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2 PhD grants in Bordeaux, France

Development of UltraFast Parametric MRI at 3T

Key words: Magnetic Resonance Imaging - Sequence development - Whole-body - 3T - Image Processing

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Job description:

Two PhD positions are offered at the CRMSB (Centre de Résonance Magnétique des Systèmes Biologiques, UMR 5536, CNRS/Université Bordeaux) in Bordeaux, France.

This project, in which these positions contribute, seeks at developing quantitative parametric MRI sequences in order to quantify relaxation times very rapidly and on the whole-body of human volunteers. For this purpose, sequences that can be modulated depending on the area of interest will be necessary. Acquisition duration, motion artifacts and short T2* environments will have to be tackled. Non-cartesian encoding methods, motion-suppression modules, Simultaneous Multi-Slice acquisitions will mainly be developed in combination with innovative approaches of image analysis, through collaborations.

The project will be performed at 3T on a Siemens Prisma system.

Specifically, the first position deals with the implementation of a MR sequence enabling ultra-fast relaxation time measurement in the brain.

The second position will involve the development of parametric MR sequences including motions corrections strategies.

The project offers the unique opportunity to work at the interface between different disciplines, like Physics of MRI, image reconstruction, image processing, computer engineering.



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Research facilities and Environment :

Research team:

Join a young and dynamic team in a very pleasant living environment.

The team is composed of 2 CNRS researcher specialized in Biomedical imaging, 1 Assistant Professor in BioPhysics, 1 CNRS engineer in MR sequence development, 2 PhD students in preclinical MR sequence development, 1 post-doctoral fellow in Biology. Bordeaux was recognized as « Best in Travel 2017 » cities in the world by the Lonely Planet. The city is located in the heart of the world's leading vineyard. The ocean is only 50 km away.

Research Environment :

This doctoral proposal provides an excellent opportunity to work in an interdisciplinary environment. The team collaborates with several academic groups from Mathematics laboratory, Image processing lab, Radiology departments of multiple clinics, Neuro-Imaging labs and has strong connections with industrial partners in imaging (Siemens). The team has privileged access to a 3T Siemens Prisma MRI, to a 1.5T Siemens MRI and two preclinical MRI system (4.7T and 7T, Bruker).

Candidate profile:

Interests in Biomedical Imaging, MRI data acquisition and analysis is needed. Skills in C++, MatLab and/or Python will be an asset.

How to Apply:

Please send CV and application letter to ribo@rmsb.u-bordeaux.fr

