

## PhD fellowship in mass spectrometry and immunotherapy CHU Sainte-Justine Research Center

---

|                           |                                                                                                                                                                                             |
|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Principal Investigator(s) | Etienne Caron ( <a href="https://www.chusj.org/Bio?id=fcd49543-e878-47e8-ba8e-4e8757bbad0b&amp;lang=en">https://www.chusj.org/Bio?id=fcd49543-e878-47e8-ba8e-4e8757bbad0b&amp;lang=en</a> ) |
| Project duration          | 5 years                                                                                                                                                                                     |
| Start date                | March-April 2019                                                                                                                                                                            |

### Research laboratory presentation

The Caron lab is interested in developing and applying next-generation mass spectrometry technologies (data-independent acquisition or SWATH-MS) to advance the field of cancer immunotherapy. The Caron lab is co-founder of the international Human Immuno-Peptidome Project (<https://www.hupo.org/Human-Immuno-Peptidome-Project>) and we develop the SystemMHC Atlas project (<https://systemhcatlas.org/>) to enable "Big Immuno-Peptidomic Data" research. Our multidisciplinary research program is highly collaborative by nature and we aim to have a significant impact on patient care worldwide.

### Research project description

The 2018 Nobel Prize in Medicine was awarded to two cancer immunotherapy researchers (J. Allison and T. Honjo), acknowledging the fact that checkpoint blockade immunotherapy is revolutionizing clinical oncology. However, only a subset of patients exhibit durable clinical responses and new omic technologies are needed to enable highly precise and effective immunotherapy in ALL cancer patients. We are seeking applications from highly motivated candidates for two PhD positions in mass spectrometry and immunotherapy. The selected candidates will apply state-of-the-art mass spectrometry techniques to identify protein biomarkers of response and relapse to checkpoint immunotherapy and will identify new forms of neoantigens in cancer for the development of innovative anti-cancer vaccines. The PhD candidates will develop ultra-sensitive methods to analyze tumor neoantigens and tumor-infiltrating immune cells by mass spectrometry. By the end of his/her PhD, the selected candidates are expected to have acquired a multidisciplinary expertise in mass spectrometry, protein biochemistry, bioinformatics and immunology, in addition to have developed a strong network of local, national and international collaborators.

### Required training and profile

Self-motivation is the only, but essential requirement.

### Submit your application

Candidates must apply as soon as possible. Interested candidates must submit the following documentation to Etienne Caron at [etienne.caron@recherche-ste-justine.qc.ca](mailto:etienne.caron@recherche-ste-justine.qc.ca).

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

Etienne Caron, PhD  
CHU Sainte-Justine Research Center



CHU Sainte-Justine  
Research Center

Mother and Child  
University Hospital Center

Université  
de Montréal

## PhD fellowship in mass spectrometry and immunotherapy CHU Sainte-Justine Research Center

---

Office 6.17.027  
3175 Chemin de la Côte-Sainte-Catherine,  
Montréal, QC H3T 1C5



**CHU Sainte-Justine  
Research Center**

Mother and Child  
University Hospital Center

Université   
de Montréal

### 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](http://research.chusj.org)

