

## CWSF 2013 - Lethbridge, Alberta



### Nicole Ticea

#### Rain, Rain, Go Away: The Piezoelectric Roof Tile

**Challenge:** Energy

**Category:** Intermediate

**Region:** Greater Vancouver

**City:** Burnaby, BC

**School:** York House School

**Abstract:** The scope of this project is to introduce a fully functioning piezoelectric roof tile which, when compressed by the kinetic energy of rain, produces electricity. Both hypothetical and real-world examples are analyzed to determine that were a city the size of London, with 103.3 square miles of unused roof-space, outfitted with this kind of technology, 1,353.04 megawatts of power could be produced each month.

#### Biography

It is exceptionally difficult to pinpoint the exact moment when I fell in love with science. Were I to pick one, it would have to be the moment I successfully took a handful of beans I found on the ground and sustained them for months on end using only the bottom of a plastic container and scavenged, water-logged paper towels. Like the bean sprouts, my love for science flourished; however, fortunately for us, this is where the metaphor ends, as the beans had quickly moved to wither and waste away as I reached the end of the third grade school year. I, instead, continued on to nourish my budding scientific curiosity, going on to complete three science fair projects over the span of four years. I currently attend York House School in Vancouver, BC, where I pursue my love for science and writing as well as my musical interests. I am also a devoted swimmer and runner, competing in meets throughout the year both inside and outside of school. I am tremendously excited to be attending my very first National-level fair this year, as it promises to be a week of spirited competition and fun.

#### Awards

#### Value

Renewable Energy Award - Intermediate Sponsor: Ontario Power Generation	\$750
Excellence Award - Intermediate - Silver Medal Sponsor: Youth Science Canada	\$300
Western University Scholarship Silver Medallist - \$2000 Entrance Scholarship Sponsor: Western University	\$2 000
<b>Total</b>	<b>\$3 050</b>