

Post-Doctoral Fellowship in MRI-guided electrophysiology

Description: In the context of a newly awarded project funded by the French National Research Agency that focuses in the treatment of cardiac electrical diseases by radiofrequency ablation, the imaging team of the Electrophysiology and heart modeling institute (<https://www.ihu-liryc.fr/en/>) is seeking a highly qualified motivated individual to fill a Post-Doctoral Fellowship position in the area of MRI-guided Electrophysiology (MRgEP).

The imaging team has initiated a MRgEP program where MRI can be used during the procedure to provide visualization of the lesion formation during catheter ablation using real-time MR-thermometry at 1.5 T and now aims to significantly increase the spatial resolution of temperature mapping in order to **monitor radiofrequency ablation in the atrium for the treatment of atrial fibrillation** (most common arrhythmia).

Responsibilities: We are looking for a Postdoctoral Fellow with interest in pursuing research projects within one or more of the following areas:

- MR sequence development for thermometry (multiband imaging, non-cartesian sampling, and sparse acquisition strategies).
- Development of real-time imaging strategies to enable motion tracking, ultrafast registration, and thermal dose quantification.
- Support of preclinical evaluation and clinical translation of MR-guided Thermometry in electrophysiology studies.

Mentoring and Context: The candidate, whose principal investigator will be Valéry Ozenne, will work in a rich environment, including MR Thermometry (Dr. Bruno Quesson), Interventional Cardiology (Pr. Pierre Jaïs) and Radiology (Dr. Hubert Cochet). The project takes place in direct collaboration with both industrial (Siemens, Imricor) and clinical partners. The site includes three 1.5 T clinical MRI systems (one in the hospital and two in the lab 100% dedicated to research).

Qualification: Candidates should hold a PhD degree in physics, engineering, computer science or biomedical engineering. Motivation and team work combined with excellent communication skills are expected. Experience in one or more of the following areas are highly desirable:

- MR physics
- Scientific programming (C/C++, MATLAB, Python, GPU computing)
- Pulse sequence development environment in IDEA
- Regularization of inverse problem in image processing

Appointment Length and Duration: 2-year post-doctoral fellowship. Start date January 2018.

Location: Electrophysiology and heart modeling institute, Bordeaux, France.

Contact: For more information or to apply for the position (including an up-to-date CV and motivation letter), please contact Dr. Valéry Ozenne (valery.ozenne@ihu-liryc.fr) or Dr. Bruno Quesson (bruno.quesson@ihu-liryc.fr)