

## Scientific/Educational Workshop

### Workshop title

**Integrating 3D-printed Assistive Technology into Occupational Therapy with Makers Making Change**

### Workshop organizer

Stewart Russell (Makers Making Change)

### Speakers

Stewart Russell,  
Aaron Yurkewich

### Workshop goals

The goals of this workshop are:

Familiarize attendees with 3D printing technology and its capabilities;

Gain understanding of how 3D-printed assistive technology devices can be customized;

Assess existing 3D-printed assistive technology with regard to their own occupational therapy practice;

Discuss and develop the outline of a client-centred strategy for development and use of these technologies; and

Introduce attendees to the work of Makers Making Change and encourage continued participation in the project.

### Abstract

3D Printing has evolved into a useful modality for occupational therapists to provide custom assistive technology that meets the specific needs of their clients. Occupational therapists can find these designs through open-source communities to find the optimal solution for their client, learn to customize the design on the open-source platform before printing and provide feedback to the designers to improve its usefulness and reliability. The designers of these 3D printable solutions are often driven by close personal ties and a deep understanding of the intended user's level of function and daily activities, which adds to occupational therapists' confidence that the design will fit into similar clients' lifestyles. With the advent of tough and flexible materials and methods for embedding electronics into them, the prevalence and usefulness of 3D printing in occupational therapy will continue to rise. Makers Making Change, a member of the Neil Squire Society, facilitates these interactions between designers, occupational therapists and intended users of assistive technology to initiate the development of improved technologies that meet the changing needs of people with disabilities. In this workshop, which has been piloted through the University of Toronto Occupational therapy program, attendees will learn of how 3D printed assistive technology can be incorporated into the occupational therapy practice and how Makers Making Change facilitates the design, creation and access to assistive technology through a 20 minute presentation. This will be followed by a hands-on demonstration where attendees will customize and print assistive technologies and assess how well these technologies work with invited guests affected by brain injury. Attendees will then participate in round table discussions rooted in client personas to create a strategy for enhancing the development and integration of 3D printed assistive technologies for mental and physical applications into occupational therapy.