



Postdoctoral Position – Tick Chemical Ecology and Neurophysiology

We are currently seeking a motivated Post-Doctoral Researcher to conduct research on tick chemosensory biology and repellents at the Canadian Tick Research and Innovation Centre (CTRIC), Acadia University, in the beautiful Annapolis Valley, Nova Scotia.

Project Summary - The successful candidate will work on a project investigating the neurophysiological mechanisms underlying tick responses to repellents and attractants, with a focus on the blacklegged tick *Ixodes scapularis*, the primary vector of Lyme disease in North America.

Ticks rely heavily on chemosensory cues to locate hosts, yet our understanding of how they perceive and respond to repellents remains limited. This project aims to advance fundamental knowledge of tick sensory biology and support the development of effective, naturally derived tick repellents.

The project will combine morphological, electrophysiological, and behavioural approaches to investigate tick chemosensory systems. Specifically, the research will:

- Characterize the distribution and morphology of chemosensory sensilla on tick appendages (legs, pedipalps, and chelicerae) using scanning electron microscopy (SEM)
- Use single-sensillum recording (SSR) and other electrophysiological techniques to investigate neural responses of chemosensory sensilla to host attractants and repellent compounds (including DEET and plant-derived compounds)
- Evaluate candidate compounds using behavioural repellency and attractancy assays

This research will contribute to a better understanding of how ticks detect hosts and respond to repellents, ultimately supporting the development of new, environmentally friendly strategies for tick bite prevention and reducing the spread of tick-borne diseases.

The successful candidate will be based at Acadia University and the Canadian Tick Research and Innovation Centre (CTRIC), working in a collaborative and interdisciplinary research environment.

Qualifications - The successful candidate will have a Ph.D. in Chemistry, Chemical Ecology, Entomology, Neurobiology, Biology, or a related discipline and demonstrate strong research productivity.

Required/desired technical skills include:

- Experience with electrophysiology, neurobiology, or sensory biology
- Experience with arthropod behavioural assays
- Experience with microscopy techniques (SEM experience is an asset)
- Knowledge of chemical ecology or natural product chemistry
- Experience working with arthropods or other invertebrate model systems

The successful candidate must be highly motivated, independent, and collaborative, with strong problem-solving skills and excellent written and oral communication abilities. The candidate will also have opportunities to mentor and supervise graduate and undergraduate students and contribute to laboratory activities at CTRIC.

Start Date and Stipend - The anticipated start date is Summer-Fall 2026, or as soon as possible thereafter. The position is expected to be 2 years in duration, with possible renewal for an additional 2 years, subject to performance.

The annual stipend will be approximately \$77,000 per year, including benefits, consistent with institutional guidelines for postdoctoral fellows.



Application Materials:

Interested and qualified applicants should submit their application electronically and include:

- A curriculum vitae (CV) with a list of publications
- A cover letter describing their background, prior training, and research interests
- Contact information (email and phone number) for at least three references
- Applications should be sent to nicoletta.faraone@acadiau.ca with the subject line: *Postdoctoral Application – CTRIC*.