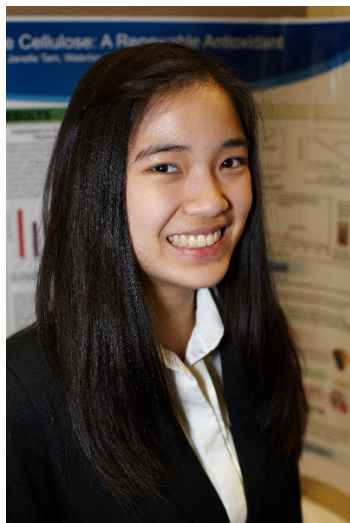


# CWSF 2012 - Charlottetown, Prince Edward Island



## Janelle Tam

### Nanocrystalline Cellulose: A Renewable Antioxidant

**Challenge:** Resources

**Category:** Senior

**Region:** Waterloo-Wellington

**City:** Waterloo, ON

**School:** Waterloo Collegiate Institute

**Abstract:** Nanocrystalline cellulose was discovered to be an efficient antioxidant. NCC surface-grafted with fullerenes was better. Both were superior to synthetic materials. The role of microstructure in free radical scavenging reactions was also elucidated. These new findings open up vast possibilities for this green resource, which will reduce our dependence on conventional carbon sources and help to address the environmental and energy problems facing our world.

#### Biography

I am a Grade 12 student in the Advanced Placement program at Waterloo Collegiate Institute. My dream is to be a professor in the field of medicine as it will allow me to combine research with hands-on clinical work, all in the name of bettering human lives! I have interests in many different areas: I love badminton and play mixed doubles on my school's senior team; I completed my Grade 10 piano exam last year and teach piano for a job; I thoroughly enjoy songwriting and singing for church; and I debate competitively! :D I love being around people and am heavily involved in school, be it as a peer tutor or president of the debate team. Above all, I thank God for all the blessings He has bestowed on me and give all the glory to him. To succeed in science, one has to be willing to fail, and still persevere on. For that to be true, one has to absolutely love what she are doing. However, despite the dedication and sacrifice research requires, the rewards are simply amazing!

#### Awards

#### Value

Excellence Award - Senior - Silver Medal Sponsor: Youth Science Canada	\$700
Dalhousie University Faculty of Science Entrance Scholarship Senior Silver Medallist - \$2500 Entrance Scholarship Sponsor: Dalhousie University, Faculty of Science	\$2 500
UBC Science (Vancouver) Entrance Award Senior Silver Medallist - \$2000 Entrance Scholarship Sponsor: The University of British Columbia (Vancouver)	\$2 000
University of Ottawa Entrance Scholarship Senior Silver Medallist - \$2000 Entrance Scholarship Sponsor: University of Ottawa	\$2 000
Western University Scholarship Silver Medallist - \$2000 Entrance Scholarship Sponsor: Western University	\$2 000
<b>Total</b>	<b>\$9 200</b>