

Postdoctoral Fellowship: **Highly Entrepreneurial Research Operators (HEROs) in Transdisciplinary Ocean Carbon Dioxide Removal Research**

The Ocean Frontier Institute ([OFI](http://ofi.ca)), led by Dalhousie University, invites applications for five (5) postdoctoral fellowships as Highly Entrepreneurial Research Operators ([HEROs](#)) within the transdisciplinary [CONVERGE CDR](#) research program. These positions are designed for exceptional PhD graduates who want to leverage their deep expertise to advance the boundaries of research, innovation, and impact in ocean-climate solutions.

CONVERGE CDR

Climate change is one of the greatest challenges of our time. While rapid reductions in greenhouse gas emissions are essential, complementary approaches are also needed to remove carbon dioxide from the atmosphere. Carbon Dioxide Removal (CDR) is emerging as a critical part of the solution. CONVERGE CDR is a focused initiative to coordinate, integrate, and fund research and activities to advance the responsible and equitable development of the marine carbon dioxide removal (mCDR) sector in Canada. The CONVERGE CDR research bridges science, data, community engagement, public policy, and business economics.

Learn more: ofi.ca/impact/converge-cdr

HERO Cohort

The heart and engine of CONVERGE CDR will be a cohort of five Highly Entrepreneurial Research Operator (HERO) postdoctoral fellows, working within their discipline and across diverse disciplines to inform and advance the mCDR sector in Canada. Unlike traditional postdoctoral fellowships, the HERO cohort will be early-career researchers with a drive and commitment to bring expertise from their research to work collaboratively with new people and across new organizations.

The HERO cohort model provides peer support, professional growth, and an entrepreneurial environment to accelerate research, discovery, and real-world impact.

The HERO cohort is best suited for postdoctoral fellows who not only excel in research but also possess a strong drive to translate their discoveries into tangible outcomes. This program fosters:

- **Entrepreneurial Leadership:** Cultivate skills to identify opportunities, secure additional funding, and build partnerships with industry, community, and government.
- **Interdisciplinary Collaboration:** Engage with a diverse cohort of researchers and organizations across various scientific and societal domains.

- **Impact Translation:** Bridge the gap between scientific discovery and practical application, contributing to policy development, community engagement, economic impact, and real-world solutions.
- **Professional Development:** Benefit from mentorship, networking opportunities, and tailored professional development to become a leader in your field.

Learn more: ofi.ca/impact/heros

Research Focus – Modelling how marine CO₂ removal and related changes in ocean biogeochemistry can impact marine food-webs

Our climate crisis is driven by increasing atmospheric CO₂ and other greenhouse gases. We urgently need to implement ways to reduce anthropogenic CO₂ emissions and remove CO₂ (carbon dioxide removal, CDR) from the atmosphere. Marine CDR (mCDR) refers to an array of promising approaches, including ocean alkalinity enhancement, iron fertilization, direct ocean removal, and seaweed farming. Before large-scale deployments of any of these methods should occur, far more research is needed on their efficacy, risks, co-benefits and costs.

This postdoctoral fellow will make use of marine food web models to assess higher-order ecological risks and co-benefits of mCDR. Specifically, they will conduct exploratory scenarios and targeted case studies to inform about thresholds of changes in bottom-up forcing that could significantly alter trophic transfer efficiencies, fish and fisheries. Efforts will initially focus on ocean alkalinity enhancement applications on Nova Scotia's Scotian Shelf.

The scientific objectives include:

- Adapt existing regional food-web models such that they are fit-for-purpose for mCDR exploratory scenarios
- Design and conduct a suite of strategic simulations to explore how mCDR-related changes in water chemistry and lower trophic levels may impact trophic transfer efficiencies, fish biomass and fisheries
- Identify critical knowledge gaps related to ecosystem and fisheries impacts of mCDR to direct future field and lab studies
- Provide recommendations for future modelling investigations focused on mCDR projections of ecological impacts

About Ocean Frontier Institute (OFI) and Transforming Climate Action (TCA)

The Ocean Frontier Institute (OFI), led by Dalhousie University in collaboration with domestic and international partners, is a global hub for ocean research and innovation. CONVERGE CDR is part of OFI's Transforming Climate Action (TCA) program, a \$397M research initiative at the nexus of oceans, climate, and people. Through TCA and CONVERGE CDR, OFI is training the next generation of leaders to deliver world-class research with societal, environmental, and economic impact.

Salary and Support

- Minimum salary of CAD \$70,000 per year plus benefits (up to two years, subject to approval)
- Professional development budget of CAD \$3,000 to support training, conferences, and networking

Requirements

- PhD in Fisheries Science/Ecology, Statistics, Mathematics, Marine Ecology/Biology, Oceanography or related discipline
- Demonstrated quantitative skills in biogeochemical, ecosystem, and/or statistical modelling
- Strong writing and communication skills

How to Apply

Interested candidates should send the following to: Dr. Wendy Gentleman (wendy.gentleman@dal.ca), Dr. Tyler Eddy (tyler.eddy@mi.mun.ca), and Dr. Carolyn Buchwald (cbuchwald@dal.ca). Applications will be reviewed as received. To ensure that your application is given priority consideration, apply by October 31, 2025.

- Curriculum Vitae (CV)
- University transcripts
- Contact information for two referees
- A brief statement of research interests and modelling experience and how they align with the CONVERGE CDR program and the HERO ideology

Location and Start Date

CONVERGE HEROs will be based at Dalhousie University in Halifax, Nova Scotia, Canada, with opportunities for international collaboration and exchange. The position is presently open to be filled with preference for a December 1, 2025 or January 5, 2026 start date.

Diversity

Dalhousie University commits to achieving inclusive excellence through continually championing equity, diversity, inclusion, and accessibility. The university encourages applications from Indigenous persons (especially Mi'kmaq), persons of Black/African descent (especially African Nova Scotians), and members of other racialized groups, persons with disabilities, women, and persons identifying as members of 2SLGBTQ+ communities, and all candidates who would contribute to the diversity of our community.

Learn more: dal.ca/hiringfordiversity