

## Postdoctoral fellowship

### CHU Sainte-Justine Research Center

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Principal Investigator(s) Alexey V. Pshezhetsky, Ph.D.

Project duration 2 years with a possibility of 1-year extension

Start date As soon as possible

#### Research laboratory presentation

Postdoctoral position supported by Elisa Linton Postdoctoral Scholarship for Sanfilippo Research is available immediately for highly motivated individual with a strong interest in neuroscience, cell biology and medical genetics in the lab of Prof. Alexey Pshezhetsky, Sainte-Justine University Hospital Research Centre (CHU Ste-Justine). The Pshezhetsky Lab merges glycobiology, neuroscience, physiology and genetic methods to decipher pathophysiology of genetic metabolic disorders and develop novel therapeutic approaches.

#### Research project description

Mucopolysaccharidosis type III (MPS III, Sanfilippo disease) is one of the most prevalent lysosomal disorders causing progressive and severe neurological manifestations. The aim of the research project is to understand why Sanfilippo syndrome causes problems with behaviour, learning and memory in affected children. Our preliminary results provide strong evidence that hippocampal neurons show specific alterations of excitatory glutamatergic synapses. To test this hypothesis, the candidate will study synapse formation and function in the MPS IIIA, MPS IIIB and MPSIIID mice as well as in the other mouse models of neurological lysosomal diseases. The study should clarify CNS pathophysiology of MPS III and suggest novel therapeutic approaches. It may also provide a paradigm for treating other neurodegenerative lysosomal diseases affecting synaptic transmission.

The candidate will benefit from both the outstanding lab environment and the highly collaborative communities of CHU Ste-Justine, Department of Anatomy and Cell Biology McGill University and Department of Biochemistry and Molecular Medicine, University of Montreal. The lab uses an extensive set of resources at CHU Ste-Justine Research Center including state of the art imaging and animal facilities.

More information is available at the website: <https://www.chusj.org/Bio?id=7b55f7d1-b8ac-41af-b3a6-f3edeba8e146&lang=en>

#### Required training and profile

Candidates should have a Ph.D. or M.D. degree and should have experience and publication record in electrophysiology, neuroscience, biochemistry, or cell biology.



**CHU Sainte-Justine**  
Research Center

Mother and Child  
University Hospital Center

Université  
de Montréal

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#### Conditions of internship

Three years or less after obtaining doctoral degree.

#### Submit your application

Interested candidates must submit the following documentation to Prof. Alexey Pshezhetsky at [alexei.pchejetski@umontreal.ca](mailto:alexei.pchejetski@umontreal.ca).

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

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#### 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)

