

Date of publication of the job offer 29/07/2020

Job title. Research position in Integrative Modelling of the Exocyst

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 centered 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 field of structural modelling and the employment of IMP software to integrate different experimental data into structural models.

Project and Institution that finance the contract

The position is funded with a 3-year grant of the Spanish Government (AEI-PGC2018-095745-B-I00 (FEDER/UE), 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 use Python programming and IMP to model the structure of the exocyst complex by integrating datasets derived from cryoEM and PICT experiments.

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.

Information on the minimum requirements

- BS in Biology, Biochemistry or similar
- Highly motivated, enthusiastic and creative researcher.
- Previous experience in structural modelling using IMP and Python is required.

Benefits of the opening

We offer a 2.5-month contract with 1.370,85€/month gross salary. Starting on September 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



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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 13th of August 2020.

Deadline to submit applications 13/08/2020

Contact Oriol Gallego