

# CWSF 2011 - Toronto, Ontario



## Patrick Chong

### Light Amplification to Improving Solar Cell Efficiency

**Challenge:** Energy

**Category:** Junior

**Region:** Bay Area

**City:** Dundas, ON

**School:** Canadian Martyrs E.S.

**Abstract:** I investigated the properties of a Fresnel lens to funnel and concentrate light and explore how that might work with a solar cell to improve the current output. The Fresnel lens was at base lengths of 12cm to 8cm from heights of 10cm to 50cm with the light 60cm and 200cm from the solar cell. Apparatus, the Light Funnel and the Lens Adjustor allowed this.

#### Biography

My name is Patrick Chong. I am currently attending Canadian Martyrs' Catholic Elementary School, where I am a gr.8 student. I am President of the student council and I am involved in many different sports and activities including; football, soccer, volleyball, basketball, cross-country, track and field and intramural soccer. A couple of my interests are sports, socializing, gym and math. Some of my outside sports are hockey, soccer, badminton, caddying, golf and skiing. I have also participated in my HWCDSB science fair where I received a gold medal. I also won a gold medal at the BASEF science fair as well as Best in Division Junior Level Engineering & Computing Science Award along with a \$500 scholarship to Mohawk College and \$1350 in cash awards from Canadian Nuclear Society (\$75), Hydro One Energy Ambassador Award (\$100), Gold Medal (\$125), Primary Fluid Systems Engineering Award (\$250), Professional Engineers of Ontario (\$250), SPIE Optics & Photonics Science Fair A Award (\$250) and Horizon Utilities Corporation Award (\$300). This is my second year at CWSF where I also won a gold medal (\$1500) in the Best Engineering Science Project. I hope to go in Engineering at the University of Waterloo with my brothers.

#### Awards

#### Value

Excellence Award - Junior - Silver Medal Sponsor: Youth Science Canada	\$700
The University of Western Ontario Scholarship Silver Medallist - \$2000 Entrance Scholarship Sponsor: University of Western Ontario	\$2 000
<b>Total</b>	<b>\$2 700</b>