

Liège, June 10th, 2024

MRI PHYSICIST POSTDOCTORAL POSITION

3T PRISMA & UHF 7T TERRA

GIGA—CRC—HUMAN IMAGING

A **postdoctoral position** is available at the [GIGA CRC Human Imaging \(GIGA-CRC-HI\)](#) research unit, University of Liège, Belgium.

The “Brain-to-Body MRI” (B2B-MRI) project is financed by the University of Liège and involves partners from the School of Engineering, the Faculty of Science and the Faculty of Medicine. We have a vacancy for a 2-year postdoc position as part of a local collaboration project to develop/extend 3T and ultra-high field 7T MRI applications. The primary goals of the project are developing 3T diffusion-weighted MRI for the imaging of lumbosacral nerve roots and 7T high-resolution anatomical MRI of the knee. Specifically, the postdoc position will focus on the development and validation of the MRI sequences in collaboration with the medical and data processing teams. The position will include both MR sequence programming and *in vivo* experiments. The candidate will also be able to contribute to the other brain-focused MRI developments at the GIGA-CRC-HI.

Responsibilities – main function

Implementation and analyses of MRI acquisitions in collaboration with the B2B-MRI project partners and with the support of Siemens Healthineers.

At GIGA-CRC-HI and the University of Liège, the project involves a multidisciplinary team of researchers including Drs [L. Lamalle](#) & [M. Zubkov](#) (MRI physics), Prof. [C. Phillips](#) (biomedical engineering), Prof. [M. Van Droogenbroeck](#) (image processing), and Profs [J-F. Kaux](#), [M. Vanderthommen](#) & [C. Demoulin](#) (medicine).

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 with experience at ultra-high field.
- Strong programming skills, ideally in C++, Python and Matlab.
- Good written and oral English language skills.

GIGA – CRC Human Imaging Unit

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Work environment

The GIGA-CRC-HI research unit 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 and body. The main 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 onsite research-dedicated 3T and 7T whole-body MRI scanners (Magnetom Prisma and Terra, Siemens). The 7T Terra scanner has been installed in February 2019. In addition to 1H brain imaging (single and parallel transmit configurations with Nova Medical head 1Tx/32Rx and 8Tx/32Rx coils), 1H knee imaging and multi-nuclear (²³Na, ¹³Ca, ³¹P, ¹⁹F) coils are available to develop further applications. The 3T Prisma is also equipped with array coils for spine imaging. **The aim of this B2B-MRI project is to enlarge the field of application of the 2 machines beyond 1H brain imaging.**

In the field of (UHF) MRI, the GIGA-CRC-HI already works in close collaboration with other research centres such as the Max Planck Institute at Leipzig (Prof. N. Weiskopf), the Wellcome Centre for Human Neuroimaging, UCL, London (Prof. M. Callaghan), the Maastricht Brain Imaging Centre, Maastricht University (Prof. B. Poser), the Department of Systems Neuroscience, Medical Center Hamburg-Eppendorf, Hamburg (Prof. S. Mohammadi) and the Laboratoire de recherche en Neuroimagerie, Lausanne (Prof. A. Lutti). The GIGA-CRC-HI has also research and collaboration agreements with Siemens.

Contract duration

The position is a **full-time position for 2 years** (potentially prolonged). Start date will be as early as possible from **July 1st, 2024**, but a start in September or October is acceptable. We will prioritize candidates who ambition to sustain a long-term research career in Liège and to contribute to the MRI-physics team at the GIGA-CRC-HI.

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

Application

Applicants are invited to respond as soon as possible and **before August 1st, 2024**. Please provide all the following documents in PDF format: CV, list of publications including software contributions (GitHub, Gitlab...), 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 relevant publications.

Applications should be sent via email to Prof. Christophe Phillips (c.phillips@uliege.be). Candidates shortlisted for interview will be contacted as soon as possible.

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