



## Laboratory of Molecular Biophysics

Universitat Jaume I



Escola Superior de Tecnologia  
i Ciències Experimentals · ESTCE  
Departament de Física

### **3-year Ph.D. position funded by GENERALITAT VALENCIANA**

The Laboratory of Molecular Biophysics at the Departament of Physics in University Jaume I (<http://biophysics.uji.es/>) offers a 3-years predoctoral contract within the project “Electrostatic and Entropic regulation of ion transport through viral and bacterial proteins”. The selected candidate will be funded by the Santiago Grisolia PhD programme. Scholarships grant will be around €16.800 anual (gross). The corresponding IRPF (income tax) will be deducted from this amount.

#### **Research topics**

#### **Bioelectrochemistry in protein ion channels and charged interfaces. Biophysical characterization of membrane permeabilization induced by biologically active compounds**

Structure-function relationships in viral and bacterial proteins. Theoretical modelling of ion transport based on 3D atomic structure. MD simulations. Continuum models and Electrostatic calculations. Statistical Mechanics. Thermodynamics. Electrophysiology. Ion channel reconstitution into planar membranes. Noise analysis. Nanopores and other biomimetic materials.

Selected publications by the group:

- Alcaraz et al. ACS Nano 11(2017) 10392-10400.
- E. Largo et al. BBA Biomembranes (2018) 1860: 1015-1021.
- N. Kalu et al. FEBS Letters 591 (2017): 3481–3492.
- M. L. López et al. Nanoscale, 8 (2016): 13422

#### **Required qualifications and experience**

We look for students with a proven track record of academic excellence and interest in the intersection between physics, chemistry and biology at the molecular level. Candidates should fulfill the following requirements:

- a) A degree from a non-Spanish university in the field of the sciences corresponding to the area of research to which the applicant is applying.
- b) Having obtained degree after 30th January 2014
- c) Knowledge of spoken Spanish or English adequate for the development of the tasks involved in the proposed training.
- d) Not being in possession of a PhD.
- e) To meet the academic requirements needed to the admission in a doctoral program at the time of selection, and to be admitted to a doctoral program at the time of recruitment.
- f) MS degree in Science (physics, chemistry, materials...)

#### **How to apply**

Applications and informal queries about the position and the project should be addressed by e-mail to Antonio Alcaraz (alcaraza@uji.es), using the subject “Grisolia Predoc”. Applications should include CV, cover letter and electronic copy of the Certified Academic Record for the degree and master.