

Postdoctoral Fellowship – Tula Foundation
Coastal Ocean Dynamics & Their Ecological Consequences



Fisheries and Oceans
Canada

Pêches et Océans
Canada



A turbulence-sensing glider deployed in Queen Charlotte Sound by the Canadian-Pacific Robotic Ocean Observing Facility (C-PROOF) in partnership with the Hakai Institute.

Applications are invited for a two-year postdoctoral fellowship (PDF) to lead observational studies of coastal ocean dynamics and their ecological consequences in a physically and ecologically significant shelf sea off the coast of British Columbia, Canada. We seek a physical oceanographer with interests in coastal ocean dynamics and the interaction between ocean dynamics and chemical and biological processes who is keen to employ a variety of observational tools in their research.

Background: Since 2019, the [Hakai Institute](#), a scientific research institution supported by the [Tula Foundation](#) that advances long-term research at remote locations on the coastal margin of western Canada, and the [Canadian-Pacific Robotic Ocean Observing Facility \(C-PROOF\)](#), a joint venture of the University of Victoria, the University of British Columbia, and Fisheries and Oceans Canada, have partnered to execute a comprehensive coastal ocean observing program in Queen Charlotte Sound, a highly productive shelf sea that hosts unique ecosystems and Ecologically and Biologically Significant Areas, several of which have national protection. The region is a natural laboratory for numerous interacting coastal ocean processes, including seasonally-varying wind-driven upwelling and downwelling, strong freshwater forcing, vigorous mixing, and lateral exchange processes. The dataset in-hand, along with ongoing observational efforts that include the use of gliders, floats, and moorings, plus ship-based work, provide an exciting opportunity to design and execute targeted process studies to better understand dynamical processes and their implications for the region's ecosystems in a changing climate.

Position Goals: The fellow will join the Hakai Institute and C-PROOF teams and advance their research missions by designing and executing process studies in Queen Charlotte Sound focused on coastal ocean dynamics and their ecological consequences. The specific research topic(s) can be tailored to the fellow's expertise and interests; topics of interest to the research team include upwelling dynamics, shelf-basin exchange, dynamics within and across the Riverine Coastal Domain, turbulence and mixing, and the biogeochemical and ecological linkages to the physical dynamics embodied in each of these topics. The position offers various additional opportunities, to be pursued if of interest to the fellow. For example, there is an exciting opportunity to employ glider-mounted turbulent microstructure instrumentation and engage with industrial partner Rockland Scientific. Further, there is opportunity to teach and mentor students through the PRODIGY graduate training

program. There are ample opportunities to engage with the regional modeling community and work towards coupling simulations with the in situ observations.

Position Responsibilities:

The PDF will be responsible for the following tasks within the context of the overall project as described above:

- work with the C-PROOF team on processing, analyzing, and interpreting existing observational data
- participate in the continued collection of observational data in the region
- design and lead glider-centered process studies targeting dynamic processes of interest
- publish research in high-impact, peer-reviewed journals and present results at national and international conferences.

Requirements:

- PhD in physical oceanography
- experience collecting and working with ocean observations
- willingness to work collaboratively with interdisciplinary group of project scientists and technical staff
- willingness to conduct field operations required to maintain glider operations from Calvert Island, British Columbia
- capacity to lead projects with collaborators, excellent communication skills, and a demonstrated ability to finish projects in a timely manner

Project Leaders: The PDF will be supervised by Dr. Wiley Evans (Hakai Institute) and work closely with Dr. Jody Klymak (University of Victoria), Dr. Stephanie Waterman (University of British Columbia), and Dr. Tetjana Ross (Institute of Ocean Sciences / Fisheries and Oceans Canada).

Additional Details: The position will be officially based at the Tula Foundation headquarters in Campbell River, with opportunities to travel between the University of British Columbia, the Institute of Ocean Sciences in Sidney BC, the University of Victoria, and the Calvert Island Ecological Observatory for collaborative work. Note that there is the possibility of a second PDF position with the team and applicants to this position may also be considered for that opportunity. This is a limited term, 2-year position.

Application Procedures: To apply please submit the following by email to careers@tula.org: 1) a cover letter outlining specific areas of research interest; 2) a current CV, 3) the names of at least two referees, and 4) sample research publications. Review of applications will begin immediately and the position will remain open until **October 15, 2023**. All qualified candidates are encouraged to apply, however Canadians and permanent residents will be given priority. Please direct questions to Dr. Wiley Evans (wiley.evans@hakai.org).

About the Tula Foundation: The Tula Foundation is an independent charitable foundation, rooted in British Columbia, but with global interests and outreach. We have used our facilities and resources to create a vast network of collaborators from academia, government agencies, and First Nations. Our collective efforts have catalyzed an enormous quantity of science, education, and stewardship. Our divisions include:

- Hakai Institute, an active, engaged scientific research institution with ecological observation stations on Calvert Island and Quadra Island, known for the long long-term research we do on BC's coast, for the scientific papers we publish, and for the compelling media, we create;
- Quadra Centre for Coastal Dialogue, the division supporting meetings and workshops wherever they may happen, as well as hosting these on Quadra Island itself with meeting space and dorms;
- Media, a team that showcases the work we all do through video and award-winning journalism;
- the Ocean Decade Collaborative Center for the Northeast Pacific (DCC), which supports the UN Decade of Ocean Science for Sustainable Development (the Ocean Decade 2021-2030) by facilitating partnerships and seeking connections in ocean communities;
- Tula Health (Tula Salud), which supports health systems for developing countries, particularly Guatemala's rural indigenous communities, by providing education and resources.