

## Post-doctoral positions in computational cardiac imaging and modelling

### Computational Imaging Lab - Pompeu Fabra University - Barcelona - Spain

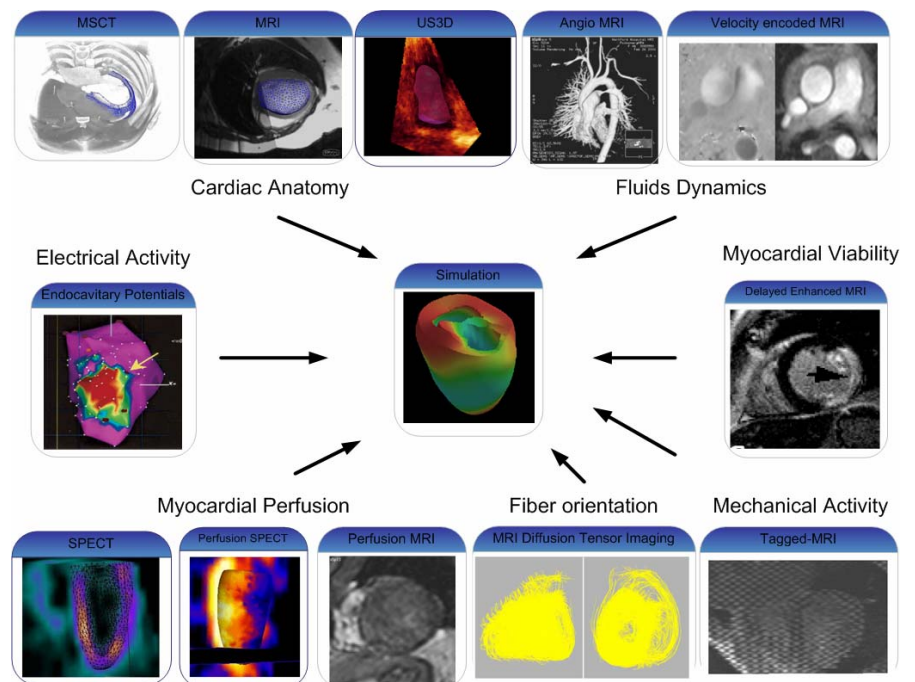
The **Computational Imaging Lab** ([www.cilab.upf.edu](http://www.cilab.upf.edu)) at the Pompeu Fabra University in Barcelona is a team focused on algorithmic and applied research in the area of computational imaging, modelling and simulation. The lab is composed of 25 members working in different domains of medical image segmentation, statistical shape modelling and analysis, computational geometry, pattern recognition and image-based and personalised computational mechanics.

Currently, the lab is engaged in several exciting projects aiming at personalised physical modelling and simulation in the cardiovascular domain where medical imaging, computational mechanics, and biology play an essential role.

This post is connected to a national technology platform funded by the Ministry of Industry that aims at applying computational imaging and simulation technologies to patient selection and interventional planning in **cardiac resynchronization therapy**. Our aim is to develop dynamic anatomical models of the whole heart as well as to derive boundary conditions and material properties from multimodal imagery (e.g. 3D US, MRI, MSCT, SPECT). Integration of all this information will be performed by combination of computational imaging tools with computational mechanics in order to deliver advanced diagnosis and personalized treatment planning and optimization.

The CILab is seeking proactive and highly talented young **post-doctoral researchers** with proven track record of publications in leading international journals and conferences. In addition, a number of **scientific developer** and **application engineer** positions are also available in similar areas. Candidates should be highly creative, have the ability to carry out independent research but work embedded in a multicultural research team, and should be endowed with excellent communication and leadership skills so as to collaborate with other peers. The ability to work in a multidisciplinary team and be able to interact with other disciplines is essential.

All applicants should have a strong background in mathematics and physics, algorithmics and programming [preferably in C++]. Proficiency in spoken and written English is compulsory.



Candidates with should have expertise in *computational cardiac modelling and simulation*, in particular, on cardiac electrophysiology, cardiac mechanics, and computational fluid dynamics. The main focus of the research will be in the integration of the existing tools in the lab for computational imaging with computational physiology models and experimental measurements. The candidate will have to interact with members of the lab of related topics as well as with our clinical collaborators at several academic hospitals in Barcelona.

Starting dates will be prior to May 2007; positions will be for a period of 3 years. Salaries are negotiable depending upon qualifications and experience of the applicants and compliant with Spanish salaries in academic institutions. EU citizens will be given priority due to labour regulations and work permit constraints.

Interested candidates should submit a letter of purpose indicating your area of interest, salary expectations, CV including contact details of 3 referees, and sample publications to **Dr. Alejandro Frangi** [[alejandro.frangi@upf.edu](mailto:alejandro.frangi@upf.edu)], at your earliest convenience.