

## Computational Biology Post-Doctoral Scientist (2 positions)

<b>Location</b>	Centre for Molecular Medicine and Therapeutics 950 West 28th Avenue Vancouver, BC V5Z 4H4 Canada
<b>Category</b>	Postdoctoral Research Fellow
<b>Group</b>	Faculty - Postdoctoral Research Fellow
<b>Department</b>	CMMT
<b>Tenure</b>	Full-time; Grant funded
<b>Overview</b>	Two computational biology post-doctoral positions are available at the University of British Columbia (Vancouver, Canada). These positions, in the laboratory of Dr. Wyeth Wasserman, focus on the analysis and interpretation of genetic alterations in the human genome sequence. Both positions are coupled to recently funded projects, providing the right candidate with a strong and stable opportunity to work in a highly collaborative environment.

### POSITION #1: Gene Regulation Analysis

The Wasserman laboratory analyzes regulatory sequences controlling when and where genes are transcribed. We are looking for postdoctoral candidates interested in transcriptional regulation. The ideal postdoctoral candidate will develop innovative computational approaches to characterize, analyze, and interpret cis-regulatory elements in the human genome. The project will either focus on the identification of mutations in whole genome sequence data likely to disrupt the activity of genes or the applied design of cis-regulatory sequences for application in gene therapy. The work will include aspects of machine learning, model development, and large-scale data analysis. The ideal candidate will have an interest in developing novel computational approaches based on emerging knowledge from laboratory studies.

### QUALIFICATIONS

This position is intended for a computational biologist within 3 years of completion of a PhD. Demonstrated experience with computer programming is required. The ideal candidate will have experience in both the life sciences and computation, but applicants with a strong background in one domain may be considered if interest in interdisciplinary research is apparent.

## **POSITION #2: Applied Genome Analysis**

Based on the campus of BC Children's Hospital, the Wasserman and van Karnebeek laboratories partner with a strong genetics community to develop and apply methods for the identification of disease causing variations in genome sequences. We are looking for a postdoctoral scientist to lead the research on developing and applying methods for the identification of disease causing variations in patients' genome sequences. The work requires close interaction with BC Children's Hospital clinicians to understand the phenotypes of patients. A background in gene function analysis would be a strong asset for the applicant. The ideal candidate will develop innovative computational tools to discover relationships between gene annotation and patient phenotypes. The TIDEX project (PI Dr. C. van Karnebeek) has already led to the discovery of multiple confirmed human disease genes through our implemented computational pipeline. We further expect this pipeline to be improved by the applicant. Experience with BioPython or other modular programming tools for genome analysis is a strong advantage.

### **MAJOR RESPONSIBILITIES**

- Conduct research and supervise projects in the subject of Applied Genome Analysis on developing and applying methods for the identification of disease causing variations in genome sequences
- Develop and apply methods for the identification of disease causing variations in genome sequences
- Interact closely with the PI and clinicians to understand the phenotypes of research subjects
- Apply computational skills to develop innovative ways to discover relationships between gene annotation and patient phenotypes
- Present findings at local, national and international scientific meetings where the impression can have direct influence on future scientific funding
- Write manuscripts describing the findings
- Assist in the development of grant and scholarship applications related to the research
- Contribute to quarterly and annual reports related to the research projects.
- Work with principal investigator to ensure that all scientific milestones are achieved.
- Oversee the daily activities of Applied Genome Analysis trainees and direct a portion of the effort of a scientific programmer.

- Oversee development of internet resources requiring CGI programming with the perl computer scripting language
- Perform other related duties.

## **QUALIFICATIONS**

### Education and Experience:

- Ph.D. degree in a life sciences discipline
- A minimum of 2 to 3 years demonstrated post-doctoral experience in bioinformatics with focus on genome sequence data processing and analysis.

### Skills and Abilities:

- Knowledge of bioinformatics, with emphasis on genome sequence analysis and gene annotation
- Knowledge of scientific tools, technologies and online resources for gene disease relationship prediction
- Python and/or Perl programming
- Experience with the Linux environment
- Experience with computer clusters
- SQL database use via API interfaces
- Use of gene network analysis tools
- Use of project management tools for scientific interaction, such as wikis or shared document repositories.

## **HOW TO APPLY**

Please email your cover letter and resume to [wyeth@cmmt.ubc.ca](mailto:wyeth@cmmt.ubc.ca). Due to the number of resumes we receive, we are unable to confirm receipt of submissions over the phone, or provide the status of competitions except to those who are selected for an interview.