



PhD Position, Medical Genomics/Bioinformatics, Silent Genomes

Job ID: 15146

Location: University of Calgary, Cumming School of Medicine

Area: Medical Genomics/Bioinformatics

Start date: September 1, 2018

Silent Genomes is a Genome Canada/CIHR recently funded Large-Scale Applied Research Project focused on reducing health care disparities and improving diagnostic success for children with genetic diseases from Indigenous populations. Precision diagnosis, a sub-activity of the Silent Genomes, has the main goal to bring state-of-the-art whole genome sequencing approaches to at least 200 Indigenous families across Canada affected by a suspected genetic disease. The precision diagnosis sub-activity is organized in two levels: (Level 1) application of tried and established semi-automated bioinformatics approach to analyze whole genome sequencing data, and (Level 2) testing and development of new bioinformatics approaches to reach beyond current state-of-the-field, and to facilitate identification of genetic causes in patients who remain undiagnosed after Level 1 analysis. The two teams collaborate very closely.

A fully funded PhD position is available for a highly motivated student with strong interest in medical genomics/bioinformatics and innovative strategies to improve current whole genome sequencing approaches to increase the diagnostic potential of this test for the Silent Genomes effort.

This position offers the candidate a unique opportunity to be exposed to the multidisciplinary Silent Genomes team (cross-country team of clinicians and genetic counsellors, local bioinformaticians and scientists), as well as multidisciplinary approaches (human and model organism genomics; 'wet' and 'dry' lab approaches in the group of the Activity 2 co-lead) and to contribute innovative research with a substantial direct translational potential (e.g. better diagnostic).

The PhD candidate is expected to test existing and develop comprehensive genomics approaches to improve diagnostic potential of high throughput sequencing methods. The PhD candidate is expected to work in close collaboration with the post-doctoral fellow(s), Activity 2 co-lead(s), as well as the rest of the Silent Genomes team, which will require quarterly travels within Canada. Publication of peer-reviewed papers in high-impact scientific journals is an expectation of this position.

Applicants who either self-identify as Indigenous and/or are interested in Indigenous health are particularly encouraged to apply for this position.

Qualifications:

- MSc/BSc degree in Computer Science, Bioinformatics, Genetics or related disciplines
- MD/PhD Leaders in Medicine candidate(s) with keen interest in Indigenous health and research will be given a priority
- Experience with genomics/bioinformatics/ programming languages (e.g. Python, Perl) is highly desirable
- Leadership in developing and executing research projects leading to publication is desirable
- Proven ability to work in a confidential environment is a must
- Successful completion of Tri-Council Policy Statement (TCPS) online tutorial (may be completed upon recruitment)
- Successful completion of an Indigenous Cultural Safety Course (may be completed upon recruitment).
- Research experience in Indigenous health and research will be considered an asset

The appointment will be for up to 4 years with a minimum \$25,000 CAD/year stipend. The successful candidate will be required to work within a team environment, so excellent communication skills and the ability to work effectively with a diverse group of interdisciplinary researchers is a must.

To be eligible as a PhD student at the University of Calgary, the candidate must meet Faculty of Graduate Studies minimum admission requirements, as well as the admission requirements specific to the graduate program of interest as the program requirements may call for higher scores, additional documentation and testing. Please review the Faculty of Graduate Studies admission requirements prior to applying for this position.

Application details:

Interested applicants should submit a cover letter with research interests, brief statement on their future goals, and fit with the group's research focus, curriculum vitae, and the names of three referees willing to provide letters of reference to Maja Tarailo-Graovac at maja.tarailograovac@ucalgary.ca. The position is available immediately and the search will continue until suitable candidate is identified. Latest possible start date is September 1, 2018.

About the University of Calgary

The University of Calgary is a leading Canadian university located in the nation's most enterprising city. The university has a clear strategic direction to become one of Canada's top five research universities by 2020, where innovative teaching and groundbreaking research go hand in hand, and where we fully engage the communities we both serve and lead. The strategy is called *Eyes High*, inspired by our Gaelic motto, which translates to 'I will lift up my eyes.'

To succeed as one of Canada's top universities, where new ideas are created, tested and applied through first-class teaching and research, the University of Calgary needs more of the best minds in our classrooms and labs. We're [increasing our scholarly capacity by investing in people](#) who want to change the world, bringing the best and brightest to Calgary to form a global intellectual hub and achieve advances that matter to everyone.

The traditional Blackfoot name of the City of Calgary is "Mohkinstsis". We would like to acknowledge the traditional territories of the Blackfoot and the people of the Treaty 7 region in Southern Alberta, which includes the Siksika, the Piikuni, the Kainai, the Tsuu T'ina, and the Stoney Nakoda First Nations. The City of Calgary is also home to Métis Nation of Alberta, Region III.

All qualified candidates are encouraged to apply; however, we encourage those who self-identify as Indigenous to apply, and strong preference will be given to those who identify as Indigenous and have the required combination of education and experience.

The University of Calgary recognizes that a diverse staff/faculty benefits and enriches the work, learning and research experiences of the entire campus and greater community. We are committed to removing barriers that have been historically encountered by some people in our society. We strive to recruit individuals who will further enhance our diversity and will support their academic and professional success while they are here. All qualified candidates are encouraged to apply; however Canadians and permanent residents will be given priority. In this connection, at the time of your application, please answer the following question: Are you a Canadian citizen or a permanent resident of Canada? (Yes/No)

Additional Information

To learn more about academic opportunities at the University of Calgary and all we have to offer, view our [Academic Careers website](#). For more information about the Cumming School of Medicine visit [Careers in the Cumming School of Medicine](#).

About the University of Calgary

The University of Calgary is Canada's leading next-generation university – a living, growing and youthful institution that embraces change and opportunity with a can-do attitude. Located in the nation's most enterprising city, the university is making tremendous progress on its Eyes High journey to be recognized as one of Canada's top five research universities, grounded in innovative learning and teaching and fully integrated with the community it both serves and leads. The University of Calgary inspires and supports discovery, creativity and innovation across all disciplines. For more information, visit ucalgary.ca.

About Calgary, Alberta

Calgary is one of the world's cleanest cities and has been named one of the world's most livable cities for years. Calgary is a city of leaders - in business, community, philanthropy and volunteerism. Calgarians benefit from a growing number of world-class dining and cultural events and enjoy more days of sunshine per year than any other major Canadian city. Calgary is less than an hour's drive from the majestic Rocky Mountains and boasts the most extensive urban pathway and bikeway network in North America.