MSc, PhD or postdoc position in Perinatal Brain Imaging
CHU Sainte-Justine Research Center

Principal Investigator(s)	Mathieu Dehaes, PhD
Project duration	Depending on the academic level of the candidate
Start date	Winter 2019

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 laboratory is seeking a candidate 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 background in biomedical engineering, computer sciences, mathematics and physics are preferred. Experience with brain imaging is encouraged.

This project provides an excellent opportunity for the candidate to work within a multidisciplinary research team including scientists and clinicians from radiology, cardiology, neurology, neonatology and neurodevelopment. The candidate will be encouraged to prepare and submit fellowship/scholarship proposals to funding organizations and to lead publications. The candidate 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.

The candidate will be registered through an academic program in Biomedical Engineering at University de Montréal and will have an appointment at Sainte-Justine HUC and access to laboratories and technological platforms.

Required training and profile

• PhD/MSc and/or BSc degree(s) in biomedical or electrical engineering, physics, mathematics, computer 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 magnetic resonance imaging and near infrared spectroscopy are strongly encouraged to apply
• Programming experience in computer programming languages (e.g. Matlab, Python, and others) required
• Strong written and oral communication skills in French and English required

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• Works independently and participates productively as a team player
• 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