

Summer 2022 Sustainability Scholars Program Internship Opportunity

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 January 30, 2022.

Project Title: Building Energy Benchmarking: Integrating Climate-Risk Elements

Project Background & Overview:

OPEN Technologies (OPEN) helps the people that shape our cities to make pro-climate decisions with confidence. We build software tools that promote the market adoption of high-performance products and best practices in energy management. Our team background includes engineering, urban planning, energy modelling, architecture, business analysis, product management, and software development. We are a small, nimble organization that often has several projects on the go simultaneously, responding to and anticipating industry needs, including GRID, our core product offering.

GRID enables jurisdictions to run energy benchmarking and disclosure programs, displaying participating building's energy use data, in addition to GHG emissions. To create confident policy, you need accurate data, and GRID provides that necessary data backbone. Currently, one of our priorities is the expansion of GRID to display climate risk data and insights on a building level. As we've seen here in British Columbia this year, first with the deadly heatwave and now with severe flooding, the changing climate is bringing attention to the vulnerability of infrastructure and buildings. The availability of public facing climate risk information is critically important for a range of reasons:

- For building owners, identifying climate related risk from:
 - catastrophic events such as flood or fire
 - major heat events impacting the health and wellbeing of tenants and/or ability to function for business tenants (e.g., restaurants that may or may not have adequate venting or air conditioning)
- For property owners, financial institutions, and real estate investors, insurance and market risk due to the above (i.e., potential for their properties to become effectively stranded assets)
- For jurisdictions, the above plus the policy implications of requiring certain HVAC equipment to counter a warming climate, such as mandatory cooling equipment, or zoning implications to circumvent growing flood plains or fire risk zones.
- For anyone, building level performance on walkability and transit accessibility, EV readiness, embodied carbon, or any number of other climate related insights.

Project description

The purpose of this project is to get a better understanding of data points, data sources, and the accessibility of climate risk data, in addition to identifying what information is most relevant and important for stakeholders within the building industry. The research will focus around refining the critical decision-points for these various stakeholder categories when it comes to identifying and managing for climate related risk, and then identifying the key datasets and sources that could be integrated into OPEN's GRID integration platform to provide these key, deeper building-level insights. The key outcome from this project will be a set of recommendations and a roadmap to inform functional enhancement of the GRID software platform, and a list of critical data sources that can be integrated into GRID for this purpose.

With this information integrated into GRID, prospective building occupants, buyers and residents will have access to insights on the future performance and functionality of their building. Key industry stakeholders will have access to insights on their building's resilience with the future climate in consideration. Key decision makers and policy makers will have critical information at their fingertips to inform policy and developments which promote climate resilience and mitigate vulnerabilities and risk.

Project scope

The project scope would include both primary and secondary research on climate risk data, in addition to further analysis of the findings.

Specifically, the key questions the scholar will research include but are not limited to:

1. What are the key climate risk datasets and data points that are available at a building level? (flood risk, fire risk, walk score, etc.)
2. How important are those points to various stakeholders? (regulators, financial institutions, building owners, insurance providers, etc.)
3. What are the existing gaps in climate risk data, and what is required to ensure these gaps are addressed?

Secondary research activities will include a review of existing climate risk and vulnerability scoring programs, identification of data sources through existing programs, open, and private datasets, and the development of a list of relevant data sources. These data sources will need to be reviewed and evaluated for relevance/importance, for quality/reliability, as well as applicability/compatibility at the building-level.

In addition to the secondary research activities, the scholar will engage with key industry stakeholders, including financial institutions, building owners, and insurance providers, through surveys and interviews. The scholar will receive guidance from the staff mentor as well as other members of OPEN's team. They will be provided with introductions and connections to key stakeholders. These interviews and surveys will lead to a better understanding of what data points are most relevant and important to stakeholders.

From the findings of the primary and secondary research, the scholar will also be able to identify gaps in the availability of climate risk data. These gaps can range from incomplete datasets, disconnected datasets and critical data that is simply not available.

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To conclude the research project, the scholar will present their research findings to the OPEN Team. This will be done in the format of a Brain Trust, which is a monthly presentation by an OPEN Team member to the rest of the team on a topic they are currently researching or a topic that is of importance to the growth and development of the team. The Brain Trust slot for August 2022 will be reserved for the scholar. The scholar will receive guidance from the staff mentor on the format and assembly of the presentation.

Deliverables

There are three key deliverables for the Scholar:

1. A final report for OPEN containing the project objectives, research findings, analysis and recommendations, in addition to a list of accessible, relevant datasets.
2. A final report for the online public-facing Scholars Project Library
3. A final presentation to the OPEN Team in the form of a Brain Trust Meeting.

Time Commitment

- This project will take **250** hours to complete.
- This project must be completed between **May 2 and August 12**.
- The scholar is to complete hours between **9am-5pm, and days of week**, approximately **15-20** hours per week.
 - The OPEN Team typically work around the hours of 9-5, although there is a degree of flexibility around this. We currently operate on a hybrid model, with intentional days in our office in Gastown on Tuesdays, Wednesdays and Thursdays, and optional days on Mondays and Wednesdays.

Required/preferred Skills and Background

- Excellent research and writing skills
- Demonstrated interest in sustainability and climate adaptation (or equivalent)
- Familiarity with research methodologies and survey techniques
- Ability to work independently
- Project management and organizational skills
- Familiarity with benchmarking methods and tools
- Comfortable interacting with strangers to conduct public/in person surveys
- Familiarity with building energy is an asset.
- GIS-skills are a welcomed addition as we expect that several climate-risk datasets will have a geographic component.

OPEN works in a “start-up” environment, which means that the successful candidate will have the opportunity to gain insight into how the company operates and a lot of facetime with team members. If the Scholar is used to a bigger company, they may be accustomed to having more support staff on hand than we are able to offer. We encourage anyone who is interested in the start-up world to express interest! Our team is based in Vancouver and currently work on a hybrid model, with intentional days in the office and optional days to work from home.

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Applications close **midnight Sunday January 30, 2022**

Apply here: [Click here to apply](#)

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

Useful Resources

We are holding a special **resume preparation workshop for prospective Scholars** on January 19. [Click here for details and to register.](#)

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>