

SCHOLARSHIPS FOR PREDOCTORAL CONTRACTS

A **predoctoral contract** (former FPI) is offered for a **PhD position** in the **Biomedical Signal Interpretation and Computational Simulation (BSiCoS) group** of the Aragon Institute for Engineering Research of the University of Zaragoza.

The PhD position will be associated to the research project **“Multi-scale physiology-driven computational tools to assist in the assessment and management of heart dysfunctions”**, supported by Programa Estatal de Investigación, Desarrollo e Innovación orientada a los Retos de la Sociedad, with reference **DPI2016-75458-R**.

The research work will be developed in one of the research lines included in the project, which aims to improve the understanding of the mechanisms and the conditions under which arrhythmia appears in a previously stable heart, and whether they can be anticipated and treated, as well as to develop computational methods and tools to optimize catheter interventions and to improve non-invasive risk stratification in a number of cardiac dysfunctions (Ischemic heart disease, Atrial fibrillation and Chronic heart failure). In all cases, the expected contributions are: i) physiological understanding of the proarrhythmic mechanisms in cell, tissue, organ and body scales and based on it, ii) derivation of biomarkers for risk stratification (either for SCD or pump failure, as in the case of CHF) and therefore helping in the therapy decision (as e.g. the implantation of an Implantable Cardioverter Defibrillator (ICD) or Cardiac Resynchronization Therapy (CRT) devices) and iii) guiding the therapies for the management of pathologies, as in catheter ablation procedures. The work may involve signal processing (from experiments, simulations and recordings, both invasive and non-invasive) and multiscale computational modeling.

The ideal profile is a Telecommunication or Biomedical Engineer with specialization in ICT, or a candidate with any other related University degree such as in Physics, Mathematics or other Engineering specialties.

The conditions of the call are available on:

- Resolution summary

http://www.unizar.es/gobierno/vr_investigacion/sgi/doc/EXTRACTOFPI2017.pdf

- Call

http://www.unizar.es/gobierno/vr_investigacion/sgi/doc/Convocatoriapredoctorales_2017.pdf

- Application guide

http://www.unizar.es/gobierno/vr_investigacion/sgi/doc/guiapredoc2017.pdf

Application submission will be opened from October 3, 2017 until 15:00 hours of October 18, 2017

Although the candidate should submit his/her application through the web of the Spanish Ministry, the candidate is asked to also **send by mail his/her CV and academic record to Juan Pablo Martínez (jpmart@unizar.es)**.

For more information, please contact Juan Pablo Martínez (jpmart@unizar.es) or Esther Pueyo (epueyo@unizar.es).

Please circulate this offer