

PhD position in Brain Imaging and Neurodevelopment in the premature infant CHU Sainte-Justine Research Center

Principal Investigator(s)	Mathieu Dehaes, Ph.D.
Co-Supervisor(s)	Thuy Mai Luu, M.D., M.Sc. and Marie-Noëlle Simard, Ph.D.
Project duration	4 years
Start date	Winter 2019



CHU Sainte-Justine
Research Center

Mother and Child
University Hospital Center

Université
de Montréal

Research laboratory presentation

Our lab is developing new methods for Optical Imaging and Magnetic Resonance Imaging to assess and monitor brain health in paediatric populations. Our work is based on the development of analysis and statistical tools as well as the development of biomedical instrumentation. These developments in medical imaging are applied to populations at risk of perinatal brain injuries associated with hypoxic ischemic encephalopathy, congenital heart disease, stroke, seizure and prematurity.

Research project description

A position is available at Université de Montréal and the Research Center of the Sainte-Justine Hospital University Center in Montréal, QC, Canada. The laboratories of Drs. Dehaes, Luu and Simard are seeking a PhD student to contribute in cutting edge research in the field of brain imaging, in particular in premature infant populations. Topics of study specifically focus on characterizing cerebral oxygen metabolism in premature infants born between 29 and 36 weeks of gestational age and determining its relationship with neurodevelopment. Candidates with expertise in biomedical engineering, fundamental and biomedical sciences are preferred. Experience with optical imaging (near infrared spectroscopy) of the brain is encouraged.

The project provides an excellent opportunity to work within a multidisciplinary research team including scientists and clinicians from radiology, cardiology, neurology, neonatology and neurodevelopment. The student will be encouraged to prepare and submit scholarship proposals to funding organizations and to lead publications. The student will participate in designing innovative methods related to the processing of brain imaging signals and images. The multidisciplinary project will require a creative mind.

The student will be registered at University de Montréal and will have a student appointment at Sainte-Justine HUC and access to laboratories and technological platforms.

Required training and profile

- MSc and/or BSc degree(s) in biomedical engineering, fundamental sciences, biomedical sciences 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 optical imaging are strongly encouraged to apply
- Programming experience in computer programming languages (e.g. Matlab, Python, and others) required

PhD position in Brain Imaging and Neurodevelopment in the premature infant CHU Sainte-Justine Research Center

- Strong written and oral communication skills in French and English required
- Works independently and participates productively as a team member
- Highly motivated, ability to identify potential problems and develop solutions

Submit your application

Interested candidates must submit the following documentation to Dr. Dehaes' team at dehaeslabo@gmail.com.

- ✓ Curriculum vitae
- ✓ Transcripts
- ✓ Cover letter
- ✓ References

Mathieu Dehaes , Ph.D.

Assistant Professor, Department of Radiology and Institut de génie biomédical, Université de Montréal, Montréal, Canada

Scientist, Brain and Child Development Axis, CHU Sainte-Justine Research Center, Montréal, Canada

How is it like to study or make a fellowship at the CHU Sainte-Justine Research Center?

Pursue your [graduate or postdoctoral studies](#) at the CHU Sainte-Justine Research Center, and be one of the 385 students, fellows and interns who are helping to fast track the development of knowledge in the field of mother, child and adolescent health. Under the supervision of prominent scientists, especially in leukemia, rare pediatric diseases, genetics, perinatology, obesity, neuropsychology and cognition, scoliosis and rehabilitation, you will have the opportunity to work with multidisciplinary scientific teams and collaborators from all over the world.

About the CHU Sainte-Justine Research Center

CHU Sainte-Justine Research Center is a leading mother-child research institution affiliated with Université de Montréal. It brings together more than 200 research investigators, including over 90 clinician-scientists, as well as 385 graduate and postgraduate students focused on finding innovative prevention means, faster and less invasive treatments, as well as personalized approaches to medicine. The Center is part of CHU Sainte-Justine, which is the largest mother-child center in Canada and second most important pediatric center in North America. More on research.chusj.org

