Fundación Biofisica Bizkaia
Biofisika Bizkaia Fundazioa

FUNDACIÓN BIOFÍSICA BIZKAIA / BIOFISIKA BIZKAIA FUNDAZIOA

OFFER – Ikasiker Fellowships

Fundación Biofísica Bizkaia (FBB) is a center of excellence on an international level with the main aim of promoting a multidisciplinary program in the field of Biophysics and its application in the areas of Biotechnology and Health.

Description of the position offered

We look for a candidate (University students enrolled in the last two courses of an official University degree or Master students) to apply for Ikasiker fellowship (https://www.euska.di.eus/alumnado-universitario-becas-ikasiker-de-colaboracion/web01-a3lagun/es/).

Possible modalities:

-*Type A*: grants to be carried out during the academic year from September 2019 to June 2020. Amount: 2.500€

-*Type B*: grants to be carried out during the summer time from June 2020 to September 2020. Amount: 500€

Candidates should comply with the requisites established in the call.

The candidates should apply for any of the next research groups:

1.- Spectroscopy Group

This Group is led by Emilio J. Cocinero (http://grupodeespectroscopia.es/MW/). The project will focus on the accurate structural characterization of biomolecules and molecules of astrophysical interest and its molecular interactions by microwave spectroscopy.

Our research encompasses different methodologies ranging from the microwave spectroscopy, laser spectroscopy and computational modelling. The group has an extensive network of national and international collaborations.

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Facilities:

Relevant articles:

Nature, 469, 76-80 (2011).
Nat. Comm., 8, 15195 (2017).
Angew. Chem. Int. Ed., 58, 8442 (2019).
J. Am. Chem. Soc., 140, 9952 (2018).

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2.- FluoroNanoTools Group

This Group is led by Mónica Carril (http://biofisika.org/author/monicacarril/) and the candidate would work in the field of fluorinated nanoparticles with applications in nanomedicine and nanotoxicity.

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3.- Autophagy Group

This Group is led by Prof. Alicia Alonso within the research line: "Role of lipid-protein interactions in autophagy (project IT1270-19)". The selected candidate (s) will join this laboratory in which they will receive experimental practical training on autophagy in cellular systems and model systems.

Researcher WoK ID: E-5310-2012; ORCID: https://orcid.org/0000-0002-2730-7470

Relevant articles:

1.-Hervás JH, Antón Z, Alonso A. (2019) Biophysical Studies of LC3 Family Proteins. Methods Mol Biol. 1880: 91-117. doi: 10.1007/978-1-4939-8873-0_5.

2.- Alonso A, Goñi FM. (2018). The Physical Properties of Ceramides in Membranes. Annu Rev Biophys. 47:633-654. doi: 10.1146/annurev-biophys-070317-033309.

3.- Hervás JH, Landajuela A, Antón Z, Shnyrova AV, Goñi FM, Alonso A. (2017). Human ATG3binding to lipid bilayers: role of lipid geometry, and electric charge. Sci Rep. 7(1):15614. doi: 10.1038/s41598-017-15057-6.

4.- Antón, Z, Landajuela A, Hervás JH, Montes LR, Hernández-Tiedra S,, Velasco G, Goñi FM and Alonso A. (2016) Human Atg8-cardiolipin interactions in mitophagy: Specific properties of LC3, GATE-16 and GABARAP. Autophagy 12, 2386-2403.

5.-Hernández-Tiedra S, Fabriàs G, … Alonso A, and Velasco G.(2016). Dihydroceramide accumulation mediates cannabinoid-induced cytotoxic autophagy via autophago-lysosome destabilization. Autophagy 12, 2213-2229.

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4.- Lipidosis Group

This Group is led by Prof. Félix M. Goñi within the research line: "Lipid pathology (lipidosis)" (project IT1264-19)". The selected candidate(s) will join this laboratory in which they will receive experimental practical training on lipidosis in cellular systems and model systems.

Relevant articles:

1: Ahyayauch H, García-Arribas AB, Sot J, González-Ramírez EJ, Busto JV,Monasterio BG, Jiménez-Rojo N, Contreras FX, Rendón-Ramírez A, Martin C, Alonso A, Goñi FM. Pb(II) Induces Scramblase Activation and Ceramide-Domain Generation in Red Blood Cells. Sci Rep. 2018 May 10;8(1):7456. doi:10.1038/s41598-018-25905-8.

2: Alonso A, Goñi FM. The Physical Properties of Ceramides in Membranes. Annu Rev Biophys. 2018 May 20;47:633-654. doi: 10.1146/annurev-biophys-070317-033309.

3: García-Arribas AB, Ahyayauch H, Sot J, López-González PL, Alonso A, Goñi FM. Ceramide-Induced Lamellar Gel Phases in Fluid Cell Lipid Extracts. Langmuir. 2016 Sep 6;32(35):9053-63. doi: 10.1021/acs.langmuir.6b01579.

4: Subiros-Funosas R, Mendive-Tapia L, Sot J, Pound JD, Barth N, Varela Y, Goñi FM, Paterson M, Gregory CD, Albericio F, Dransfield I, Lavilla R, Vendrell M. A Trp-BODIPY cyclic peptide for fluorescence labelling of apoptotic bodies. Chem Commun (Camb). 2017 Jan 10;53(5):945-948. doi: 10.1039/c6cc07879f.

5: Monasterio BG, Alonso B, Sot J, García-Arribas AB, Gil-Cartón D, Valle M,Zurutuza A, Goñi FM. Coating Graphene Oxide with Lipid Bilayers Greatly Decreases Its Hemolytic Properties. Langmuir. 2017 Aug 22;33(33):8181-8191. doi: 10.1021/acs.langmuir.7b01552.

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5.- Cryomicroscopy Group

This Group is led by Prof. Iban Ubarretxena. The selected candidate(s) will join this laboratory in which they will receive experimental practical training on the study of membrane proteins and in the application of electron microscopy to protein structure determination.

Recent articles:

- CD46 facilitates entry and dissemination of human cytomegalovirus. *Nat Commun*. doi: 10.1038/s41467-019-10587-1

- Vitamin B12 modulates Parkinson's disease LRRK2 kinase activity through allosteric regulation and confers neuroprotection. *Cell Res*. doi: 10.1038/s41422-019-0153-8

- Design and validation of an open-source modular Microplate Photoirradiation System for high-throughput photobiology experiments. *PLoS One*. doi: 10.1371/journal.pone.0203597

Contact:

Applicants are encouraged to send the CV through the Biofisika website contact page (http://biofisika.org/contact/), adding the following subject, detailing the group to apply: [Job Application: 49Spectroscopy, 49FluoroNanoTools, 49Autophagy,…]

Deadline:

September 16, 2019

Please note that due to the large number of applicants expected, it will not be possible to communicate the evaluation results to all the candidates.