



Principal Investigator: Dr. Mathieu Dehaes, Ph.D.

Assistant Professor (see [professional page](#))

Department of Radiology and Institute of Biomedical Engineering

Université de Montréal

Sainte-Justine Hospital University Center (HUC, see details about the research center on the [website](#))

Ph.D. positions in Perinatal Brain Imaging

Two (2) Ph.D. positions are open at the Institute of Biomedical Engineering at Université de Montréal and the Research Center of the Sainte-Justine Hospital University Center in Montréal, QC, Canada. The laboratory of Dr. Dehaes is seeking two (2) Ph.D. students to contribute in cutting edge research in the field of perinatal brain imaging, in particular in congenital heart disease (CHD) populations. Topics of study specifically focus on characterizing cerebral metabolism in prenatal, preoperative and postoperative periods in severe CHD, and determining its relationship with brain injury and neurodevelopment. Candidates with expertise in biomedical engineering, informatics, mathematics, photonics, and physics are preferred. Experience with magnetic resonance imaging and optical imaging of the brain is encouraged.

These projects provide an excellent opportunity for the Ph.D. students to work within a multidisciplinary research team including scientists and clinicians from radiology, cardiology, neurology, neonatology and neurodevelopment. The Ph.D. students will be encouraged to prepare and submit Ph.D. scholarship proposals to funding organizations and to lead publications. The Ph.D. students will participate in designing innovative methods related to the processing of brain imaging signals and images. The diversity of subject matter will require a creative mind.

Ph.D. students will be registered through the Ph.D. Program in Biomedical Engineering at University de Montréal and will have a student appointment at Sainte-Justine HUC and access to laboratories and technological platforms.

Qualifications

- M.Sc. and/or B.Sc. degree(s) in biomedical or electrical engineering, physics or informatics engineering, mathematics, physics or a closely related field
- Experience in research; ability to carry out research experiments and projects
- Candidates with experience in the areas of medical brain imaging such as magnetic resonance imaging and optical imaging are strongly encouraged to apply
- Programming experience in computer programming languages (e.g. Python, Matlab, etc.)
- Strong written and oral communication skills in French and English required
- Works independently and participates productively as a team player
- Highly motivated, ability to identify potential problems and develop solutions

Application materials

- Cover letter
- CV including publications and references
- University academic transcripts

The Ph.D. positions are available immediately and for a duration of 3 years each.

How to apply

Interested candidates should forward their application materials to Mme. Geneviève Blain, M.Sc.

Study Coordinator

Canadian Neonatal Brain Platform

Sainte-Justine Hospital University Center

Email: genevieve.blain@recherche-ste-justine.qc.ca