

Postdoctoral fellowship position in modeling and analysis of complex microbial communities

A position is immediately available to work on a collaborative project between researchers at Dalhousie University (Dr. Joseph P. Bielawski & Dr. Hong Gu, Dept. of Mathematics & Statistics) and the University of Montreal (Dr. B. Jesse Shapiro, Dept. of Biological Sciences). The project is part of a large-scale research initiative, ATRAPP, funded by Genome Canada and focused on genomic solutions to the challenge of assessing, predicting and preventing harmful toxic blooms. The successful candidate will develop novel models for analyzing the structure and metabolic interactions of complex aquatic microbial communities.

The research will follow up, and extend, the Bayesian hierarchical modeling frameworks that were developed for microbial amplicon data (BioMiCo: *Microbiome*. 2015 10;3:8), and for microbial metagenomic data (BiomeNet: *PLoS Comput Biol*. 2014 10(11):e1003918). The objectives are to develop novel (i) supervised methods that can simultaneously make use of taxonomic and functional data derived from metagenomes, (ii) statistical frameworks for comparing the fit of alternative models for community structure, and (iii) temporal models for predicting community transitions from serially sampled data. Qualified applicants must have a Ph.D. in statistics, applied mathematics, computer science, bioinformatics, or a related field in computational biology. A strong background in statistics, and proficiency with scripting and programming languages (e.g. python, perl, R, C/C++), is expected.

This position is based at Dalhousie University (Halifax, NS). The recipient will join the Centre for Genomics and Evolutionary Bioinformatics (CGEB), which is a vibrant interdisciplinary research environment at Dalhousie University. More information about CGEB is available at <http://cgeb.dal.ca>. The recipient will also have the opportunity to visit the University of Montreal and interact with a diverse group of biologists and computational biologists working on bloom-forming freshwater cyanobacteria.

Start date: Review of applications will begin immediately and continue until the position is filled. The start date is negotiable. Applications will be reviewed as they are received. We thank all applicants, however, only selected candidates will be contacted. Interested parties should forward a cover letter, cv, statement of research interests, and a sample of recent writing (article, report or other publication) as well as contact information for 3 references to:

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