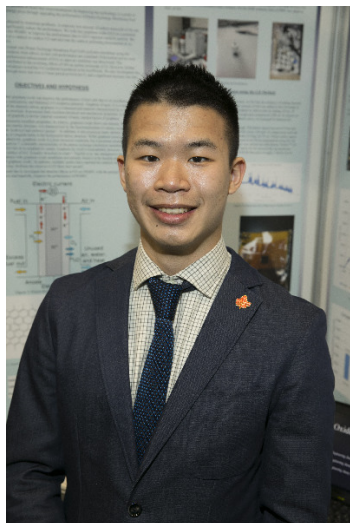


CWSF 2017 - Regina, Saskatchewan



Bill Chen

Graphene Oxide Enhanced Proton Exchange Membrane Fuel Cell

Challenge: Energy

Category: Senior

Region: Greater Vancouver

City: Vancouver, BC

School: Prince of Wales Secondary

Abstract: Graphene oxide (GO) thin films were coated onto Proton Exchange Membrane Fuel Cell's polymer membrane using LB Method in hopes of improving fuel cell performance. Polarization curves were collected and a maximum performance enhancement of 81% in open-air condition was discovered. The improvement was attributed to the co-catalyzing effects of GO. An increase in fuel cell durability was also discovered.

Biography

A senior at the Prince of Wales Secondary School, I am elated but also a bit sad to have my first but also my last CWSF this year; but I am sure of one thing: I will continue to involve myself in science as I had done in my years at high school: I will continue to propagate existing knowledge the same way as I founded my computer science club; I will continue to search for new knowledge with researches similar to the one I had done this summer at SBU for my CWSF project; and I will continue to enjoy myself as I marry solutions from completely unrelated fields to solve demanding problems. Exist in a suffocating world where carbon dioxide approaches its highest value in 650,000 years. Energy consumption is lavish. However, with novel materials, I aspire to make greener energy more available, not less. I built my first bridge with this CWSF project and I plan to do the same for the years to come; I will be going to Columbia Engineering this fall and I can't wait to become an innovator who not only searches for truths, but apply them to the real world.

Awards

Value

Excellence Award - Senior - Silver Medal Sponsor: Youth Science Canada	
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
Total	\$8 500