

*Postdoctoral position*

## Postglacial migration of sugar maple: joint analysis of paleoecological and genomic data

**Summary.** Climate change, whether historical or contemporary, rearranges biodiversity patterns at all hierarchical levels, from gene to biome. Postglacial migration represents one of the key responses of species to the last global climate warming associated with a transition from the glacial maximum to the current interglacial. Similarly, species are expected to extend their range to higher latitudes as a response to contemporary global changes. However, the velocity of modern-day global warming might outpace the speed of tree migration, with potentially deleterious consequences for forest ecosystems. In northeastern North America, sugar maple is the dominant species of the ecotone between the temperate and boreal forests. This transition zone is currently under increasing climatic stress, with uncertain impact on forest dynamics and composition. A better understanding of the biogeographic processes and patterns leading to the establishment of sugar maple at its northern limit will enable us to anticipate future changes at the interface between temperate and boreal forest biomes. The project aims to characterize the postglacial migration of sugar maple at its leading edge based on the latest paleoecological and molecular data available. Postglacial migration will be inferred based on pollen diagrams from over 100 lakes and peatlands, and fire history will combine information from over 40 sites. Genotyping data from modern-day trees (SSRs and SNPs) will be used to determine the genetic structure resulting from postglacial colonization. This integration of paleoecological and molecular data will enable us to infer a chronology of postglacial colonization by the various genetic lineages of sugar maple, which will provide a better understanding of the effect of climate and natural disturbances on the expansion potential of the different genetic lineages at the northern limit of this foundation species.

**Qualifications.** We are looking for a motivated candidate having a PhD in biological sciences, environmental sciences, forestry or geography, and expertise in one of the following disciplines: biogeography, paleoecology, population genetics, terrestrial ecology, or a related field. The candidate will join a dynamic, interdisciplinary research team, in which she or he will have the opportunity to realize his or her full potential and develop a rich and fulfilling scientific life. We recognize that equity, diversity, and inclusion enrich the research environment, enhance the quality, relevance, and impact of research, and provide opportunities for all. Our team members thrive to eliminate barriers affecting designated groups, discrimination, and incivility.

**Date, duration, benefits.** As soon as possible, one-year renewable contract, 60,000 CAD/year.

**Application.** Please send a statement outlining your research/professional interests and academic background and a CV to:

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