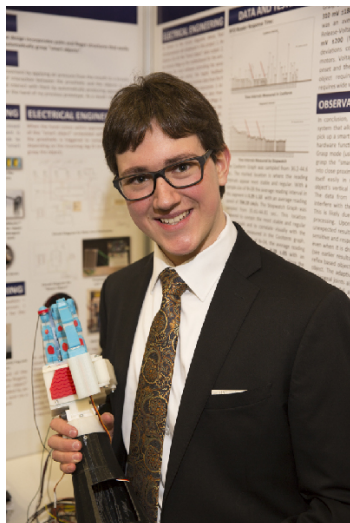


# CWSF 2016 - Montreal, Quebec



## Marin Schultz

### Smart Prosthetic-Smart Object: A New Approach to Interactive Control and Design

**Challenge:** Innovation

**Category:** Intermediate

**Region:** Lethbridge

**City:** Lethbridge, AB

**School:**

**Abstract:** I built a prosthetic arm using 3D printed parts and off the shelf sensors and electronics. My innovative design incorporates palm and finger structures that easily adapt to the objects they grasp and proposes a novel control method which allows the prosthetic to automatically grasp "smart objects".

#### Biography

Hi, my name is Marin Schultz. I love building robotics, and computer programming. Ever since I realized first-hand that my inventions can have a real world impact and help people, I have been inspired to build prosthetics in particular. I have won several national and international awards for my inventions including The Next Einstein Competition, previous CWSFs, and I am now one of the top 5 finalists for the Weston Youth Innovation Award. When I'm not inventing, my favourite thing to do is reading, especially philosophy, history and poetry. My interest in advanced prosthetic design stems from my desire to help a one-handed friend from Lethbridge who visited my 2012 science fair project involving EEG sensors and robotics. When he was able to close my prototype hand using only his mind, he became very excited and said to his father "Dad, I can close the hand!" It has become my passion to develop my biomedical inventions, and find new ways to advance them. I hope to inspire other students to learn, and to be excited and passionate about helping others through science.

#### Awards

#### Value

Excellence Award - Intermediate - Silver Medal Sponsor: Youth Science Canada	
Western University Scholarship Silver Medallist - \$2000 Entrance Scholarship Sponsor: Western University	\$2 000
Total	\$2 000