

New submission from ARC Award Final Report

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To:Scholarly Activity <scholarlyactivity@langara.ca>

Name of Researcher

Philip Robbins

Department/Faculty

Makerspace/Fine Art

Position in Department/Faculty

Faculty/Coordinator

Project Title

The Making of Circularity - new methods and means

Term of Project

Spring 2023

Please introduce yourself – include pertinent background information relating to the topic of your research project.

I am an educator, practitioner and researcher holding a Master of Arts in Ceramics and Glass from the Royal College of Art (London), a Bachelor of Education from The University of British Columbia, and a Diploma in Fine Art (Honors) from The Emily Carr Institute.

My research interests examine the place of digital media within the practical, hands-on and ethical/sustainable opportunities of Maker culture and their relationships to circular economies. Previously, I co-founded Material Matters, a research centre within Emily Carr University exploring the implications of emergent modes of fabrication and the intersection of the handmade and the digitally crafted.

Please discuss your educational background and your work experience that led you to taking on this research project. If possible, include a quote that helps define your interest in this project.

As an Artist/Designer/Maker I have long had an interest in materials, processes and ethical outcomes. Having worked across multiple creative industries and having conducted applied research through various institutions, the flexibility of Langara's Makerspace, coupled to its broad technological capabilities, is a refreshing place to let ideas run.

Please summarize your project in plain language that others not in your field could understand.

This research was divided into two streams with one exploring waste textile up-cycling utilizing the Makerspace Feltloom as a means to generate bespoke yard goods from urban waste. The other stream explored the digitization (scanning) of fine art objects, their digital manipulation, and their subsequent reproduction as high resolution 3D printed objects.

Identify the project goals and objectives. Explain how the results may be used to solve a problem or inform further research in the field.

These two projects were intended as proof-of-concept research that would help build a research partnership with local civic partners (Textiles- City of Richmond circularity strategy, Scan-Print - Museum of Vancouver disability activism exhibition).

With our initial textile research we proved that waste denim can be up-cycled into high value/high durability textiles

with a simple, scalable and accessible process suitable for a wide range of applications.

With our scanning and printing research we demonstrated that unique, delicate, high value objects can be scanned with high levels of precision, they can be readily manipulated digitally, and 3D objects of various scales and multiple sizes can be reliably produced economically .

Briefly explain the steps taken (methods used) to conduct the research, and describe the key findings.

Waste textiles donated from a local reseller were hand and laser cut into various patterns, these subsequent shapes were then laid up by hand and processed through Langara's felt loom into durable, unique, value added textiles.

Based on the ceramic work of Justin Novak (Illustration and Ceramic Faculty at Emily Carr University) various 3D ceramic figurines were scanned utilizing Langara's "Space Spider" 3D scanner. The resulting 3D files were edited on Blender- open source 3D software - and output with plant based resin on Langara's "anycubic" 3D printers.

Who was involved in this project (eg. faculty, students, community partners)? How did their involvement contribute to the project's success? Were there any challenges to overcome?

This research brought together various community partners, faculty from different institutions and students from across disciplines at Langara. These various skill sets and perspectives worked together in the hands-on problem solving of multiple open ended questions. There was a great deal of collaboration within both stream of this research with objectives and discoveries shared across the teams.

Please share any personal stories that made this research experience memorable/valuable.

Moving ideas and innovations creatively from the theoretical to the practical is always a fulfilling journey and connecting personal interest to larger community facing issues is tangibly fulfilling and rewarding.

What are the next steps for this project and for you as a researcher?

Currently we are in active discussions to build upon the multiple threads of discovery within our initial proof-of-concept work. We are creating larger funded collaborations with both the City of Richmond and the Museum of Vancouver.

Look under Research=>Philip Robbins within

<https://iweb.langara.ca/makerspace/arc-scanning-print/#>

for images

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By submitting, I consent to uploading my ARC Fund final report to the Langara Institutional Repository (The LalR).