Postdoc position – University of Toronto

Consequences of population outbreaks on genetic structure and demographic inference

An opportunity is available in the James Lab at the University of Toronto for a creative and enthusiastic researcher interested in the consequences of cyclic irruptive population dynamics on spatio-temporal patterns of genetic variation. This project will use demo-genetic simulation models to better understand how spatially synchronous outbreaks of forest insect pests affect the development of spatial genetic structure and our ability to make inference regarding underlying demographic and evolutionary processes.

**Location:** The position is based in the Graduate Department of Forestry at the University of Toronto (St. George Campus) and is for two years starting in January 2021 (or sooner if possible). Salary will be commensurate with experience.

**Project:** The postdoc will develop and implement spatial simulation models to explore the effects of outbreak frequency, dispersal capacity, range expansion, landscape heterogeneity, and effective population size on population genetic inference. The post doc will be expected to contribute to the functioning of the lab, assist in supervising students, publish results in peer-reviewed journals, and to participate in scientific conferences.

**Requirements:** Applicants must have completed their PhD by the start date (which is somewhat flexible) and should have a strong record of scholarly publications and scientific presentations. In terms of technical qualifications, I am looking for someone with experience in population dynamics, population genetics, landscape genetics/genomics, statistical modelling, and an interest in using demo-genetic simulations to ask fundamental questions in population and landscape genetics. Competencies in scientific programming (e.g., R, Python), data wrangling, and effective communication are also required.

**Work environment:** The Graduate Department of Forestry is a tight-knit community of forestry-oriented researchers and students with strong connections to the other departments across the U of T. The department’s interdisciplinary nature facilitates strong relationships with industry, multiple levels of government, and environmental non-profits. The University of Toronto is a world-class academic institution based in is one of the most multicultural cities in the world. The James Lab is an energetic and rapidly growing team of ecologists interested in spatial and temporal dynamics in forest systems. More information about the lab can be found here: www.jameslab.ca

**How to apply:** Applicants should send a cover letter, CV, and the names and contact information of three references as a single .pdf document to Patrick James (patrick.james@utoronto.ca). The posting will remain open until the position is filled.

We encourage all qualified students to apply. Final selection will however give preference to Canadian citizens and permanent residents given current COVID-19 related uncertainty around international travel.