

CWSF 2014 - Windsor, Ontario



Callum Mitchell

The PipeLime: a Novel Solution to CO2 Emissions from Cars

Challenge: Innovation

Category: Senior

Region: Northwestern Ontario

City: Thunder Bay, ON

School: Sir Winston Churchill C.V.I.

Abstract: This project focuses on developing a new vehicle part or exhaust attachment to convert carbon dioxide from vehicle emissions into environmentally-friendly substances before it enters the atmosphere using a chemical reaction with Calcium Hydroxide ("hydrated lime"). This reaction was found to be effective. The main design goal is to allow the user to add their own reactants while ensuring that residual products are easily removed.

Biography

I'm a grade 11 student at Sir Winston Churchill High School in Thunder Bay, Ontario. I am in the IB (International Baccalaureate) programme and am working towards acquiring the full diploma. I love music, and have taken up musical performance as a hobby. I perform regularly in my school band and as a solo pianist. Someday, I hope to perform or compose music as a part-time or full-time job. After high school, I plan to attend the University of Waterloo and get a degree in Systems Design Engineering, and perhaps start my own company one day. I am also into game development, and have started up a game design club at my school. I love math and enjoy taking part in regular math competitions. Currently, I am partaking in the Caribou Cup: a series of online math contests, of which I have written four and gotten first in my age group on two of them. Some of my other recent achievements include winning first place in the 2013 Lakehead Math Contest, getting the highest mark in Ontario on my grade 6 Conservatory Canada piano exam, and winning a bronze medal at the 2013 Canada-Wide Science Fair.

Awards

Value

Excellence Award - Senior - Bronze Medal Sponsor: Nuclear Waste Management Organization	\$100
University of Ottawa Entrance Scholarship Senior Bronze Medallist - \$1000 Entrance Scholarship Sponsor: University of Ottawa	\$1 000
Western University Scholarship Bronze Medallist - \$1000 Entrance Scholarship Sponsor: Western University	\$1 000
Total	\$2 100