

OFFER –Pre-Doctoral FPI Contract in “Structural Biology of DNA/RNA-Associated Machineries”

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The IBF is a joint research centre of the University of the Basque Country (UPV/EHU) and the Spanish National Research Council (CSIC). In close partnership with the Fundación Biofísica Bizkaia (FBB), the centre focuses on fundamental and translational biophysics research and offers a highly collaborative culture. Accredited as a Basque Excellence Research Centre (BERC), the institute provides outstanding shared facilities for advanced biophysical and structural biology approaches in a new research building in the main Leioa campus of the University of the Basque Country.

Description of the project and position offered

We are looking for candidates interested in pursuing a doctoral thesis in the laboratory of Dr. Guillermo Abascal-Palacios at Instituto Biofísica Basque Centre for Biophysics (CSIC-UPV/EHU), under a fully-funded **FPI contract (4 years)** from the Spanish Ministry of Science and Innovation (MICINN).

The "**Structural Biology of DNA/RNA-Associated Machineries**" laboratory focuses on the study of protein complexes that interact with DNA/RNA, with the aim of determining the molecular mechanisms responsible for their function. To achieve this goal, we carry out a combined process that includes protein complexes cloning and expression techniques, purification using chromatographic tools and their subsequent analysis using biophysical and structural biology methods such as cryo-electron microscopy (Cryo-EM) or X-ray crystallography. The ultimate goal is to determine a high-resolution molecular structure that shows enzymatic activity at the atomic level and that can contribute to the development of drugs against diseases such as colorectal cancer or certain neurological disorders.

The selected candidate will participate in a research project aimed at understanding the relevance of **transposons or mobile genetic elements in the development of cancer and other human pathologies**. With this objective, the candidate will carry out research work focused on biochemical, biophysical and structural biology analyses of transposons and other protein-DNA/RNA complexes. Instituto Biofísica (IBF) has a wide variety of technical and scientific equipment, which will be at the disposal of the researcher during his/her doctoral thesis. In particular, the Institute hosts the first Titan Krios G4 cryo-electron microscope in Spain and one of the most advanced in the world at the moment, which allows the determination of atomic structures at an unprecedented level. In addition, the researcher is expected to participate in national and international conferences and courses, where they will have the opportunity to share their results and expand their knowledge. For more details on the techniques that will be used visit: Nature Communications, 2021, 12(6992); Nature Communications, 2020, 11(6409) or Nature, 2018, 553(7688)

Education and Experience Required

The ideal candidate must hold an official **Degree in Biology, Biochemistry, Biotechnology** or similar, and be in possession or enrolled in an **Official Master Program** in the 2022/2023 academic year. Previous research work experience and fluency in English will be highly valued. An excellent academic record to be competitive in PhD fellowship applications will also be important.

Suitable candidates can apply for this position by sending the following information:

- An updated Curriculum Vitae.
- A motivation letter (max. 1 page).
- Two reference letters or contact email of referees.

It is recommended that applications are made as soon as possible as they will be considered upon arrival.

Contact

We are an equal opportunity employer committed to diversity. Please submit all the documentation through the Biofisika website contact page (<http://biofisika.org/contact/>), adding the following subject: [Job Application: 98_GAbascal].

Deadline: 16 September, 2022