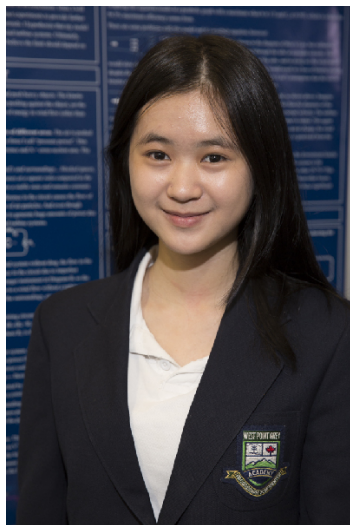


CWSF 2016 - Montreal, Quebec



Chloe Chen

Disproving and Rederiving Betz's Law Through Theoretical and Experimental Method

Challenge: Discovery

Category: Intermediate

Region: Greater Vancouver

City: Vancouver, BC

School: West Point Grey Academy

Abstract: Betz Law is one of the most popular models regarding wind power; however, after studying it's derivation, I found that some of its assumptions are illogical. My goal was first to show that Betz Law is incomplete, then to derive a more realistic formula for describing wind flow. Finally, I used experiments to disprove Betz's predictions and to confirm the assumptions of my own theory.

Biography

My name is Chloe Chen, and I'm in grade 9 at West Point Grey Academy. This is my second year at CWSF, and I'm super excited. I've always had a passion for computer sciences and electrical engineering, though I enjoy looking into other areas of science as well (I've recently been studying astronomy, which is really cool). I'm in my school's robotics team, DI team, debate team, choir, and orchestra. I also dance and play piano & violin. In my spare time, I enjoy painting, singing, dancing-- basically whatever pops into mind. And yes, I adore doing science as well...I'll often spend hours and hours on my computer digging into whatever science topics that interest me at the moment, formulating my own theories that almost always get proven wrong at the next paper I read :). I haven't really decided on what I want to be when I'm older, but I'm sure it will be somewhere along the lines of science or engineering.

Awards

Value

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