



Universitat
Pompeu Fabra
Barcelona

Departament
de Ciències Experimentals
i de la Salut



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Date of publication of the job offer 03/12/19

Job title > Postdoc position in quantitative live-cell imaging

Job description >

Understanding the molecular mechanisms that drive life (and those that lead to death) requires structural characterization of the protein machinery sustaining the biology of the cell. Structural biology methods have been largely centred in in vitro approaches, which provides high-resolution measurements but limited physiological relevance. In our lab, we have recently developed a new live-cell structural biology method based on cell engineering and quantitative live-cell imaging. Our approach, capable of measuring the separation between fluorophores with up to 2 nm precision, allows us to investigate chemical structures in vivo. Thus, we can use light microscopy to reconstruct the architecture of molecular assemblies directly in living cells (Picco et al, 2017, Cell). With this and other complementary tools, we are now poised to solve long-standing questions in cell biology that were not accessible by other techniques. We would like to incorporate a researcher that follows up this line of research to investigate mechanisms of cell growth. The successful candidate will complement our research activity with his/her expertise in the fields of optical physics, quantitative live-cell imaging and/or image analysis.

Project and Institution that finance the contract

The position is funded with a 3-year grant of the Spanish Government (Agencia Estatal de Investigación). The successful candidate will join the group of Oriol Gallego at the department of Experimental and Health Sciences (DCEXS) of the Pompeu Fabra University (UPF). The candidate will be part of an emerging research lab devoted to study supra-molecular machineries that control cell growth. The candidate will continue the development of new intracellular nanotools that enhance the resolute power of live-cell imaging, aiming at pushing light microscopy in the research field of Structural Biology. Starting date beginning-2020.

The department of Experimental and Health Sciences of the Pompeu Fabra University (www.upf.edu/web/biomed) is located at the PRBB (Barcelona, Spain). PRBB, one of the strongest scientific campus in south Europe, is equipped with state-of-the-art research facilities in a unique scientific environment. The research excellence of our center has been recognized with a Maria de Maeztu award.

Official number reference

AEI-PGC2018-095745-B-I00 (FEDER/UE)

Information on the minimum requirements

- Highly motivated, enthusiastic and creative researcher.
- PhD in Cell biology, Optical physics, Computer Science, Engineering or equivalent with experience in quantitative fluorescence microscopy.



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- Advanced coding skills with Matlab, R and/or Python for image analysis required - Experience in localization microscopy, particle tracking and molecular counting from intensity ratiometric comparison are a plus.
- Excellent written and oral communication skills in English.

Benefits of the opening

We offer a 2.5-years contract with competitive salary according to the candidate's expertise, starting on January 2020 and with possibility of extension.

Location: The laboratory is located in the Barcelona Biomedical Research Park which, with a privileged location on the shoreline of the Mediterranean sea, constitutes one of the most exciting interdisciplinary research centers in Southern Europe with more than 1000 scientists in the building alone.

Information on the application process

To apply, send your CV, a letter of interest and a minimum of 2 letter of reference to Dr Oriol Gallego (<mailto:oriol.gallego@upf.edu>) before December 18th 2019.

Deadline to submit applications 18/12/2019

Contact PhD Oriol Gallego

References: Picco, A., Irastorza-Azcarate, ..., Gallego, O., (2017) "The in vivo architecture of the exocyst provides structural basis for exocytosis." Cell 168, 400-412.e18.