

Research Project Offer

Centre de recherche Azrieli
CHU Sainte-Justine



Level

☐ Undergrad (internship) ☐ Masters ☐ Doctorate ☒ Postdoctorate

Team

Francine M. Ducharme, MD, MSc, FRCP(c)
Professor, Department of Pediatrics and Social
and Preventive Medicine
Université de Montréal

Recherch Axis

Infectious Diseases and Acute Care

Duration

1 year

Start Date

As soon as possible

Location

Centre de recherche Azrieli du CHU Sainte-Justine

Date of posting

October 24, 2025

Pharmacogenomics of neuropsychiatric side effects associated with montelukast

Research laboratory presentation

The clinical laboratory of Dre Ducharme, clinician-researcher and clinical epidemiologist, focuses on various clinical studies testing the efficacy and safety profile of various interventions in pediatric asthma.

Research project description

Asthma is the most common chronic disease in children. Asthma treatments are highly effective, and some are not without side effects. Montelukast has been associated with neuropsychiatric side effects that are possibly related to a genetic polymorphism.

The primary objective of the research program is to identify genetic polymorphisms associated with the occurrence, presentation and progression over time of neuropsychiatric side effects in the Canadian population.

The project will consist of (i) developing and validating a questionnaire to be completed by children and adults who have been treated with montelukast in order to identify the occurrence and if so, the description and evolution of side effects in order to assess the imputability of these effects to the drug according to the Naranjo scale; (ii) developing a protocol and consent form for submission to the *Canadian Pharmacogenomics Network for Drug Safety* (CPNDS); and (iii) recruiting participants through the various Canadian hospitals participating in the CPNDS as well as through social media for completing the questionnaire and collecting their DNA for analysis.

Expertise and skills required

- Hold a doctoral degree in pharmacy, medicine or related health sciences) with training in biostatistics or epidemiology Or a PhD in pharmacogenomic, biostatistics, epidemiology, or related sciences;
- Excellent academic record and research skills;
- Experience in data analysis (database manipulation, statistical models, results presentation);
- Proficiency in R and/or SAS software ;
- Prior knowledge of pharmacovigilance and/or pharmacogenomic is an asset;
- Excellent scientific presentation and writing skills;
- Proficiency in English, both written and oral, and ideally French

Study Program

The selected candidate must apply for admission to the Université de Montréal, as a postdoctoral fellow in the Department of Pediatrics.

Funding

Funding of CA\$47,500 per year will be awarded to the applicant, until they obtain independent financial support from granting agencies or foundations.

Note on the status of postdoctoral fellow at CHU Sainte-Justine

The candidate must meet the eligibility requirements of the program. In Canada, postdoctoral fellowship status is permitted up to 5 years after obtaining a Ph.D. degree or equivalent (on a regular basis).

Postdoctoral fellows at the CHUSJ are considered as researchers in training and are not employees of the CHUSJ. They are paid in the form of a scholarship (stipend), not salary. For this reason, CHUSJ postdoctoral fellows are not eligible for employment insurance, parental insurance, pension plans and other benefits exclusive to employees. Taxes will be deducted at the source.

The duration of the research project is conditional to:

- The availability of research funds;
- The progress of the project;
- The candidate's eligibility to maintain a postdoctoral fellowship status at the university.

Submit your application

Candidates must send the required documents to Dre. Francine M. Ducharme at francine.m.ducharme@umontreal.ca (cc: Anna Smyrnova at anna.smyrnova@umontreal.ca).

Please provide :

- Curriculum vitæ
- Most recent transcripts
- Cover letter
- References

Address

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Equity, diversity and inclusion

The CHU Sainte-Justine subscribes to the principle of equal access to opportunities and invites women, members of visible and ethnic minorities, persons with disabilities and Indigenous people to apply. We would appreciate it if you could inform us of any disabilities that would require technical and physical accommodation adapted to your situation during the selection process. Please be assured that we will treat this information as confidential.

Studies at the Centre de recherche Azrieli

Pursue your [graduate or postdoctoral studies](#) at the **Centre de recherche Azrieli du CHU Sainte-Justine**, and be one of the 700 students, fellows and interns involved in accelerating the development of knowledge in the field of maternal, child and adolescent health, whether in basic or clinical research. 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 Centre de recherche Azrieli

The **Centre de recherche Azrieli du CHU Sainte-Justine** is a leading mother-child research institution affiliated with Université de Montréal. It brings together more than 300 research investigators, including over 160 clinician-scientists, 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 the second most important pediatric center in North America. More on research.chusj.org

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