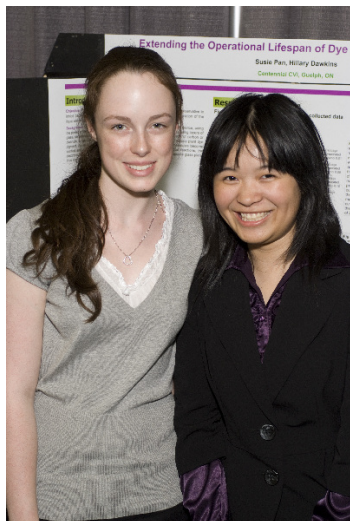


# CWSF 2009 - Winnipeg, Manitoba



## Susie Pan, Hillary Dawkins

### Extending the Operational Lifespan of Dye Sensitized Solar Cells

**Division:** Health Sciences / Environmental Innovation

**Category:** Senior

**Region:** Waterloo-Wellington

**City:** Guelph, ON

**School:** Centennial Collegiate & Vocational Institute

**Abstract:** Possible methods to prolong the operational lifespan of dye sensitized solar cells were investigated. Benzoic acid was used to inhibit bacterial growth on the natural plant dye, and sealing agents were used to prevent the evaporation of liquid electrolyte. Benzoic acid was found to have a positive effect on red cabbage dye, depending on several factors. All tested sealing agents proved to extend the lifespan.

### Biographies

Susie - My name is Susie Pan, and I am a grade 11 student at Centennial CVI. This is my first year doing science fair and I loved the whole experience. I am heavily involved in school and community, where I am part of Prefects, Mentors, OSAID, DECA, and Chemistry Club. For DECA, I won first in Ontario and Top 20 at Internationals. This year, I am one of the six Provincial Officers for DECA Ontario. I am also an executive on Guelph Youth Council (Director of Communications), greatly involved in any planning, promotion and execution of events. Furthermore, I am the Vice President of Finance for Junior Achievement, a program designed to enhance youth en...

Hillary - My name is Hillary Dawkins, and I am a grade 11 student at Centennial CVI. My partner, Susie Pan, and I competed at the Waterloo-Wellington science fair and won a gold medal, best of senior engineering, and award of merit. We then competed at the Sanofi-Aventis biotalent challenge and won third place. Last year both of us worked on an ExploraVision project that received an honourable mention, placing in the top 10% in Canada. I also wrote the Michael C. Smith science contest last year and placed in the top 10% in Canada. My interests include science, English literature, art and art history, and French. Last year I received an outstanding prof...

### Awards

### Value

The Manning Innovation Achievement Award Sponsor: Ernest C. Manning Awards Foundation	\$500
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 - Engineering - Senior Sponsor: Youth Science Canada	\$100
Bronze Medal - Environmental Innovation - Senior Sponsor: EnviroExpo, Presented by VIA Rail Canada	\$300
<b>Total</b>	<b>\$2 900</b>