

**MSc Position available to study the relationships between urban trees and their insect and microbial communities at the University of British Columbia, Vancouver, Canada**



*Beaty Biodiversity Museum, UBC, M. Tseng*

**Position:** A 2-year MSc position is available starting September 2023 to study the relationships between tree traits and their insect and microbial communities. This project is a collaboration between the Department of Botany (Faculty of Science), the UBC Botanical Gardens, and the Department of Forest and Conservation Sciences (Faculty of Forestry). The team leads are Prof. Michelle Tseng (Botany), Dr. Tara Moreau (Botanical Gardens), and Prof. Danielle Ignace (Forest and Conservation Sciences), with support from Prof. Richard Hamelin and Prof. Warren Cardinal-McTeague (Forest & Conservation Sciences).

**Description:** Trees serve a wide range of ecological and ecosystem services and are increasingly planted in urban areas to mitigate the negative effects of climate change. However, in these same environments, trees are typically selected for their robustness to city living, and not necessarily for their ability to support local biodiversity. The goal of this research project is to better understand associations between tree traits and their insect and microbial communities. There are many possible research questions that can be addressed. For example, how does insect diversity differ between native- vs non-native trees? Is insect diversity correlated with microbial diversity, and what types of tree traits facilitate both types of diversity? Do spatial patterns in tree diversity predict local insect and microbial diversity? The MSc student will be encouraged to develop a thesis in these research areas.



*Lorquin's admiral (M. Tseng)*

The annual stipend for this position is ~\$30,000 CAN. Funding will come from research grants and from teaching assistantships. The candidate will be encouraged to apply for external fellowships (e.g. NSERC). The candidate will need to apply for entry into the graduate program in the Department of Botany, UBC. Please see the UBC Botany website for more details on the application process and minimum grade requirements.

The Tseng and Ignace research groups are spaces of learning and teaching that welcome and support students of all races, sexualities, genders, and disabilities. We work, learn, and play on the traditional, ancestral, and unceded territory of the x<sup>w</sup>məθk<sup>w</sup>əyəm (Musqueam). We are grateful for their thousands of years of biodiversity stewardship of these lands. While this project currently uses a western science framework, we welcome students who would like to use Indigenous knowledge to better understand relationships between trees and the communities they host.

**Qualifications:** You are kind, curious, driven, and self-motivated. You work well independently and in team settings. You value equity, diversity, and inclusion in academia and you support Indigenous perspectives to understanding the natural world. You are happy to help out with other lab members' projects when needed. You have an undergraduate degree in ecology, evolution, entomology, urban forestry, forest ecology, environmental sciences, or other related fields. You can use R to conduct statistical analysis. You are able to conduct fieldwork. Previous experience working with trees, insects, or microbes is an asset. Previous experience working with and identifying a diversity of insect species and with using molecular tools for IDing insects and microbes is highly helpful. Previous experience conducting independent research at the undergraduate level is necessary.

**For more information about the school and units:**

Graduate school at UBC: <https://www.grad.ubc.ca/>

Botany department: <https://botany.ubc.ca/>

Forest and Conservation Sciences: <https://fcs.forestry.ubc.ca/>

UBC Biodiversity Research Centre: <https://biodiversity.ubc.ca/>

UBC Botanical Gardens: <https://botanicalgarden.ubc.ca/>

Tseng lab website: <https://www.bugsandplankton.com/>

Ignace lab website: <https://www.ignacelab.com/>

Tara Moreau's website: <https://botanicalgarden.ubc.ca/tara-moreau/>

**To Apply:** In your cover letter, please discuss why your background, education, and research experience make you well-suited for this position. Email your cover letter, CV, and unofficial transcript(s) to [tsengm\[at\]mail.ubc.ca](mailto:tsengm[at]mail.ubc.ca). Additionally, on a separate page please propose relevant research questions you would like to address during your MSc. We will begin reviewing applications on March 13, 2023.