

GRADUATE RESEARCH OPPORTUNITY (MSc or PhD) for 2027

Ecophysiology and early detection of forest pests (co-supervised by Dr. Deepa Pureswaran, Canadian Forest Service & University of New Brunswick (**Global Change and Forest Insects Research Group** <https://gcfirg.ca/>) and Dr. Chris Wong, Forestry and Environmental Management, University of New Brunswick (<https://www.unb.ca/faculty-staff/directory/forestry-and-environmental-management/wong-christopher.html>)).

We seek applications from highly motivated and qualified candidates for a funded MSc (2 years) or PhD position (4 years) at the Department of Biology / Faculty of Forestry and Environmental Management at the University of New Brunswick, Fredericton, Canada. The candidate will build on research conducted jointly by Dr. Pureswaran and Dr. Wong and lead a project on detecting tree stress induced by abiotic / biotic factors and susceptibility to herbivorous insects. The candidate will use remote sensing, ecophysiological techniques, insect pest detection methods, and modelling in forest environments.

Description. In this era of global change, extreme meteorological events cause tree stress that favour outbreaks by pest insects and facilitate range expansion of invasive species. Large-scale tree mortality predisposes forests to fires and turns them into carbon sources, amplifying the impacts of climate change. Understanding tree stress physiology and developing early detection methods will enable us to protect susceptible forests from pest species. Research will involve field and laboratory data collection by which the candidate will gain experience in plant science, remote sensing, genomic analysis, insect ecology and ecological models. While training a highly motivated candidate to direct independent research, the project will align with real-world forest protection needs through collaborations with academics, government scientists and forest health professionals.

Start date. January, June or September 2027.

Stipends. Minimum 25K (MSc) and 30K (PhD) per year from a combination of scholarships, research and teaching assistantships.

Qualifications

- Commensurate with level, BSc or MSc in biology or forestry
- Academic interest in plant science, ecology, entomology, forestry, remote sensing
- Quantitative aptitude with experience in statistics, facility with modelling software such as R or Python
- Commensurate with career stage, experience with scientific publishing and oral presentations

Abilities

- Oral and written communication
- Work productively as part of a team and respond to feedback
- Multitask in a constantly changing work environment

Operational requirements

- Valid driver's licence
- Willing to work in the field and laboratory
- Willing to work in remote areas in challenging environments, e.g. heat, rain, biting insects
- Willing to work late and on weekends with overnight stays when needed
- Willing and able to travel by car, boat, rail, air

Organizational Needs. Natural Resources Canada is committed to establishing and maintaining a representative workforce. This organizational need may be identified as part of the appointment decision. In such cases, qualified candidates who self-declare as members of a visible minority group, Indigenous peoples, persons with disabilities or women (in non-traditional occupations) could be considered in priority. The University of New Brunswick is also committed to employment equity and fostering diversity within our community and developing an inclusive workplace that reflects the richness of the broader community that we serve. We welcome and encourage applications from all qualified individuals who will help us achieve workplace equity and diversity. Preference will be given to Canadian citizens and permanent residents of Canada.

Conditions of Employment. Security clearance required. Reliability Status for entry into Canadian government research facilities.

Interested students should send their **curriculum vitae, a statement of interest (250 to 500 words) and names of two referees** to Dr. Deepa Pureswaran – deepa.pureswaran@nrcan-rncan.ca and/or Dr. Chris Wong – chris.wong@unb.ca. Selected candidates will be interviewed.