Graduate student and Post-doctoral positions in interdisciplinary ocean science

DALHOUSIE UNIVERSITY

We are recruiting graduate students and post-doctoral fellows to work on the Computational Biogeochemical Modeling of Marine Ecosystems (CBIOMES) project. CBIOMES is an interdisciplinary, multi-institutional project funded by the Simons Foundation to better understand the biogeography of marine microbes and quantify the relationship between microbial biogeography and elemental cycles using a combination of modelling, statistical analyses of lab and field data, and laboratory experiments.

We seek several graduate students and post-doctoral fellows to work on one of the following projects:

1. Developing new models of phytoplankton growth and elemental composition with a focus on macromolecular composition. A major goal of the project is to obtain new data on the growth rate and macromolecular and elemental composition of ecologically and biogeochemically important phytoplankton from across the tree of life. We are also interested in integrating physiological and biochemical data with transcriptomic data. In aggregate these data will be used to inform and constrain phytoplankton models of biogeography and community composition.

2. Developing new approaches to modeling microbial biogeography. Projects will employ computationally-intensive statistical analyses of time-series data to develop species distribution models, characterize microbial niches, and quantify microbial traits. Goals include improved descriptions of species traits and niches, intercomparison of model output and observational data, and new efforts to connect empirically derived phytoplankton traits with model parameterizations.

Detailed projects will be developed in collaboration with each successful applicant.

Researchers will be given exposure to interdisciplinary research and the opportunity to develop skills in a variety of areas including: statistical analyses, bioinformatics, modelling, and laboratory work. Ideally applicants will have an interest in, expertise or familiarity with one or more of the following: phytoplankton culture, oceanic cruise experience, physiological, biochemical and molecular assays on phytoplankton, bioinformatics techniques especially transcriptomics on non-model organisms, marine ecological modelling, or computationally-intensive statistical analyses.

Students and post-doctoral fellows are to be housed at Dalhousie University in the Oceanography or Mathematics and Statistics departments to work with Dr. Zoe Finkel and Dr. Andrew Irwin. There will be opportunities to interact with collaborating groups at MIT, University of Washington, and the Simons Foundation. Researchers will participate in collaboration meetings and workshops.

To apply, submit a PDF with a cover letter, curriculum vitae, statement of research interests, and contact information for three referees by email to zfinkel@dal.ca or a.irwin@dal.ca. We will review applications as they are received. Informal inquiries are welcome.

Information about the lab can be found at www.mmab.ca.

For additional Information on the CBIOMES project see the Simons Foundation website.

Dalhousie University is Atlantic Canada's leading research-intensive university and a driver of the region's intellectual, social and economic development. Located in the heart of Halifax, Nova Scotia, with an Agricultural Campus in Truro, Dalhousie is a truly national and international university, with more than half of our 18,500 students coming from outside of the province. Our 6,000 faculty and staff foster a vibrant, purpose-driven community, that's celebrating 200 years of academic excellence in 2018. The Department of Oceanography has more than 20 faculty with diverse research interests and supports more than 40 graduate students. The Department of Mathematics and Statistics has more than 25 faculty and 40 graduate students.

Dalhousie University is committed to fostering a collegial culture grounded in diversity and inclusiveness. The university encourages applications from Aboriginal people, persons with a disability, racially visible persons, women, persons of minority sexual orientations and gender identities, and all candidates who would contribute to the diversity of our community. For more information, please visit www.dal.ca/hiringfordiversity.