

Liège, August 4th 2021

POSTDOCTORAL POSITION

MRI PHYSICIST UHF – 7T TERRA

GIGA - CYCLOTRON RESEARCH CENTRE / IN VIVO IMAGING

A **postdoctoral position** is available at the [GIGA – Cyclotron Research Centre / In vivo Imaging \(GIGA-CRC IVI\)](#), University of Liège, Belgium.

We have a vacancy for a 3-year postdoc position as part of an international collaboration project in ultra-high field MRI. The SCAIFIELD project is financed through the EU Joint Programme for Neurodegenerative Disease Research (JPND) and involves five partners from four countries (Belgium, Norway, Germany, and Turkey). The goal of the project is to establish quantitative 7 Tesla MRI biomarkers for Ataxia disease with high potential for detecting early disease manifestation and monitoring progression. Specifically, the postdoc position at GIGA-CRC-IVI will focus on the development of quantitative MRI sequences. The position will include both MR sequence programming and in-vivo experiments.

Responsibilities – main function

Implementation and analyses of quantitative MRI in collaboration with SCAIFIELD project partners and with the support of Siemens Healthineers (research and collaboration agreement).

At GIGA-CRC-IVI, a multidisciplinary team of researchers is involved in SCAIFIELD: Dr. Pierre Maquet (neurologist), Dr. Christophe Phillips (biomedical engineer), Dr. Gilles Vandewalle (biologist) and Dr. Christine Bastin (psychologist).

Qualifications and requirements

- PhD degree in physics, medical physics, engineering, or computer sciences. If not already held, the PhD must be obtained by the agreed start-date.
- Excellent MR physics competence, ideally within ultra-high field.
- Strong programming skills, ideally in C++, Python and Matlab.
- Good written and oral English language skills.

Work environment

GIGA-CRC-IVI is a research team that includes psychologists, biologists, neurologists, chemists, physicists and engineers, gathering complementary skills in developing novel

technical and methodological tools to better characterise the structure and function of the human brain. Applications and fields of research include sleep and chronobiology, healthy ageing and neurodegenerative diseases, multiple sclerosis, glioblastomas, and many fields of cognitive neuroscience.

The team has direct access to research-dedicated equipment, including a PET scanner (ECAT+, Siemens), a 3T whole-body MRI scanner (Magnetom Prisma, Siemens), neuro-navigated TMS-EEG equipment, high-density EEG system and a sleep and chronobiology unit with five temperature-controlled, light-calibrated, soundproof bedrooms equipped for EEG recordings. A 7T Magnetom Terra MRI scanner (Siemens) has been installed in February 2019 with parallel transmit and multi-nuclear (^{23}Na , ^{13}Ca , ^{31}P , ^{19}F) capabilities. It is equipped for functional MRI and complemented by ultra-fast optical prospective motion correction devices (Kineticor).

In the fields of *in vivo* histology using MRI ([hMRI](#)), quantitative MRI and UHF MRI, the GIGA-CRC IVI works in close collaboration with other research centres such as the Max Planck Institute, Leipzig (Dr Nikolaus Weiskopf), the Wellcome Centre for Human Neuroimaging, UCL, London (Dr Martina Callaghan), the Maastricht Brain Imaging Centre, Maastricht University (Dr Benedikt Poser), the Department of Systems Neuroscience, Medical Center Hamburg-Eppendorf, Hamburg (Dr Siawoosh Mohammadi) and the Laboratoire de recherche en Neuroimagerie, Lausanne (Dr Antoine Lutti).

The GIGA-CRC IVI is also a member of the European Ultrahigh-Field Imaging Network in Neurodegenerative Diseases (EUFIND), which comprises 24 sites in Europe. Additionally, GIGA-CRC-IVI has research and collaboration agreements with Siemens.

Contract duration

The position is a **full-time position for 3 years**. Start date will be as early as possible from **September 1st 2021**, but a start in October or November is acceptable. We will prioritize candidates who ambition to sustain a long-term research career in Liège and to develop a MRI-physic lab at the GIGA-CRC IVI.

Monthly salary will be provided upon request and follows Belgian regulations.

Application

Applicants are invited to respond as soon as possible and **before September 1st 2021**. Please include all the following documents in PDF format: CV, list of publications including software contributions (GitHub, Bitbucket...), contact information for two referees, a brief letter (maximum 2 pages) describing your personal qualifications, research interests and motivation for applying, and copies of up to two of your publications.

Applications should be sent via email to Dr Christine Bastin (Christine.Bastin@uliege.be). Candidates shortlisted for interview will be contacted as they arise.