

**Post-doctoral position:**  
**MRI sequence development dedicated to the morphological and physiological  
(flow, motion, inflammation) evaluation of the human aorta**

**Availability:** starting **October 2019** for 2 years

**Location:** CREATIS Laboratory, **Lyon, France**

**Net Salary:** depending on experience between 2160 – 2800 euros/month

**Summary of the project**

The project is defined around the development of new MRI and PET/MRI acquisitions for the comprehensive diagnosis of pathologies of the thoracic aorta. Specifically we aim to provide clinicians with an all-in-one diagnosis protocol combining image acquisition and post-processing for improved blood flow quantification and wall motion assessment. This project is funded by the French National Funding Agency (ANR).

The successful applicant will focus on the technological aspects of MRI and PET/MR image acquisition and reconstruction. The chosen acquisition strategy should enable rapid measurement of enough data to produce images with high isotropic spatial resolution of the thorax to provide anatomic and functional information with good vessel contrast and permit retrospective measurement of blood flow in any arbitrary orientation. Its subsequent combination with simultaneous PET imaging will also be investigated.

The successful applicant will perform his/hers research activity in an enriching environment, with interactions between scientists and clinicians (radiologists and vascular surgeons).

Image acquisition will be performed in the public hospitals of Lyon (HCL), particularly the Louis Pradel Cardiology Hospital. Importantly, the CERMEP imaging platform, located on the site of the Cardiology hospital, hosts an innovative hybrid PET/MR system.

**Candidate profile:**

- a PhD in physics, engineering or related disciplines,
- solid background in MRI (image reconstruction or sequence programming, ideally in Philips and/or Siemens environments)
- prior experience in velocity imaging and/or post-processing is a plus
- Matlab, Python and C ++ programming will be appreciated
- ability and willingness to work in an interdisciplinary team
- excellent verbal and written English communication skills
- good research record

**Contact:** Please send a CV, a motivation letter indicating your relevant experience and skills, and, if possible, recommendation letters to: Monica Sigovan, CR CNRS, [monica.sigovan@creatis.insa-lyon.fr](mailto:monica.sigovan@creatis.insa-lyon.fr)