

CWSF 2016 - Montreal, Quebec



Helen Newton

From Plastic to Plants: An Open Source Approach to 3D Bioprinting

Challenge: Innovation

Category: Intermediate

Region: Cariboo Mainline

City: Barriere, BC

School: South Central Interior Distance Ed.

Abstract: Canadian's are dying waiting for life-saving organ transplants. Private companies are pursuing 3D printed organs for transplant. Plant cells behave similarly to human cells. By experimenting with accessible and affordable plant cells, transferable techniques can be developed for human applications. This project develops a low-cost 3D printer capable of printing plant cells that anyone can build, extending open source innovation in this exciting field.

Biography

My name is Helen Newton and I am a grade 10 student enrolled in distance education at SCIDES. I enjoy running, backpacking and cross country skiing. I play flute, and I spend a lot of time at my local makerspace working on various projects. My interest in this project began at Vancouver Mini Maker Faire 2015, when I was talking to another maker about medical bioprinting and all the life-saving applications it has. I would like to do more research on the biology side of this project, and meet my goal of printing plant cells. In addition to that, I would like to figure out how to keep the cells viable once in printed form. My advice to students pursuing a project would be to not let lack of research in an area that interests you, stop you from pursuing a project in that area.

Awards

Value

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| Excellence Award - Intermediate - Bronze Medal Sponsor: Youth Science Canada | |
| Western University Scholarship Bronze Medallist - \$1000 Entrance Scholarship Sponsor: Western University | \$1 000 |
| Total | \$1 000 |