



# Makerspace

## **ANNUAL REPORT**

Philip Robbins (Makerspace Coordinator)

May 2024

## 2023-2024 Overview

The Langara Makerspace has continued to grow and evolve and, in the spring of 2024, officially became a part of the Applied Research Centre. This strategic realignment brings together the mandate and resources of ARC with the closely allied capabilities and ethos of the Makerspace to further advance Langara's applied research goals.

The Makerspace has continued advancing its broadly based research outreach and engagement through 2023-2024 completing the City of Richmond Circularity collaboration and developing an ongoing relationship with the city through a new Langara based micro-credential exploring the interconnections between circularity and makerspaces/making. Additionally, the Makerspace is developing new research collaborations with the Vancouver Thingery and expanding our existing connection to CityStudio through a "research concierge" service.

The Makerspace continues broadening our engagements with the Langara Student population through our ongoing series of introductory Makerspace workshops, by attending and presenting at multiple Langara events and through hiring multiple students from a range of departments (Business Studies, Computer Science, Fine Arts) on SWOP, WOK, NSERC and SSHRC funded projects.

We continue presenting the Makerspace and its accomplishments to a wide cross-section of the Langara community through formal events (Mini-Conferences, Applied Research Day, Semester Kickoff, Back to School Department Faire, Creative Arts Open Houses, ARC Lunch and Learn) and multiple informal Makerspace events (Makerspace tours, overviews, wide-ranging hands-on workshops, and Buildathons)

As a highly dynamic resource, with a constant flux of users, objectives, and outcomes, Langara's Makerspace continues to harness its capabilities and showcase its accomplishments to strategically build cross-disciplinary, cross-institutional, and cross-sectoral opportunities.

## General Timeline

- 3K service contract -City of Richmond- test fitting – **June 1**
- Update Makerspace images for Telemetry display system – **June 8**
- Confer with Geoffrey Reid regarding prospective UBC Makerspace– **June 14**
- Begin sourcing quotes and approvals for filament extruder – **June 20**
- Begin commissioning of Baileigh CNC plasma – **June 20**
- SSHRC – GI placemaking event – **June 24**
- Coordinator Vacation - **July 4 – August 25**
- Transition Makerspace workshop schedule and signup for Don's temp replacement **August 21**
- Reconfirm makerspace bookings and curricular access – **August 25**
- Confer with new DF faculty about scanning and VR capabilities– **August 25**
- Department Faire – **August 28**
- Applied research department hands-on Event and Demo – **August 31**
- New Student welcome day – **September 7**
- Begin preliminary investigation of Microcredentials – **September 11**
- Meeting with Neil Squire Society to develop collaboration project - **September 18**
- Attend 2023 Introducing the BCcampus Micro-Credential Toolkit for B.C. – **September 19**

## **Langara College Makerspace**

- Meeting with MOV (Vivienne Gossen) to develop research collaboration – **September 26**
- Connect with CityStudio about “research concierge”. Develop one pager on Makerspace - **October 6**
- Meet with academic Excellence re- Microcredential development – **October 16**
- Meet with CityStudio to present “research concierge” concept – **October 23**
- Studio 58 technician tour of Makerspace – **October 26**
- Attend Creative Arts and Industries Mini-Conference – **October 27**
- Present at ARC open house – **November 1**
- Fine Arts Studio Night (Makerspace participating) – **November 7**
- SSHRC disassembly workshop in Makerspace – **November 16**
- Host SFU makerspace (tour and discussion) – **November 17**
- ARC application for COR project – **November 27**
- Canadian Association of Girls in Science event (A273) – **December 2**
- ARC COR project awarded, begin hiring student researchers – **December 13**
- Department Faire – **January 8**
- Hire student to design/produce custom clipboards for ARC – **February 8**
- Host Chair of KPU product design department (Via DF) – **February 15**
- Japanese medical student tour (via Langara Global) - **February 21**
- Begin developing collaborative MicroCredential with Marcos from COR – **Feb 28**
- Give interview with students from Journalism – **February 28**
- Attend Applied research day with students – **March 21**
- Begin conversation about possible research collaboration with the Thingery – **March 25**
- Work with SP+C on Makerspace research article (Langara Post) – **March 27**
- Makerspace tour for LaSalle College – **April 4**
- Present at ARC miniConference – **April 24**
- COR student researchers presenting at ARC lunch and learn – **May 22**

## **2024-2025 Planning**

In concert with the Applied Research Center, we continue to explore ways to expand our user base to diversify, support, and solidify our community of users/researchers. To this end the Makerspace is developing a Micro-credential that will explore the Circularity Economy and its connection to Makerspaces and Maker cultures. This new credential will be offered in collaboration with the City of Richmond’s department of circularity and be open to the Langara community and the broader community (individuals, civic leaders, entrepreneurs) interested to examine how circularity, making and makerspaces intersect in a truly sustainable circular economy. In parallel with this initiative Langara’s Makerspace is developing closer ties with Vancouver’s CityStudio to explore how a Makerspace can act as a “Design Concierge” service that helps move the innovative ideas and proposals developed through the CityStudio program closer to physical reality.

## Participation (May 2023 to May 2024)

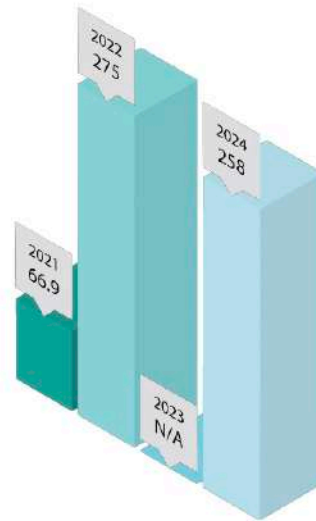
Numbers for Makerspace May 2023 to May 2024 (based on equipment signups, workshop signups & class bookings):

<b>Workshops attendance</b>	<b>- 456</b>
<b>Equipment usage/signups (Laser and 3D printers only)</b>	<b>- 918</b>
<b>Total cumulative daily visit (equipment sign-up, class bookings, workshops. Inclusive of above)</b>	<b>- 2324</b>

**NOTE:** the above records are from June 18<sup>th</sup>, 2023 to April 30, 2024. Records unavailable for May 2023 to June 17<sup>th</sup>

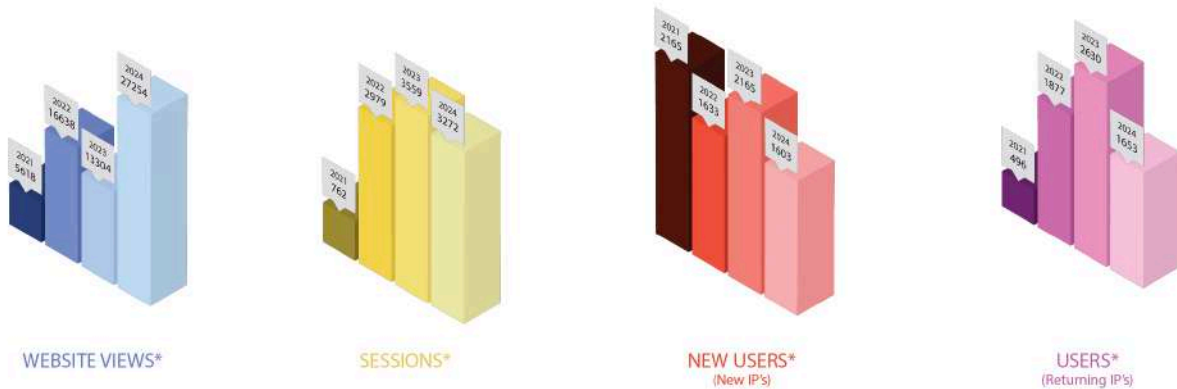


PAGE VIEWS



WATCH TIME  
(Cumulative Hours)

**YouTube Views**



\* NOTE: Due to changes to Google analytics, data was not available between February-April 2024

## Faculty Research Project

Through the ongoing relationships between the Makerspace, The Applied Research Centre, and Langara Faculty we continuing to co-build several funded, curricular, and personal research projects.

- Suzi Webster – Scanning/printing the body
  - SSHRC – Canada’s Future Ideas Lab
  - MOBILIZE (COR)
  - 3D Terrain
  - Applied Research Day
- ARC Engage (12 month)
  - up to \$250K (for two years) begun and ongoing
  - Project complete May 2024
  - Faculty research into CNC production methods (ongoing)
  - booth featuring COR research project

## Students Hired

The Makerspace continues to integrate students from across disciplines into a range of new opportunity. Multiple students have been hired to work as SWAP, WOK, and Research Assistants. The Makerspace again hired one SWAP student to assist with general operational maintenance of the Makerspace. Additionally, for the 2023-2024 Fall and Spring semesters students from Health Sciences, Fine Arts, and Business Studies have been hired as WOK students to advance applied research projects and external partnerships (COR).

## New Technology

The Makerspace continues to explore new and innovative technologies that are relatively inexpensive, capable, and user friendly. Our general aim is to expand our inter-connected range of materials/technologies and the resulting sophistication of the objects we can produce and the questions we can address.

We have recently acquired a Filafab plastic recycler. This equipment will allow us to examine the reprocessing of our 3D print plastic waste into usable 3D printable plastic filament. This equipment meshes well with our sustainability and circularity goals and it is hoped will allow us to introduce a closed-loop 3D production workflow, with waste becoming the feedstock for new usable material.

## Summary

The Makerspace continues to dynamically grow and evolve its foundation of welcoming innovation, fostering technical proficiency, and exploring the broad application of new digital resources to meaningful opportunities.

Throughout 2023-24 the Makerspace has continued to: (1) maintain broad, cross disciplinary access and inclusion, (2) foster technical and conceptual competencies through hands-on exploration (3) co-build new forms of opportunity through research and partnership, both within and external to, the institution.



NSERC Research



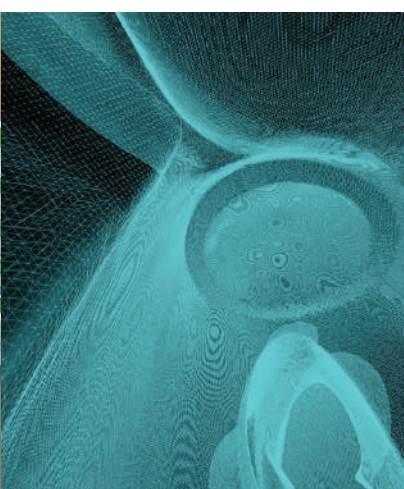
Metal Printing testing



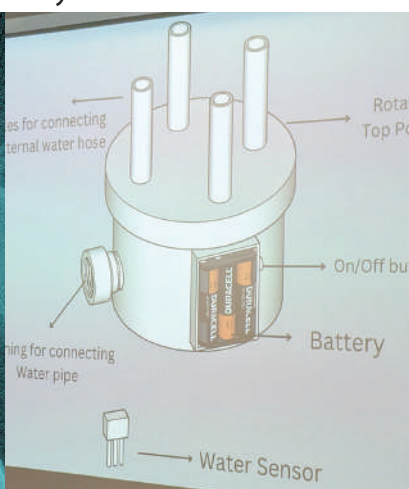
NSERC research - City of Richmond



NSERC Research - Richmond Collaboration



ARC open House



WMDD class presentations

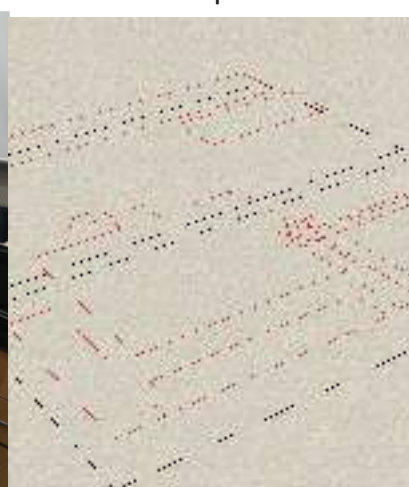


### Makerspaces & Circularity in Canada:

SSHRC Research



Research Workshops



COR Collaboration



New Technology Commissioning



Student Lead Workshops