped with state-of-the-art facilities for metabolomics, proteomics, genomics, structural biology (CryoEM, X-Ray, 800 MHz and 1 GHz NMR, computing cluster), and animal facility.

CIC bioGUNE is recognized with the Severo Ochoa Excellence Accreditation (2023-2027).

We welcome applications from motivated young scientists who wish to get their PhD degree in an international scientific environment in one of our laboratories awarded with a predoctoral grant, carrying out cutting-edge research in the frontiers between chemistry, biology, and biomedicine within a highly collaborative environment. More than 80 doctoral candidates are currently developing their PhD Thesis with us.

Candidates should hold a degree in Biology, Biochemistry, Biotechnology, Chemistry, Pharmacy, Medicine, or related topic. They should have completed their MSc degree at the time of incorporation (expected last quarter 2023).

Research topics for the applications include:

- **[Dr. Marco Piva](#) (Cancer Cell Signaling & Metabolism Lab):**

Reprogramming and therapeutic relevance of immunosuppressive cells in the process of prostate cancer metastasis

Taking advantage of genetic engineered mouse models that spontaneously develop metastatic prostate cancer (PCa) we will use the most cutting-edge technologies characterize at the single cell level molecular alterations in tumor cells and in the tumor microenvironment involved in cancer progression and metastasis. We aim to dissect the contribution of cell signaling pathways and immune cell populations to the acquisition of an aggressive phenotype. This unprecedented view will set the basis to rationalize combinatorial treatments using targeted- and immune- therapies in metastatic PCa that will be tested in pre-clinical setting.

- [Prof. Raúl Pérez-Jiménez](#) (Synthetic Biology Lab):

New Synthetic CRISPR-Cas systems

In the project, we will design and engineer novel synthetic CRISPR-Cas systems for application in different areas of biotechnology, with special focus on Amyotrophic Lateral Sclerosis (ALS). For the design, molecular evolution techniques based on ancestral sequence reconstruction will be applied, combined with rational design techniques, artificial intelligence, and structural determination through CryoEM. In this project we will use the most advanced techniques for genome editing and nucleic acids modification, applied in vitro, ex vivo and in vivo. The ultimate goal of the project is to expand the catalog of molecular tools with new non-natural systems for genome editing and diagnosis.

- [Prof. Arkaitz Carracedo](#) (Cancer Cell Signaling & Metabolism Lab):

Biological and molecular effectors of polyamines in cancer

Cellular metabolism sustains many of the hallmarks of cancer. In our lab, we have contributed to identify metabolic processes that lie at the core of prostate cancer pathogenesis and progression and that can be extrapolated to other pathophysiological conditions. To continue to address important questions around the contribution of cell signalling and metabolism to cancer and beyond, we are seeking for a motivated, creative, and committed young scientist that is interested in developing a PhD thesis project in our lab. The work will involve cellular and molecular biology, biochemistry, mouse models and human specimen and data analysis.

- [Dr. Asís Palazón](#) (Cancer Immunology & Immunotherapy Lab):

Preclinical development of a CAR-T cell therapy against Siglec-15

The proposed project aims to develop a new immunotherapy directed against the tumor microenvironment (TME) to treat solid tumors, specifically Triple Negative Breast Cancer (TNBC). TNBC has a poor prognosis because it does not respond well to hormonal treatments or targeted therapies, and its TME is characterized by a prominent infiltration of myeloid-derived suppressor cells. The project aims to explore the preclinical development of a new therapy, including the expression and biology of the target in breast cancer. The project is designed with the vision of improving the efficacy of immunotherapy by leveraging recent advances in glycobiology to approach this medical need in the TNBC treatment and other types of solid tumors.

Application procedure:

Please, if you are interested send, before Sept 8th, your CV, your academic records, along with a motivation letter (1 page), and your preferred topic using the following [form](#) and indicating **44612 + name of the most preferred laboratory as reference.**