Postdoctoral Associate in Soil Carbon Modeling and Ecosystem Dynamics
Department of Biology, Western University
Location: London, Ontario, Canada
Duration: 1 year with possible 2-3 year extension
Start Date: Flexible

Position Summary

The Nutrient Movement and Modelling Lab in the Department of Biology at Western University is seeking a highly motivated Postdoctoral Associate to lead research on soil carbon dynamics, ecosystem modeling, and biodiversity-ecosystem functioning relationships.

The successful candidate will contribute to a project aimed at improving predictions of soil carbon storage and climate feedbacks in Canadian ecosystems. The project combines ecological theory, soil ecology, biodiversity science, data synthesis, and process-based modeling, with a particular emphasis on forests.

This position offers an opportunity to take a leadership role in developing and comparing next-generation soil carbon models that incorporate nutrient limitation and soil biological processes. The work will have direct relevance to carbon accounting, climate change mitigation, and ecosystem management in Canada.

Responsibilities

The postdoctoral associate will lead much of the model development, implementation, and analysis associated with the project. Responsibilities include:

- Developing and implementing process-based soil carbon models.
- Integrating nutrient cycling and soil biological processes into existing modeling frameworks.
- Harmonizing multiple soil carbon models within a common analytical framework.
- Conducting model calibration, validation, and uncertainty analyses.
- Synthesizing ecological datasets related to soil carbon, nutrients, and biodiversity.
- Evaluating ecosystem responses to environmental change and management interventions.
- Publishing research findings in peer-reviewed journals.
- Supporting collaborations with academic and government partners.

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- Mentoring graduate and undergraduate students.

Qualifications

Required

- PhD in ecology, environmental science, soil science, forestry, biogeochemistry, Earth system science, ecological modeling, or a closely related field.
- Strong quantitative and computational skills.
- Experience with process-based ecological, biogeochemical, or ecosystem models.
- Proficiency in R, Python, or similar scientific programming languages.
- Demonstrated record of scientific publication.
- Excellent written and verbal communication skills.
- Ability to work both independently and as part of an interdisciplinary team.

Preferred

- Experience with soil carbon, nutrient cycling, or ecosystem modeling.
- Experience with uncertainty analysis, Bayesian methods, model calibration, or model-data integration.
- Familiarity with forest ecosystems and global change ecology.
- Experience managing and synthesizing large ecological datasets.
- Knowledge of soil ecology, ecological stoichiometry, biodiversity science, or carbon cycling.
- Experience with high-performance computing.

Research Environment

The postdoctoral associate will join a collaborative research group focused on understanding how biodiversity influences ecosystem functioning and environmental change. The position includes opportunities to collaborate with researchers from government agencies and academic institutions across Canada and to contribute to research that informs national carbon accounting and ecosystem management.
The successful candidate will be encouraged to develop independent research directions, lead publications, and participate in grant development and collaborative research initiatives.

Compensation
Salary will be competitive and commensurate with experience, following Western University guidelines for postdoctoral associates. Funding is available to support conference travel, professional development, and research activities.
A description of benefits available to Western University Postdoctoral Scholars can be found in Article 30 of the collective agreement: PSAC POSTDOCS collective agreement 2023-2025

How to Apply
Applications should be submitted using the Microsoft Form below:

Application Form:
https://forms.cloud.microsoft/r/zyfmqQY6q0
Applicants will be asked to provide **as plain text**:

- A short cover letter describing their research interests and suitability for the position.
- A current curriculum vitae.

Review of applications will begin on **October 9,2026** and continue until the position is filled. We regret that we will only be able to contact applicants who are a good fit for the current position. If you don't hear from us this time, please don't hesitate to inquire about future positions.

Questions about the position may be directed to:

Dr. Robert Buchkowski
Department of Biology
Western University
London, Ontario, Canada
rbuchkow@uwo.ca

We invite applications from all qualified individuals. Western is committed to employment equity and diversity in the workplace and welcomes applications from women, members of racialized groups/visible minorities, Indigenous persons, persons with disabilities, persons of any sexual orientation, and persons of any gender identity or gender expression.