

PhD funded position in Medical Engineering

Research Lab

The **Advanced Development in Arrhythmia Mechanisms and Therapy** laboratory focuses on investigating the mechanisms underlying cardiac arrhythmias in highly prevalent cardiovascular diseases in the general population, as well as in specific subsets of patients who are at risk of sudden cardiac death. The laboratory combines multidisciplinary approaches and cutting-edge technology with highly translational research, making it possible to establish solid bases toward identifying populations at risk of cardiac arrhythmias and developing new and more effective antiarrhythmic therapies. Research tasks are carried out under the direction of Dr. David Filgueiras Rama in direct collaboration with Dr. José Jalife's group at CNIC, a worldwide reference in the complex cardiac arrhythmias field, and the Barcelona Supercomputing Center (BSC), among others.

Job position

This PhD position is offered at the Spanish Cardiovascular Research Center Foundation (CNIC) through the **AYUDAS PARA CONTRATOS PREDOCTORALES SEVERO OCHOA (MINECO 2016 CALL)**. Research involves advanced signal processing, 3D imaging techniques and computational simulations aimed at increasing the understanding of the mechanisms underlying life-threatening cardiac arrhythmias and providing novel solutions to effectively terminate them. The recruited candidate will be involved in the following project:

“Spatial and Temporal Characterization of Ventricular Fibrillation and its Relationship with the Underlying Three-dimensional Substrate”.

This project combines a multidisciplinary, multicenter and translational approach, bringing together experimental and clinical tools for analysis and interpretation. We will use an in vivo pig model of ventricular substrate related to myocardial infarction, combined with high-resolution substrate mapping using clinical tools and simultaneous multisite electrical recordings that provide information from their neighboring ventricular substrate.

Requirements

The successful candidate should be already registered or admitted in a PhD program at any University for the 2016/2017 academic course and have a degree in one of the following fields (or equivalent)

- Medical / Biomedical Engineering.
- Information Technology / Computer Science.



Fundación **pro**cnic

cnic

- Electrical Engineering.
- Applied Mathematics.

In addition, you should attach to your e-mail the following documents:

- 1) Average marks of the Bachelor's Degree (0-10 scale)
- 2) Average marks of the Masters Degree (0-10 scale)
- 3) In case of foreign academic degrees, we would need the official equivalence by the ANECA (<http://notasmedias.aneca.es/home>)

Suitable background for this position includes experience and / or applicable studies in the areas of 3D Image Processing, Biomedical Signal Processing, 3D Simulations and Software Engineering. Fluent written and spoken English is a must. Knowledge of Matlab, C/C++ and Python is a plus. Experience in clinical environments is valued.

Information and Application

Please apply online by September 17th 2016 including your CV and average grades on the 0-10 scale from MSc and BS degrees to Cristina Giménez (cgimenez@cnic.es) or Jorge G. Quintanilla (jgquintanilla@cnic.es), indicating in the subject "Predoctoral SO 2016. DFR".