FUNDACIÓN BIOFÍSICA BIZKAIA / BIOFISIKA BIZKAIA FUNDAZIOA

OFFER – **Two open post-doctoral positions in Image Analysis, Machine Learning and Computational Modelling in Life Sciences**
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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 Fundacion Biofisika 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

Nowadays, advanced biological research requires the development of highly interdisciplinary approaches to understand the regulation of complex systems such as cellular architecture or cell-cell interactions during animal development and diseases. Such studies require expertise in high-resolution imaging, quantitative data analysis, machine learning and physical modelling.

Description
Instituto Biofisika/Fundacion Biofisika Bizkaia (IBF/FBB) located in Leioa (Basque Country, Spain) is seeking two postdoctoral researchers inside the IKUR initiative of the Basque Government, promoting investigation and technological development in strategic areas. The positions are attached to a newly developed infrastructure, the **B**asque **R**esource for **I**mage **A**nalysis and **N**eural **N**etworks (**BRIANN**), including different experts in Image Processing and Computational methods from different areas of Life Sciences (i.e., Daniel Castaño Diez, Ignacio Arganda Carreras, Daniele de Martino and Jérôme Solon). The focus of the two positions will be, respectively:

• *Biophysical modelling & machine learning.*
• *Algorithms and methods for complex pattern recognition in Electron and Light Microscopy.*

The selected candidates will be expected to interact closely with experimental scientists whose research interests span from tissue dynamics and biomechanics to structural/molecular biology and neuroscience. The projects will involve the development of new computational approaches to analyse imaging data based on computer vision and the design of multiscale physical models to provide understanding of intracellular architecture and/or multicellular organisation. They will be hosted at the Instituto Biofisika, whose fore- front facilities include a newly installed next generation Cryo-EM and advanced live imaging techniques such as confocal, super-resolution microscopy and light sheet microscopy.

The offered salary will align with the experience and skills of each candidate.

Funding is secured initially for two years with the possibility to extend pending satisfactory performance.

Requirements

The ideal candidates shall have excellent theoretical and computational skills and a strong motivation to use them to pursue biological problems.

Necessary skills for the two positions include:

- Proficiency in software prototyping and production. Good command of MATLAB, Python, C++, and/or CUDA is expected.
- Solid background in numerical mathematics, including optimisation and inference methods.

Further desirable qualifications include:

- Experience in Machine Learning (including neural networks) and/or other methods from Artificial Intelligence.
- Experience in computational, physical and mathematical modelling e.g., in molecular dynamics simulations, statistical mechanics models, non-linear dynamics and stochastic processes.
- Experience in Image Processing for Light and Electron Microscopy.

How to apply

Please send your application including:

- ✓ Letter of motivation (max. 1 page)
- ✓ CV (max. 3 pages)
- ✓ Contact info for two referees.

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: 95_JS_2Postdoc*].

Deadline: 15 February, 2022