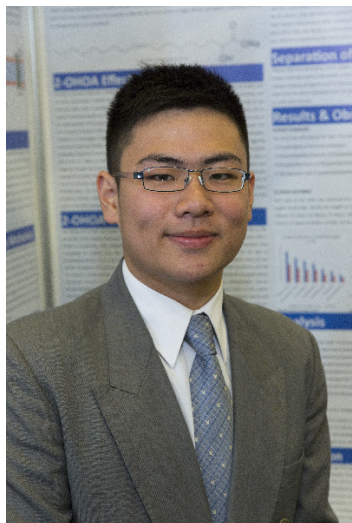


## CWSF 2018 - Ottawa, Ontario



### Austin Wu

#### A Novel Approach to Combat Cancer by Altering Sphingomyelin Content in Cells

**Challenge:** Health

**Category:** Senior

**Region:** York

**City:** Markham, ON

**School:** Richmond Hill H.S.

**Abstract:** This project explores a novel method to combat cancer is using (Z)-2-hydroxyoctadec-9-enoic acid which specifically targets the cellular membrane. This chemical enables the synthesis of sphingomyelin which has properties capable of halting the cell cycle and inducing apoptosis. This method, however, requires increased levels of phosphatidylcholine to synthesize sphingomyelin. Fortunately, with thin-layer chromatography, phosphatidylcholine can be isolated from egg yolks.

#### Biography

Austin is currently a Grade 11 student in Richmond Hill High School, in Richmond Hill, Ontario. Austin has a great passion for science and has been interested in the scientific field since he was a child. Austin has a keen interest in biotechnology, having previously worked on projects ranging from developing methods to accelerate the growth of plants to prosthetic arms. Austin's goal is to help humanity as much as he can, in every way possible. Apart from science, Austin enjoys drawing/CAD design, participating in marksmanship and winter biathlon, playing piano, and composing music. Austin strives to apply his unique view on difficult challenges and hopes to improve the quality of life for all humans.

#### Awards

#### Value

Excellence Award - Senior - Bronze Medal Sponsor: Youth Science Canada	
Carleton University Entrance Award Senior Bronze Medallist - \$1,000 Entrance Award Sponsor: Carleton University	\$1 000
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	\$3 000