Expression Of Interest" For Hosting MSCA Individual Fellows at FluoroNanoTools Lab (Instituto Biofisika (CSIC, UPV/EHU))

Offer deadline: 30th June 2020

Beneficiary institution: Universidad del País Vasco/Euskal Herriko Unibertsitatea (UPV/EHU)

Description of the Institution:

The UPV/EHU (www.ehu.es) is the leading teaching and research institution in the Basque Country, a prosperous region stretching along the Atlantic coast of northern Spain. The UPV/EHU has been recognised as International Excellence Campus by the Spanish Government.

The region's success and scientific and technological progress are underpinned by the University of the Basque Country, a vibrant 30-year-old institution with 45,000 students, 5,000 world-class academic staff and state-of-the-art facilities distributed throughout 20 centers in its three campuses.

Since the first Research Framework Programmes, the UPV/EHU has been very active and has participated in over 40 projects from the Sixth Framework Programme (FP6), of which 2 were coordinated.

With regard to the Seventh Framework Programme, the UPV/EHU has participated in 103 FP7 projects, coordinating six collaborative projects out of 79. The UPV/EHU has been the beneficiary of seven ERC Grants and 34 Marie Curie Actions: 17 collaborative actions (ITN, IRSES) and 17 Individual Fellowships. The funding received in FP7 amounted to 31,5 M€.

Overall, something more than 100 projects were granted in H2020, including 6 ERC Grants. Up to April 2020, the UPV/EHU is the beneficiary of thirty MSC-IF (18 GF and 22 EF) and twenty five collaborative MSC actions (13 ITN and 12 RISE), eleven of them coordinated by the UPV/EHU.

Besides, since 2014 the UPV/EHU supports Erasmus+ Programmes. By the time it has been the beneficiary of 6 Jean Monnet, 18 KA2 Strategic Partnerships, 2 KA2 Capacity Building, 1KA3 Support for policy reform and 2 Sports.

Moreover, the UPV/EHU has participated in more than one hundred research projects both communitarian (Interreg, EraNet,…) and international.

Most of the projects are in the field of Nanosciences, Nanotechnologies, Materials and new production technologies (NMP) followed by projects in the area of Information and Communication Technologies (ICT) and Health.

Description of the centre:

The Instituto Biofisika (IBF) is a joint centre between the Spanish Council of Research (CSIC) and the University of the Basque Country (UPV/EHU)(http://biofisika.org/). It is a Basque Excellence Research Center (BERC) as determined by the Basque Government due to the quality of research and infrastructure it contains. Since 2016 this center is located in a new building (of 9.000 m^2) in the Scientific Park of Leioa (University of the Basque Country) that provides cutting-edge facilities. It hosts 32 faculty investigators developing research lines

related to protein and membrane biophysics, 18 postdocs, more than 12 technicians and provides training opportunities to about 31 PhD students. In the center, they have carried out many projects funded by the Basque Government, Spanish Government, European Union, National Institutes of Health, etc. Since 2009, Instituto Biofisika as a whole has more than 560 scientific publications in prestigious international journals and currently has more than 30 active research projects. It is at the forefront in the field of biophysics providing a multidisciplinary environment where several areas of expertise (physics, biology, chemistry) meet, creating a unique and internationally-recognized research center.

"Hosting": The research of the FluoroNanoTools Lab is focused on the use of fluorinated nanostructures as enabling tools to learn about dynamic biological processes, combining several areas of science from (bio)chemistry, through physics and biology. In the last years, we have generated synthetic tools to prepare a family of novel fluorinated ligands and fluorinated building blocks, which can be used to produce fluorinated NPs (F-NPs) and overcome intrinsic solubility issues associated to polyfluorinated structures. We use our fluorinated NPs as a toolbox with different biomedical and fundamental applications in the fields of nanomedicine and nanotoxicity. On the one hand, we use fluorine as a label that can be tuned for the design of OFF/ON or smart contrast agents for diagnosis by magnetic resonance image based on Fluorine 19 (^{19}F MRI) or as a reporter for the study of protein corona in complex environments via fluorine based magnetic resonance. On the other hand, we also look for theragnostic probes that, in addition to allowing diagnosis, act simultaneously as vehicles for drugs for the treatment of different pathologies. In the field of nanotoxicity, the fluorinated nanoparticles that are prepared in the laboratory of FluoroNanoTools serve to study the biodistribution and fate of each of the components of the nanoparticles (metal core and organic coating) *in vivo*, in addition to their interaction with the proteins present in the blood. Further applications are envisaged and could be explored within the frame of the MSCA programme.

The FluoroNanoTools lab is looking for a highly-motivated experienced researcher of any nationality interested in applying for the Marie Skłodowska-Curie Actions Individual Fellowship call (H2020-MSCA-IF-2020), who wishes to work in the field of nanotechnology applied to solve and study biological problems.

How to apply?

Candidates should have a PhD in any Sciences discipline (although knowledge in chemistry will be positively valued), English fluency, good interpersonal and communication skills, comply with the call eligibility criteria and provide:

- Motivation letter (max 1-2 pages)

- CV (max 5 pages) describing academic achievements and research expertise, focusing on those aspects relevant in the context of this project.

- Contact information of two referees

Please send your applications to Dr. Mónica Carril at monica.carrilg@ehu.eus indicating MCSA-IF 2020 in the subject line before the 30th of June.