

Instituto Biomédico de Investigação da Luz e Imagem Instituto Multidisciplinar de Investigação da Faculdade & ICNAS Instituto do Ciências Nucl Instituto Multidisciplinar de Investigação da Faculdade de Medicina & ICNAS, Instituto de Ciências Nucleares Aplicadas à Saúde da Universidade de Coimbra

Positions available – 2 postdoctoral and 2 master level research scholarhips

European Project FP7-HEALTH-2013-INNOVATION-1-602186 BRAINTRAIN— Taking imaging into the therapeutic domain: Self-regulation of brain systems for mental disorders

At the University of Coimbra we have an axis of national leadership in medical imaging emerging form three pillars: IBILI (with around 80 PhDs and 200 researchers) which obtained the evaluation of Excellent in the last 3 evaluations performed International Panels (since 1999), the National Brain Imaging Network, a consortium of 5 Universities with the leadership of the U. of Coimbra, where the main central equipment is located and which obtained funding within the scope of the National Program for Scientific Reequipment, after international evaluation, and the Institute for Nuclear Sciences Applied to Medicine (ICNAS), which is leading in novel molecular probe production and molecular imaging (given strong cyclotron and radiopharmacy related facilities). These pillars unite in the largest medical imaging center in Portugal and have technical and scientific relevance at a European scale.

These pillars represent considerable critical mass in translational research, including medical and human imaging in vivo, in the areas of metabolic and molecular imaging (PET, SPECT, Magnetic Ressonance Spectroscopy, Fluorescence and Bioluminescence Optical Imaging), and structural (MR, CT) and functional imaging (PET, SPECT, fMRI, EEG).

2 postdoctoral and 2 master level research scholarhips

Vacant Posts: 4 Type of employment: Investigator, up to 48 months, full contract Extent: 100 % Location: University of Coimbra First day of employment: November 2013

Th scholarships are intended for researchers holding a PhD or Master in Biomedical Enginnering/Physics/Informatics/Electronic Engineering or related areas of Medicine, Biology or Cognitive Neuroscience, provided that the candidate has suficiente expertise in Image and Signal Processing in Neuroscience and/or programming skills.

Job assignments

The candidates are expected to perform research within the scope of an European Project, with partners from the Universities of Cardiff, Tuebingen, London (University College and Kings College), Coimbra, Maastricht and Twente as well as the R&D departments of two European companies.

The work plan includes using real-time functional magnetic resonance imaging (fMRI), and/or EEG for on-line-monitoring of brain function as well as for self-modulation of neural processes via interactive training. The training is based on the neurofeedback (NF) procedure whereby



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patients learn control over brain activity using real-time signals from their own brain. In patients such self-regulation techniques can be used to identify and modulate the brain networks of mental disorder and thus improve diagnosis, restore function, alleviate symptoms and promote resilience. The proposed optimized real-time imaging approach can thus effectively transfer neuroimaging into the diagnostic, therapeutic and preventative domain in psychiatry.

For further information please contact:

Miguel Castelo-Branco, AssociateProfessor mcbranco@fmed.uc.pt www.ibili.uc.pt **Other contacts** Alda Gonçalves +351239480029 agoncalves@fmed.uc.pt Applications are open until the 13th of September Appointment Procedure You can send your application(motivation letter and CV) electronically via email to:

<u>scientifico.s1.ibili@fmed.uc.pt</u> and <u>mcbranco@fmed.uc.pt</u>. If you are not able to apply electronically, please send your application to:IBILI-Faculty of Medicine, Health Sciences Campus, Azinhaga Santa Comba, 3000-548 Coimbra, Portugal.

University of Coimbra promotes an equal opportunities code. We encourage both men and women to apply for this position.

Salary is determined on an individual basis, within certain guidelines for this type of position. Applications will be destroyed or returned (upon request) two years after the decision of employment has become final. Applications from the employed and from those who appeal the decision will not be returned.