

# CWSF 2016 - Montreal, Quebec



## Nattan Telmer

### Thermo-electric generators to charge electronic devices in the wilderness

**Challenge:** Innovation

**Category:** Junior

**Region:** Vancouver Island

**City:** Victoria, BC

**School:** Arbutus Middle School

**Abstract:** A device was designed to use thermal electric generators (TEGs) to exploit the temperature difference between natural waters and ambient air to charge batteries in the wilderness. It was tested under three climatic conditions, subtropical, temperate, and nordic. It performed best in summertime nordic conditions but can be further designed and upscaled to output significant power in most natural environments.

#### Biography

My name is Nattan Telmer, I am a grade eight student at Arbutus Global Middle School in Victoria, BC. I speak English, French, and Portuguese. I speak Portuguese because part of my family is from Brazil where I was born. I go there every year and live in a rural fisherman's village on the north eastern coast where there are beaches and coral reefs and manatees. I play competitive soccer, racket sports, ski in BC's amazing mountains, sail with the racing team in Victoria, and of course surf and skim board in Brazil's warm waters. Brazil is where I first learned to love the outdoors and sports and where I became incredibly curious about nature and science, including about how to generate electricity because the power there often fails. I have won several awards in different competitions including in music and creative endeavors in and outside of school. I have participated in science and math fairs since grade four. I was very happy to win first overall in the science fair this year and love the topic of electricity.

#### Awards

#### Value

Challenge Award - Innovation - Junior Sponsor: Youth Science Canada	
Excellence Award - Junior - Gold Medal Sponsor: Youth Science Canada	\$250
Western University Scholarship Gold Medallist - \$4000 Entrance Scholarship Sponsor: Western University	\$4 000
<b>Total</b>	<b>\$4 250</b>