

**Institute of Parasitology**

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**Dr. Qian (Vivian) Liu**

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Dr. Qian (Vivian) Liu's laboratory at the Institute of Parasitology at McGill University is recruiting a postdoctoral fellow to work on virus biogenesis and super-resolution microscopy.

**Position summary.**

Dr. Liu's laboratory is interested in understanding the entry and assembly of emerging paramyxovirus and coronavirus in host cells and the cells' defense against these fundamental processes during virus infection. The lab has built a single-molecule imaging platform that resolves virus-host interaction complexes at 10 nm resolution on a millisecond scale. Projects in the lab focus on mapping the spatial and temporal organizations and dynamics of the virus-host interactions using CRISPR gene editing, super-resolution imaging, and mathematical approaches.

The successful applicant will use the state-of-the-art single-molecule imaging platform to study the virus entry and assembly processes and the cell's innate immune response. The applicant will conduct multiple projects under the supervision of Dr. Liu. The applicant will perform mechanism studies to evaluate the effects of the spatial organizations of the protein complexes on their function in the context of virus biogenesis and antiviral innate immunity. The applicant will work with scientists with diverse expertise including computer science, biochemistry, immunology, and virology.

**Responsibilities.**

- Ability to independently design and carry out experiments; analyze and interpret experimental results and provide input related to subsequent experimental design.
- Completes cell culture, transfection, and transduction experiments; generates novel stable cell lines and knockdown cell lines using CRISPR gene editing.
- Perform routine molecular biology laboratory procedures such as molecular cloning, RNA and protein analysis such as RT-PCR and western blot.
- Write/amend laboratory protocols and implements new technology and protocols as needed.
- Maintain detailed records, logs, and summary reports of all inventories, procedures, and results including graphs, calculations, and statistical analysis charts.

- Assist in training incoming technicians and students in standard protocols and operation of laboratory equipment.

Requirements.

- Doctoral degree in life sciences, such as cell biology, virology, microbiology, biophysics, biochemistry, molecular biology, immunology or related fields.
- Approximately 3-5 years of related work experience in a laboratory.
- Ability to work independently in a team environment.
- Excellent time management skills including multi-tasking.
- Excellent communication skills including writing and speaking.

How to apply.

Please send your application documents including a cover letter, *curriculum vitae*, and the contact information of two references to Dr. Liu ([qian.liu3@mcgill.ca](mailto:qian.liu3@mcgill.ca)). The deadline for application is January 31<sup>st</sup> 2023.