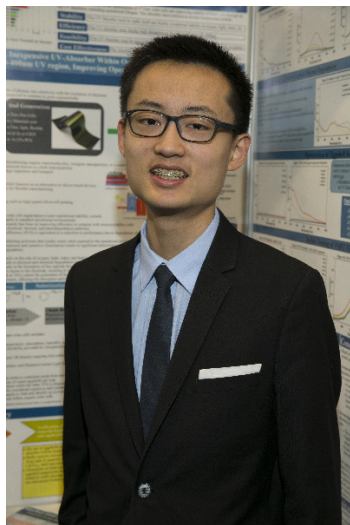


# CWSF 2017 - Regina, Saskatchewan



## Tim Wu

### Exploring the Novel Use of Eggshells to Address Organic Solar Cell Instability

**Challenge:** Energy

**Category:** Senior

**Region:** Calgary Youth

**City:** Calgary, AB

**School:** Sir Winston Churchill High School

**Abstract:** While the common societal perception of solar cells is focused on monocrystalline silicon solar cells, organic solar cells provides benefits such as low manufacturing/processing costs and molecular tunability. However, instability of organic polymers is vastly understudied and has yet to be fully addressed. Unprocessed waste eggshells were explored as a cheap, environmentally friendly, abundant alternative to orthodox methods of addressing the prevalent issue of photo-degradation.

#### Biography

Hi! My name is Tim Wu, a grade 11 student attending Sir Winston Churchill High School in Calgary Alberta. I've always had an enormous interest in biology and chemistry. The use of solar cells is becoming increasingly prevalent and I decided to investigate existing flaws within new and old photovoltaics. I love to play sports in my spare time, including badminton and swimming. I'm the president of our school's Chemistry Club and have been heavily involved in debate and model united nations, having competed internationally for both; in fact, I was just at the Harvard World Schools Invitational Debate Tournament over spring break! Alongside these efforts, I'm the co-founder of a non-profit, student run initiative in Calgary that connects high school students with the opportunity of working in a university-level laboratory. This will be my first time attending CWSF, and I'm incredibly excited to finally participate! In the future, I hope to either foray into the world of organic chemistry or continue the development of 3rd generation solar cells. My advice to others would be to follow your ambitions and never give up; you'll be surprised by how much you can learn. Incredibly excited for this year's fair!

#### Awards

#### Value

Youth Can Innovate Awards - Senior Sponsor: The Gwyn Morgan and Patricia Trottier Foundation	\$1 000
Youth Can Innovate Awards - Senior Sponsor: The Gwyn Morgan and Patricia Trottier Foundation	\$7 000
Excellence Award - Senior - Silver Medal Sponsor: Youth Science Canada	
Dalhousie University Faculty of Science Entrance Scholarship Senior Silver Medallist - \$2500 Entrance Scholarship Sponsor: Dalhousie University, Faculty of Science	\$2 500
UBC Science (Vancouver) Entrance Award Senior Silver Medallist - \$2000 Entrance Scholarship Sponsor: The University of British Columbia (Vancouver)	\$2 000
University of Ottawa Entrance Scholarship Senior Silver Medallist - \$2000 Entrance Scholarship Sponsor: University of Ottawa	\$2 000
Western University Scholarship Silver Medallist - \$2000 Entrance Scholarship Sponsor: Western University	\$2 000
<b>Total</b>	<b>\$16 500</b>