

# Electrophysiology and heart modeling institute LIRYC

U1045 – Bordeaux University, Bordeaux, France



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de BORDEAUX



## Post-Doctoral Position available in IHU LIRYC, Bordeaux, France

**Starting January 2023**

### **SYNATRA project: 3D characterization of cardiac conduction system using inhomogeneous magnetization transfer (ihMT) MRI**

#### **Context:**

Disorganizations of the Cardiac Conduction System (CCS) can cause ventricular fibrillation, a chaotic electrical activity, which is the leading cause of sudden cardiac death in the industrialized countries. Imaging of the CCS architecture is therefore of major importance to better understand cardiac arrhythmia mechanisms and to improve their diagnosis and treatment. Because of this complex structure, reliable imaging of CCS requires a technique that would combine both 3D high spatial resolution and specific contrast to isolate this network from the muscle tissues.

#### **Objectives:**

The proposed collaborative project with the team of CRMBM in Marseille (led by Dr Guillaume Duhamel) aims at developing inhomogeneous magnetization transfer ihMT acquisition methods using MRI. This technique will allow mapping ex vivo the conduction network in 3D and at high resolution with the objective of characterizing at ultra-high field (9.4T) healthy and pathologic hearts. The hired researcher will be in constant close collaboration with another post-doctoral researcher dedicated to the project located in the CRMBM Marseille for transferring MR sequence methodology first developed in CRMBM.

#### **Qualifications:**

We are seeking for a motivated and well organized candidate with a PhD in medical/biomedical imaging, MR physics or related topic. Prior experience with experimental design for MRI, optimization of MR protocols are mandatory. Writing and communication skills in English are required. A cooperative and open mind spirit will be a plus to success in this collaboration.

The successful candidate will work in the imaging team of LIRYC (led by Dr Bruno Quesson) under the supervision of Dr Julie Magat (PI of the project). The duration of the project (ANR funding + Région Nouvelle Aquitaine) is 24 months (+12 months renewable) with a salary and experience corresponding to usual Bordeaux University conditions.

#### **Location**

The project is a collaborative work between the Liry institute Bordeaux and the CRMBM Marseille. The Liry is a unique institute exclusively dedicated to the 'electrical heart' bringing together 150 scientists, physicians, and engineers from 18 countries. The current position is hosted at the Liry institute in Pessac, France, accessible by train, tram B (Pessac Alouette), bus and bike from Bordeaux.

<https://www.ihu-liry.fr/en/>

#### **How to apply**

Please send their detailed CV and a cover letter by email to the attention of

Julie Magat : [julie.magat@ihu-liry.fr](mailto:julie.magat@ihu-liry.fr)

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