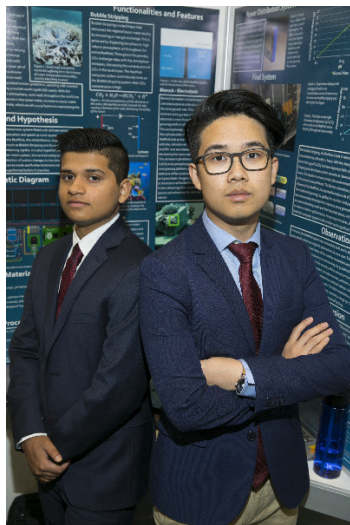


# CWSF 2017 - Regina, Saskatchewan



## Derek Yin, Himanshu Sharma

### ReefHub: A Novel Autonomous Coral Reef Conservation System

**Challenge:** Innovation

**Category:** Senior

**Region:** Manitoba Schools Science Symposium

**City:** Winnipeg, MB

**School:** Fort Richmond Collegiate

**Abstract:** ReefHub is an coral-nursery system with various different sensors and devices that increase the growth rate and improves the health of corals with the use of multiple novel methods such as Bubble Stripping and Biorock-Electrolysis. With the use of computer vision algorithms, the ReefHub is also able to provide a monitoring platform for corals autonomously by sending data collected from the ReefHub to a web-application.

#### Biographies

Derek - Derek is a Grade 12 student at Fort Richmond Collegiate who is passionate in STEM and innovation. From the smartphone garage door opener to his coral reef restoration system, he has won numerous national and provincial science awards; attending his third consecutive CWSF. When he isn't working on his next invention, he's an avid lead programmer of Vorpix Studios, a software studio he co-created with 10+ members that has received over 20 thousand downloads and \$3000+ of revenue across their apps and products since their creation in 2015. He is always looking for new ideas to turn into software. Alongside his science fair achievements, Derek ...

Himanshu - My name is Himanshu Sharma, I am 16 years old and was born in India and currently going to school at Fort Richmond collegiate in Winnipeg, Manitoba. During my early childhood I was an average kid. This was changed when I saw a computer at a friend's house. My uncle worked with computers so he was able to get me one, I was very excited to have a computer in our house and it was rare to have one. I was fascinated by it, and that computer was the reason I am passionate about technology to this day. Later on when I turned 10 my family moved to Canada. Here I started using the web to answer any questions I have ever had, I started to learn more ...

#### Awards

#### Value

Excellence Award - Senior - Bronze Medal Sponsor: Youth Science Canada	
University of Ottawa Entrance Scholarship Senior Bronze Medallist - \$1000 Entrance Scholarship Sponsor: University of Ottawa	\$1 000
Western University Scholarship Bronze Medallist - \$1000 Entrance Scholarship Sponsor: Western University	\$1 000
<b>Total</b>	<b>\$2 000</b>