

## Hakai Coastal Initiative Postdoctoral Fellowship in the Molecular taxonomy of NE Pacific seaweeds



### **Supervisor: Dr. Patrick T. Martone**

Botany Department & Biodiversity Research Centre, University of British Columbia (UBC)

**Applications are invited** for a two-year postdoctoral fellowship (PDF) to help resolve the taxonomy of several NE Pacific seaweeds by evaluating DNA sequences and morpho-anatomy

**Overview:** For the last decade, seaweed collections along the central coast of British Columbia have revealed the presence of many cryptic species that require taxonomic attention. In particular, we have dramatically underestimated the diversity of coralline algae, which play important ecological roles in nearshore communities. There are more than 30 coralline algal species along our coast, including geniculate and non-geniculate taxa, that are distinguishable by DNA sequence but that lack proper scientific names and published species status. Lack of taxonomic understanding is hindering ecological progress. In collaboration with researchers at the Hakai Institute and UBC, the postdoctoral fellow will lead taxonomic efforts to resolve coralline species using a combination of DNA sequence analysis and morpho-anatomical measurements. The fellow will have access to hundreds of sequenced coralline algal collections at the UBC Beaty Biodiversity Museum, and will be expected to generate new DNA sequence data, quantify distinguishing morpho-anatomical features, and supplement collections whenever possible. This research will directly benefit ongoing biodiversity surveys and research projects resolving species-specific differences in coralline ecology, physiology, and patterns in coralline communities following disturbance. Opportunities to develop new research projects related to

coralline diversity, speciation, or population connectivity are also possible. This position will be part of a growing network of taxonomic postdocs working with Hakai to clarify the biodiversity of marine organisms along the BC coast.

**Postdoctoral responsibilities:**

- Lead DNA sequencing initiatives, including DNA extraction, PCR, and phylogenetic sequence analysis
- Use light microscopy, histology, and SEM to identify distinguishing characteristics for coralline species identification
- Investigate historical literature and DNA sequences from type collections to properly apply names to modern collections
- Lead manuscripts describing new species and biogeographic distributions
- Interface with museum staff to update macroalgal collections and databases and to deposit new specimens as needed
- Help train and support graduate and undergraduate students using molecular methods
- Contribute expertise to ongoing molecular work at the Hakai Institute

**Requirements:**

- Strong practical knowledge of DNA sequencing methods and sequence analysis
- Experience constructing phylogenies and using phylogenetic programs (e.g., Geneious)
- Demonstrated skills in taxonomic methodologies, preferably of macroalgae or plants
- Capacity to lead projects with collaborators, communicate effectively, and finish projects on time
- Experience working with marine macroalgae, especially coralline algae, is preferred

**Additional details:** Hakai is an independent research organization based in British Columbia with many scientists studying the fish, invertebrates, microbes, and seaweeds of coastal ecosystems. Although the PDF may have opportunities to join field excursions and to visit field stations occasionally, this project is primarily focused on coralline collections housed in the UBC Beaty Biodiversity Museum and the position will be based at UBC in Vancouver.

This is a limited term, two-year PDF position paid at a rate of \$55,000 CAD per year plus Mandatory Employment Related Benefits with an opportunity for renewal given satisfactory performance and funding availability. An annual research budget of \$8,000 is included. We seek a candidate who has completed a PhD within the last five years and who has taxonomic experience and a background in molecular biology.

To apply, please send a cover letter, CV and two research publications to Dr. Patrick Martone by email ([pmartone@mail.ubc.ca](mailto:pmartone@mail.ubc.ca)). Your cover letter should address your motivation to excel in this project, and the particular skills and experience you can bring to the work. Review of applications will begin on **February 1** and we hope to fill the position for a start date of June 1, 2021 (negotiable).