Multimodal neuroimaging analysis of a large mammalian brain model

A 2-year postdoctoral position is available in the group of Dr. Martine Migaud, at the laboratory of Reproductive and Behavioral Physiology (https://www6.val-de-loire.inra.fr/umrprc-nhyrvana_eng/). The research unit brings together over 50 researchers from INRA, CNRS, the University of Tours and the French horse and riding institute (IFCE).

The Project is part of an awarded grant from the French National Agency for Research and involves multimodal neuroimaging techniques (MRI, MRS, DTI) analysis in a large animal model (sheep) to explore the mechanisms of brain plasticity in the hypothalamus, a structure involved in the control of physiological function including reproduction. In this project, we aim to develop MR acquisition and post-processing methods to monitor brain changes and to obtain imaging biomarkers, based on the use of multi-modal neuroimaging tools to investigate anatomical connectivity and hypothalamic microstructure variations in function of the environment. Our lab makes use of sheep as an in vivo model system and for in vitro immunohistochemical and molecular approaches.

The post-doctoral candidate will have access to the CIRE platform within the laboratory, dedicated to applied surgery and imaging of large animal models. The platform is equipped with state of the art imaging facilities including a Siemens 3T scanner (3T Verio) and a CT-Scanner (Siemens). He/she will also benefit from a strong collaborative local environment formed by the members of the CIRE platform and other scientists from our unit. In addition, the project is carried out in collaboration with the Team Development & Plasticity of the Neuroendocrine Brain, INSERM U1172, directed by Dr. V. Prévot.

The laboratory is located in Nouzilly, in close proximity to Tours, in the heart of the Loire Valley, France. Tours is a pleasant city from which one can also reach Paris or Bordeaux very easily within 1h00 and 2h00 respectively by high-speed train.

The successful candidate will have a background in neuroscience, electrical or biomedical engineering, or related fields with strong experience in MRI/MRS neuroimaging and in statistical analysis. Previous experience in computer programming and analysis software (eg. Python, Matlab, C++, FSL, Freesurfer, Linux, Perl...) and image or spectroscopy data processing are required. We are looking for a highly enthusiastic and autonomous candidate who can develop his/her line of research with an interest in interdisciplinary research and excellent interaction and communication skills in the context of a collaborative teamwork.

This position is available immediately and salary is commensurate with experience. To apply, please send your C.V., a cover letter with a statement of research interests and contact information of two referees to Dr. Martine Migaud (Martine.Migaud@inra.fr).