

JOB OFFER for a PhD student - Early Stage Researcher (ESR)

INSPIRE-MED (Integrating Magnetic Resonance Spectroscopy and Multimodal Imaging for Research and Education in MEDicine)

ESR 4: Implementation of high-resolution MRSI methods in a pre-clinical scanner, and optimization for brain longitudinal studies of therapy response in mice glioma models

Location: Universitat Autònoma de Barcelona, Cerdanyola del Vallès (Barcelona), Spain

Gross salary (pre-employer/employee and income tax): 3119.58 €/month

Mobility allowance (pre-employer/employee and income tax): 600 €/month

Family allowance (pre-employer/employee and income tax): 500 €/month (if applicable)

Offer starting date: September 2019

Duration: 36 Months

Application deadline: 28/02/2019

Project description: This position is one of the 15 ESR positions of the INSPIRE-MED European Training Network, which focuses on the development of Magnetic Resonance Spectroscopy (MRS) and MR Spectroscopic Imaging (MRSI) combined with Positron Emission Tomography (PET), enhanced by machine learning techniques.

The main aim of the PhD project (ESR4) will be the implementation of innovative high spatial resolution MRSI methods in a pre-clinical scanner. The ultimate goal will be the validation of optimal methods for improving imaging biomarker development of brain tumour in longitudinal studies of therapy response in mouse glioblastoma models. The project will involve evaluation of the methodology performance limits, repeatability and reproducibility compared to stock Bruker Biospec MRSI sequences and the assessment of speed-up MRSI methods in a 7-Tesla pre-clinical scanner.

Two 3-months secondments at two partner institutions (Institute of Scientific Instruments, Brno and Katholieke Universiteit (Leuven) and visits to Bruker partner organisation for training will allow for comprehensive expansion of the PhD study.

Research environment: This project is hosted by the Universitat Autònoma de Barcelona, Spain (Supervisors: Prof. Carles Arús, Dr. Silvia Lope and Miquel Cabañas). The Universitat Autònoma de Barcelona is a public university recognized as Campus of International Excellence since 2009. Currently UAB has an annual budget of approx. 317 million Euros and has approx. 6200 employees. UAB is equipped with state-of-the-art facilities including the Nuclear Magnetic Resonance facility (SeRMN) where the ESR4 main work will be performed. ESR4 will also have the support of the GABRMN group at UAB for animal model experiments.

The selected candidate will be able to take advantage of the unique set-up of the INSPIRE-MED network, encompassing 12 academic and 9 industrial partners providing the young researchers with transferable and generic skills as well as a comprehensive, wide-ranging education on the basic principles of medical imaging and image analysis. This multi-disciplinary environment encompasses physics, mathematical and computer sciences, with applications in medicine and biological sciences.

Your profile: You should have a master's degree in physics, biomedical, or electrical/electronic engineering, or a similar degree with an equivalent academic level. A genuine interest in biomedical imaging, programming and research should motivate your application. As a successful candidate you should also have motivation and capability of creative- and critical thinking, independent thought and experimentation, self-motivation, curiosity, and resilience. The candidate should have strong social abilities allowing an active participation to the European network, fruitful exchanges with other students and researchers, and an excellent integration in the team of your research group. You should be ready and able to travel in Europe for the network meetings as well as for sharing the experience of your secondment teams.

Eligibility and Mobility Rule: Early-Stage Researchers shall, at the time of recruitment by the host organisation, be in the first four years (full-time equivalent research experience) of their research careers and have not been awarded a doctoral degree. At the time of recruitment by the host organisation, researchers must not have resided or carried out their main activity (work, studies, etc.) in the country of their host organisation for more than 12 months in the 3 years immediately prior to the reference date.

To apply: Please send your CV, motivation letter, and the names and contact details of two/three people who agreed to write a reference letter to Miquel Cabañas (miquel.cabanas@uab.cat)