



<b>Project title</b>	Impact of vitamin D3 supplementation on the type of viral infections and their associated viral load in children with asthma		
<b>Study level(s)</b>	<input checked="" type="checkbox"/> MSc	<input type="checkbox"/> PhD	<input type="checkbox"/> Post doctorate
<b>Principal investigator(s)</b>	Francine M. Ducharme		
<b>Project duration</b>	2-3 years		
<b>Start date</b>	As soon as possible		

**Student position**

Funded PhD position in clinical epidemiology or related sciences applied to paediatric asthma.

**Place of work:**

Laboratory of Dr. Francine M. Ducharme  
 Centre de recherche Azrieli du CHU Sainte-Justine  
 3175, ch. Cote-Ste-Catherine  
 Montreal (Quebec) H3T 1C5

**Research laboratory presentation**

The clinical laboratory of Dr. Ducharme, clinician-scientist and clinical epidemiologist, focuses on various clinical studies testing the effectiveness and safety profile of various interventions in pediatric asthma.

**Research project description**

Asthma is the most common chronic disease in children, and viral infections are the main triggers of asthma attacks in young children. Despite standard treatment, young children continue to have asthma attacks triggered by colds. The proposed thesis project derives from a large multicenter clinical trial testing the efficacy of high-dose vitamin D versus placebo in addition to standard treatment to reduce the severity of asthma attacks in young preschool children who have required rescue oral corticosteroids in the past year. During the study, parents collected nasal samples during each cold or asthma attack that has served to identify by PCR the presence of one of the 10 most common respiratory viruses and the viral load of the three most frequent viruses. With over 320 children recruited, this study is a unique opportunity to establish the real-life impact of vitamin D supplementation on reducing viral infections in children with recurrent viral-induced exacerbations.



### **Goals:**

The primary objective of the proposed dissertation topic is to examine the benefit of high-dose vitamin D supplementation on several viruses and to explore a potential mechanism of action, i.e., whether supplementation reduces viral load of the most commonly identified viruses compared to placebo, and secondarily to determine whether any observed effects on virus distribution and viral load are associated with milder asthma attacks.

### **Role of the trainee in the project**

The student's role is to review related literature, be responsible for the data management, analysis and interpretation of the data with the R software, and to write a thesis with scientific manuscript that will be submitted for publication.

### **Required training and profile**

- Bachelor's or Master's degree in biostatistics, pharmacoepidemiology, epidemiology, biomedical sciences or a related discipline.
- Expertise in statistical analysis and/or mathematics.
- Good knowledge of statistical software programming (R, SAS, or SPSS) is an asset.
- Comfortable working with databases is an asset.
- Excellent academic record
- Research experience
- Excellent command of written and spoken English and, ideally, French.

### **Conditions**

A competitive student scholarship is offered for the first year; the successful applicant will be invited to apply for scholarship to various competitions for years two and three.

### **Submit your application**

Applicants must send the required documents to Dr. Francine M. Ducharme by email at [francine.m.ducharme@umontreal.ca](mailto:francine.m.ducharme@umontreal.ca)



Please provide:

- √ *Curriculum vitae*
- √ Most recent transcripts
- √ Cover letter
- √ 3 Reference letters

Francine M. Ducharme, MD, MSc, FRCP(c), CAHS

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**About the Centre de recherche Azrieli du CHU Sainte-Justine**

**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 200 research investigators, including over 90 clinician-scientists, as well as 500 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 the second most important pediatric center in North America. More on [research.chusj.org](http://research.chusj.org)

