

Location: Vancouver – BC Centre for Disease Control
Employment Group: Post-doctoral Fellow or Research Associate
Job Category:
Classification Title:
Business Title: Bioinformatics Post-doctoral Fellow or Research Associate
Department: Pathology and Laboratory Medicine
Salary: Commensurate with experience
Full/Part Time: Full-Time
Desired Start Date: 2017-04-01 or earlier
Job End Date: 2018-03-31 (renewable)
Funding Type: Grant Funded

Job Summary

Are you interested in bioinformatics research involving microbial genomics, infectious disease surveillance and outbreak investigations, and playing a critical role in a national and international collaboration involving academic, provincial and federal laboratories? The Hsiao Laboratory at BC Centre for Disease Control Public Health Laboratory and University of British Columbia (UBC) has an immediate opening for a Postdoctoral Fellow / Research Associate position (depending on years of experience) from a Genome Canada funded project.

This project is a collaboration between the British Columbia Centre for Disease Control Public Health Laboratory/ University of British Columbia (Will Hsiao) and Simon Fraser University (Leonid Chindelevitch, Cedric Chauve). The successful candidate will also have close interaction with other researchers in the IRIDA project (<http://www.irida.ca/>) - a Canada-wide collaboration with international partners to develop bioinformatics resources for genomic epidemiology. The candidate will also work with public health workers (our end users and stakeholders) to ensure the tools we develop can directly benefit health care operations.

The primary responsibilities of the candidate will involve managing existing data sources, performing genomic epidemiology data analysis, designing analysis pipelines using the IRIDA platform as the basis, and participating in scientific conferences and presentations. In collaboration with other members in the Hsiao laboratory, use of ontology to integrate metadata will be explored. Knowledge in biology is not essential but interest in applying computer science and statistics to solve health care and biological problems is a must. Technologies used in the project include SQL, python, RDF (resource description framework), OWL, semantic web, virtualization (docker and VM), REST API, and the Java Spring framework.

Organizational Status

The job candidate will work independently and report to the Principal Investigator or designate. The primary work location will be BC Centre for Disease Control (BCCDC) located in Vancouver. BCCDC Public Health Laboratory is affiliated with UBC for education and research and the position is funded by a Genome Canada grant to the PI through UBC. The candidate will interact with other Provincial Health Services Authority (PHSA) workers located at BCCDC and will expect to observe both the UBC and PHSA policies and rules of conducts.

Work Performed

- Consolidate and manage genomic data and metadata
- Design and implement new genomic epidemiology analysis pipelines using the IRIDA framework
- Design and implement novel algorithms for microbial genotyping
- Setup bioinformatics software and other software packages needed for the project
- Develop cloud and semantic web enabled applications as part of the core IRIDA development team
- Participate in scientific discussions and presentations

Supervision Received

Supervision from Principal Investigator or designate through regular (bi-weekly) face-to-face meetings. Computer code will be reviewed by other project members. Semi-annual performance review to assess overall progress in meeting the project objectives will be conducted by the PI.

Supervision Given

May facilitate the PI in supervising undergraduate, research, programming and bioinformatics trainees.

Consequence of Error/Judgement

Due to the sensitive nature of dealing with health records and patient data, extreme caution is needed to ensure the security of sensitive and/or private data. Training will be provided to deal with patient records and breach of trust may result in job termination or litigation. Exercising professional judgment in overall data capturing and analysis is required. Errors in data analysis or data capture could have negative consequences in public health outbreak surveillance and investigations.

Qualifications:

- Ph.D. degree in bioinformatics, microbiology, molecular biology, biochemistry or related field.
- Documented proficiency in analyzing genomic sequencing data.
- Documented experience setting up genomic databases.
- Proficiency in at least one of: C++, Java, Python (preferred), R and ability to write scripts to automate tasks
- Experience in working with complex samples a benefit, as is experience working with a multidisciplinary team.

Other Considerations:

- Experience in designing and building robust computational pipelines in a Unix-like environment
- Familiarity with molecular biology or genomics, and experience using the Illumina next-generation sequence platform and the associated computational analysis tools for assembly and annotation.
- Demonstrated publication record in the field of microbial genomics.
- Familiarity with semantic web technologies and ontology development preferred.
- Must have excellent communication skills and be fully fluent in spoken and written English.
- Must have strong self-motivation and be able to work in a multi-tasking and multi-disciplinary environment.

Contact:

Please send your CV and names of two referees to William Hsiao (William.hsiao@gmail.com) with the subject line: **PathoGiST PDF2**

UBC hires on the basis of merit and is committed to employment equity. All qualified persons are encouraged to apply. We especially welcome applications from members of visible minority groups, women, Aboriginal persons, persons with disabilities, persons of minority sexual orientations and gender identities, and others with the skills and knowledge to engage productively with diverse communities. Canadians and permanent residents of Canada will be given priority.

Only qualified candidates will be contacted for interviews.