

Statistical methods for rare genetic variants in families

Project Description

As part of a NSERC-funded research project, the successful candidate will develop statistical methods to assess evidence that sets of rare genetic variant sets, discovered by genomic sequencing of related individuals, are involved in complex diseases, integrating information (annotations) from biological databases. This research is motivated by the sequencing data of schizophrenia and bipolar disorders in an Eastern Quebec family study conducted at the CERVO brain research centre, and other similar studies. The selected candidate will be expected to enroll in the statistics PhD program, but encouraged to transfer to the biostatistics PhD program when it is launched.

Research Field

- Statistics and Probabilities
- Epidemiology and biostatistics
- Genetic Mapping
- Bioinformatics

Research Supervisor

Alexandre Bureau

Research Environment

CERVO brain research center

The student will be located in the Biostatistics in neuroscience platform of the CERVO brain research center, where he or she will benefit from the support of professional biostatisticians. The student will have the opportunity to participate in seminars, journal clubs and other scientific meetings at the CERVO, the Big Data Research Center, the Department of social and preventive medicine and the Department of mathematics and statistics, on topics such as statistical genetics, biostatistics, epidemiology and psychiatry.

Related Programs

Doctorate in Statistics

The selected candidate will be encouraged to transfer to the biostatistics PhD program when it is launched.

Desired Profile

- Mathematics, Statistics and Actuarial Science
- Bioinformatics
- Statistics

Requirements and Conditions

Master degree in statistics, biostatistics, mathematics or another relevant field.

Good programming skills. Proficiency in the R statistical language is an asset.

Required Documentation

- Cover letter
- Resume
- Publication if applicable.

Available financial support

- 20 000\$ for the first year, renewable for two additional years.
- Ph.D program registration award from Université Laval (2 000\$).
- Financial support fund of the Science and Engineering Faculty.

Find Out More

Alexandre Bureau

Full professor

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