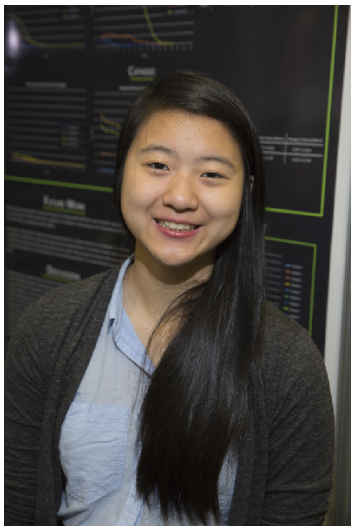
CWSF 2016 - Montreal, Quebec



Olivia Li

Creating Electrotrophs to Find Changes that Impact Extracellular Electron Uptake

Challenge: Energy
Category: Intermediate
Region: Greater Vancouver
City: Surrey, BC
School: Earl Marriott Secondary

Abstract: Electrotrophs are bacteria capable of increasing production of metabolic byproducts while remediating the environment when electricity is run through them. Unfortunately, efficiencies are low and few bacteria are able to do this. Bacteria was turned into electrotrophs to identify changes that influence electron uptake to understand these mechanisms. These insights will allow valuable chemical producing bacteria to be turned into electrotrophs for mass chemical production.

Biography

Olivia is a grade 10 student currently enrolled at Earl Marriott Secondary. She has a deep passion for science, the athletics and music. Olivia has been playing piano for 10 years and guitar for 5 years. In her spare time, she enjoys composing for the piano and has received honours at the international level, including being invited to perform her creation in Vienna, Austria. Additionally, she is on both jazz and concert bands as a percussionist, trumpeter, pianist, and guitarist. Olivia plays on numerous sports teams including volleyball, soccer, cross-country, and ultimate frisbee. Out of all the sports she plays, she has a special love for ultimate; playing in summer leagues as well as being founder and co-captain of her own school's ultimate team. Olivia currently is delving deep into the field of bioelectrochemistry. She believes that identifying the genes that allow bacteria to intake electrons will revolutionize the way we produce and use energy. Moreover, she trusts that bioelectrochemical systems are an innovative solution to our energy crisis as well as a solution to cleaning up the environment. Olivia is considering to pursue computer science or physics in university.

Awards	Value
Excellence Award - Intermediate - Silver Medal Sponsor: Youth Science Canada	
Challenge Award - Energy - Intermediate Sponsor: Youth Science Canada	
Western University Scholarship Silver Medallist - $2000 Entrance Scholarship Sponsor: Western University	$2 000
Total	$2 000