

OFFER – PhD Candidate

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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 partnership with Fundación Biofísica Bizkaia (FBB), the centre focuses on advancing knowledge about the physical and chemical processes underlying biology and disease. With the FBB accredited as a Basque Excellence Research Centre (BERC) by the Basque Government, the IBF and FBB partnership enjoys a strong national and international reputation, and provides outstanding shared facilities for advanced biophysical and structural biology approaches in a new research building in the main Leioa campus of the UPV/EHU.

Offer and description of the project

We offer a fully funded 4 year Ph.D position (FPI) at the Cell and Tissue Mechanobiology lab (<https://www.biofisika.org/en/research/cell-and-tissue-mechanobiology-group>) at Biofisika (Bilbao) under the supervision of Ion Andreu.

The research will focus on understanding the role of karyopherins in nuclear mechanotransduction during breast cancer invasion in vitro. Mechanical forces transmitted through the extracellular matrix or by neighbor cells maintain homeostasis in tissues. Deviation from mechanical homeostasis has long been associated with disease progressions, such as liver fibrosis, atherosclerosis, and cancer. It is well established that tissue stiffening promotes the malignant phenotype, and that mechanical activation of cell promotes invasion in breast cancer. At the molecular level, among other effects, mechanical forces control the localization of key cancer transcription regulators and regulate gene expression in breast cancer. However, we are only starting to understand the complexity of mechano-molecular regulation.

Building up from our previous research, this project aims to unravel force-driven molecular regulation in breast cancer invasion. For that, we will combine molecular biology with biophysical techniques and cutting-edge microscopy. Training on any of these fields will be offered.

Required background

We seek highly qualified applicants with MsC in Engineering, Physics, Biology or Biotechnology. Good written and oral communication in English is required.

We are an equal opportunity employer committed to diversity. Applications should be addressed through the Biofisika website contact page (<http://biofisika.org/contact/>), adding the following subject: [Job Application: ***116_PhD_FPI***]. It is recommended that applications are made as soon as possible as they will be considered upon arrival. Applications in a single pdf file must include:

- Curriculum Vitae.
- A motivation letter.

Deadline: November 30, 2023