

Ph. D. Position:

Development of Spiral-like Fast MR Acquisition Techniques for Advanced Neuro-Imaging Applications

**RMN biomédicale et Neurosciences — Structure Fédérative de Recherche
de l'université Joseph Fourier**

Grenoble, France

In partnership with Philips Healthcare (Best, The Netherlands), *RMN biomédicale et Neurosciences* proposes a graduate student contract (three years) in the area of MR acquisition techniques development, for advanced neuro-imaging applications. The Ph. D. research subject will cover implementation of fast spatial encoding, combining spiral-like nonuniform sampling and parallel acquisition channels, as well as real-time acquisition correction for subject head rigid motion, to enable support of several techniques including BOLD fMRI, ASL perfusion, DTI, volumetric spectroscopic imaging. Targeted applications are cognitive studies on healthy subjects and patients and advanced patient diagnosis.

Applicants are expected to hold a Master degree in areas related to: MR Physics and Instrumentation, Signal and Image Processing, Scientific Computing, Computational Geometry. Fluency with C, C++, MatLab, OpenCL or CUDA, collaborative code development, are favorable features.

RMN biomédicale et Neurosciences (Biomedical NMR and Neurosciences) is a research platform structure of Université Joseph Fourier (Grenoble, France) featuring equipment and support for cognitive, clinical, and preclinical neuro-imaging studies. Newly installed whole-body research-only MRI equipment includes two Philips Achieva 3.0 T TX systems: one dedicated to method development and to primate and preclinical studies (*Grenoble Institut des Neurosciences* facility), and one dedicated to cognitive and clinical research applications (Research facility of the MRI Department at *Centre Hospitalier Universitaire Régional de Grenoble*). Both systems have Quasar Dual gradients and a 32 channel head coil. The clinical MRI Department also hosts Philips Achieva systems dedicated to patient diagnosis: a similarly configured 3.0 T TX and a 1.5 T, which facilitates method transfer to clinical practice.

Advanced MR method development is locally well-established tradition and interaction between physicists, neuroscientists and physicians from the partner teams of *RMN biomédicale et Neurosciences* helps transferring developed methodology to cognitive studies and clinical practice. The successful applicant will work under the supervision of L. Lamalle, MR physicist (Ph. D., Research Engineer, technical director), will benefit from a multidisciplinary environment and from Philips Healthcare support.

For more information, please **contact** L. Lamalle. **Mail:** Laurent.Lamalle@ujf-grenoble.fr
Tel: +33 4 76 76 93 07. **Postal address:** Unité IRM Recherche 3 T, CHU de Grenoble, BP217, 38043 Grenoble, France.