SUSTAINABILITY SCHOLARS PROGRAM

Summer 2020

The UBC Sustainability Initiative (USI) is pleased to offer current UBC graduate students the opportunity to work on funded sustainability internship projects. Successful candidates work under the mentorship of a partner organization, and are immersed in real world learning where they can apply their research skills and contribute to advancing sustainability across the region.

- Visit the Sustainability Scholars Program website to learn how the program works and to apply.
- Be sure to review the application guide to confirm your eligibility before applying.
- **Applications close at midnight on Sunday February 2, 2020.**

Title of Research Project: Research to understand agricultural waste management practices and barriers to avoiding open-air burning of vegetative waste in the Metro Vancouver region

How will this project make a contribution to regional sustainability?

This project aligns with the following goals in the *Board Strategic Plan*.

Regional Federation

- 2. Strengthening Our Livable Region
    - 2.1 Continue Metro Vancouver's leadership on environmental stewardship.
        - Advance initiatives aligned with a transformation to a circular economy.
- 4. Fostering Collaboration & Engagement
    - 4.3 Continue to build effective working relationships with key stakeholders.
    - 4.4 Promote a regional approach to advancing economic prosperity that complements the economic development work of members.

Air Quality and Climate Change

- 1. Taking Leadership on Climate Action Through Climate 2050
    - 1.2 Develop and advocate for actions fundamental to meeting regional greenhouse gas emission targets and ensuring our region is resilient to the impacts of climate change.
        - Implement actions that will lead to emission reductions, specifically focusing on the *Climate 2050* issue area roadmaps of nature and ecosystems, infrastructure, human health and well-being, buildings, transportation, industry, energy, land-use and growth management, agriculture, and waste.

- 2. Improving Air Quality
    - 2.2 Continue to identify air contaminants in the region, identify priorities and pursue effective actions to reduce pollutants.

This project also aligns with the following goals of *Metro Vancouver's Integrated Air Quality and Greenhouse Gas Management Plan (IAQGGMP)*.

- 1.2 Reduce air contaminant emissions from industrial, commercial, institutional (ICI) and agriculture sources at both the regional and local level.
- 1.2.3 Investigate and implement additional targeted measures to address emissions of contaminants (e.g., volatile organic compounds, ammonia, nitrogen oxides and sulphur oxides) that contribute to ground-level ozone and secondary fine particulate matter concentrations, in partnership with other governments, industry, academia and other interested parties.
- 1.3.4 Investigate options and introduce mechanisms to reduce emissions from open burning.
- 2.1 Reduce emissions of air contaminants and precursors that can degrade visual air quality.
- 2.1.2 Investigate and implement measure that will reduce fine particulate to levels that improve visual air quality.
- 3.1 Reduce emissions of short-lived climate forcers.

Project description
The purpose of this project is to improve understanding of agricultural waste and current waste management practices, as well as barriers to increased recycling and reduced open-air burning of waste.

The research will draw attention to best practices in the region to identify opportunities for enhanced waste reduction and recycling that could be promoted to other farmers as alternatives to open-air burning of waste.

Outline the scope of project, including how Metro Vancouver will use the Scholar's work:
The research undertaken in this project will consist of surveying farmers, agricultural organizations, and government staff (the exact list will be determined in consultation with the project lead) in order to obtain information that identifies:

- Based on the survey results and a brief literature review, an inventory of the types of agricultural wastes generated in the Metro Vancouver area;
- current management method for each type of waste; and
- existing barriers that prevent the use of low-emission waste management methods that incorporate elements of reducing, recycling, or reusing instead of open-air burning.

The proposed project will require the scholar to:

- develop a survey with questions aimed at obtaining relevant project information, in collaboration with Metro Vancouver staff;
- prepare a list of contact information for government staff, agricultural organizations, and farm businesses, with some input from Metro Vancouver;
- conduct surveys of farmers, agricultural organizations, and government staff by phone, email, and at Farmers Markets;
- review any reports and studies identified by survey respondents and by an Internet search related to agricultural waste management practices, barriers, and opportunities in the Metro Vancouver region;
- analyze survey results, including the identification of best practices mentioned in survey responses;
- prepare a final report presenting and summarizing information from survey responses and any relevant published reports and studies. The report will highlight best practices in the Metro Vancouver region and opportunities for waste reduction and avoidance of open-air burning based on the survey responses, reports, and studies.

Metro Vancouver will apply the findings from this project to:

- promote increased use of low-emission agricultural waste management practices as alternatives to the use of open-air burning as a disposal method;
- investigate how to address barriers that prevent farmers from reducing, reusing, or recycling agricultural wastes;
- encourage beneficial use of agricultural residual materials by other businesses and industries through materials exchange and industry matching programs such as the National Industrial Symbiosis Program; and
- contribute to the potential development of a best management practices guide to help farmers handle their vegetative debris more sustainably by showcasing examples of local farmers that reduce or recycle agricultural waste instead of burning it outdoors, as identified through the surveys.

This research project will aid in Metro Vancouver's efforts to reduce emissions of harmful air contaminants emitted from open-air burning activities that can impact public health, the local environment, and climate change.

Project Deliverables:

1. A final report containing a summary of work completed including:
    - inventory of agricultural wastes generated in the Metro Vancouver region;
    - current management methods for each type of agricultural waste;
    - existing barriers that prevent reducing, reusing, or recycling agricultural waste streams; and
    - best practices and opportunities for waste reduction and avoidance of open-air burning based on the survey responses, reports, and studies about current waste management practices.;
    - List of references
2. A draft report for review by Metro Vancouver before the end of the project and prior to completion of the final report.
3. A final report including an Executive Summary for the UBC Sustainability Scholars online project library.

Time Commitment

- This project will take **250** hours to complete.
- This project must be completed between May 4 and August 14, 2020
- The Scholar is to conduct in-person surveys of farmers at Farmers Markets that take place on weekday evenings and on weekend days, and to conduct phone calls at times when respondents are available, which may be in the evenings.

Required/preferred Skills and Background

☒ Excellent research and writing skills
☒ Demonstrated interest in sustainability
☒ Familiarity with research methodologies and survey techniques
☒ Community engagement experience
☒ Ability to work independently
☒ Deadline oriented
☒ Project management and organizational skills
☒ Comfortable interacting with strangers to conduct public/in person surveys

☒ Familiarity with agricultural waste management practices or a background in agriculture an asset
☒ Familiarity with air quality issues in the Lower Fraser Valley.
☒ Excellent written English.
☒ Excellent communication skills.
☒ Competency in other languages such as Cantonese, Mandarin, or Punjabi would be an asset.

Scholar must have access to a computer and software capable of producing documents in Microsoft Word format.

Applications close **midnight Sunday February 2, 2020**.

Apply here: http://sustain.ubc.ca/scholarsapply

Contact Karen Taylor at sustainability.scholars@ubc.ca if you have questions

Useful Resources

Below are some links to useful resources to help you with your resume and cover letter (there are many more online). Some of these resources also provide information on preparing for your interview.

https://students.ubc.ca/career/career-resources/resumes-cover-letters-curricula-vitae

https://www.grad.ubc.ca/current-students/graduate-pathways-success

https://www.grad.ubc.ca/cover-letter-cv-resume-templates-ubc-career-services

The Centre for Student Involvement & Careers will host a resume & cover letter webinar tailored for graduate students on Tuesday, January 21, 2020 from 12:00-1:30. Registration will open approximately two weeks before the webinar, and can be accessed at Careers Online.