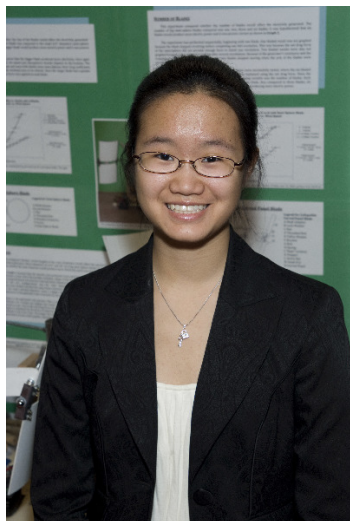


# CWSF 2008 - Ottawa, Ontario



## Jessica Ngai

### Drag or Not to Drag: A New VAWT Design

**Division:** Health Sciences / Environmental Innovation

**Category:** Senior

**Region:** Toronto

**City:** Toronto, ON

**School:** Marc Garneau Collegiate

**Abstract:** The objective of this project was to maximize the net drag force of a newly designed vertical axis wind turbine (collapsible curved panel) while testing properties of the blade: the number of blades, size, rotor diameter and shape. The home-designed collapsible curved panel blade proved to be the most effective.

#### Biography

My name is Jessica Ngai. I am currently in grade 11 at Marc Garneau Collegiate Institute. My favourite subjects are Science and Math. In 2006, I was given the opportunity to compete in the CWSF in Saguenay, Quebec. This year, in the Toronto Sci-Tech Fair 2008, I received a gold medal and the Ottawa Admission Scholarship Award. I have performed well in many math competitions hosted by the University of Waterloo and University of Toronto. As well, I have a strong interest in music. I have been playing the French horn for the past three years, in the school's concert band as well as in concerts in Toronto. Furthermore, I am working towards completing Grade 10 RCM Practical Examination for piano. At school I am secretary of Math Club, co-vice-president of choir, a member of book club and biology club. I also volunteer at the school library and have volunteered at summer camps. I tutor a Grade 6 and Grade 10 student in math. I enjoy sports, my favourites are field hockey, ultimate Frisbee and judo. This summer, I will be attending Shad Valley, a program that focuses on Science and Entrepreneurship, at Carleton University.

#### Awards

#### Value

Renewable Energy Award - Senior Sponsor: Ontario Power Generation	\$1 000
The University of Western Ontario Scholarship Bronze Medallist - \$1000 Entrance Scholarship Sponsor: University of Western Ontario	\$1 000
University of Ottawa Entrance Scholarship Senior Bronze Medallist - \$1000 Entrance Scholarship Sponsor: University of Ottawa	\$1 000
Honourable Mention - Environmental Innovation - Senior Sponsor: EnviroExpo, Presented by VIA Rail Canada	\$100
Bronze Medal - Engineering - Senior Sponsor: Youth Science Foundation Canada	\$300
<b>Total</b>	<b>\$3 400</b>