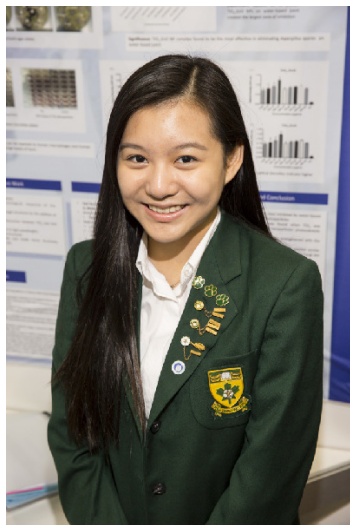


CWSF 2015 - Fredericton, New Brunswick



Ariana Auyeung

The Implementation of Nanoparticles to Eliminate Aspergillus Fungi

Challenge: Innovation

Category: Senior

Region: Greater Vancouver

City: Vancouver, BC

School: York House School

Abstract: *Aspergillus fumigatus* and *Aspergillus flavus* are two common fungi that emit mycotoxins - toxic compounds to vertebrates and animals. The toxins cause human infections, induce cancer, and food spoilage. A novel solution of titanium dioxide nanoparticles combined with zinc oxide nanoparticles was created to significantly decrease the amount of *Aspergillus* spores. This solution significantly reduces the incidence of *Aspergillus*-related diseases in the community.

Biography

Hello! My name is Ariana and I am a grade 11 student at York House School in Vancouver, BC. I absolutely LOVE chemistry, biology, and sharing my passion for science by leading science organizations for youth across BC. When I am not at the lab running my experiments, I can be found fervently studying for exams, volunteering for different charitable organizations, playing music, and playing sports. I especially enjoy volunteering with Free the Children, which I began to work with since grade 7. My volunteer group has raised money to build a school, provide free healthcare, and build a water well for a village in Kenya. In music, I have completed my ARCT exam in piano and I have a newfound enthusiasm for the cajon. I also play badminton and ultimate. Before deciding to focus on my science fair endeavours, I had badminton training for a minimum of 15 hours every week - competing in provincial and national tournaments. These experiences have greatly shaped who I am. I am extremely excited to explore CWSF this year, to share my project that uses nanoparticles to eliminate human pathogenic fungi, and to meet young, like-minded scientists.

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 New Brunswick Canada-Wide Science Fair Scholarship Silver Medallist - \$2500 Entrance Scholarship Sponsor: University of New Brunswick	\$2 500
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	\$11 000