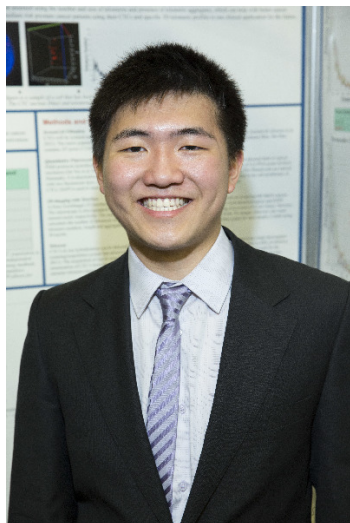


CWSF 2014 - Windsor, Ontario



Michael Xu

Quantitative Analysis of Circulating Tumor Cells in Prostate Cancer Patients

Challenge: Health

Category: Senior

Region: Manitoba Schools Science Symposium

City: Winnipeg, MB

School: St. John's Ravenscourt School

Abstract: This project isolates circulating tumor cells (CTCs) using a size-based filter device; the captured CTCs undergo three-dimensional (3D) nuclear telomere imaging and automated scanning (Teloscan). Using the quantitative analysis of 3D telomeric signatures of CTCs, it is possible to characterize intermediate risk prostate cancer, identify patient subgroups, and improve individualized treatment in the clinics for prostate cancer patients.

Biography

As a grade 12 high school student from Manitoba, I've always had an interest in sports, music and science. Science particularly intrigued me with its practical applications to improve human health. At CancerCare Manitoba, I had the opportunity to be involved with prostate cancer research. My project uses circulating tumour cells as a biomarker in order to help identify steps of prostate cancer disease progression. Further investigation involves applying this diagnostic information in clinical trials with the goal of advancing individualized treatment. Science fairs allowed me to explore my interests and actively learn about a topic, with an emphasis on critical thinking. Moreover, presenting to judges also provided a great opportunity to improve through their constructive feedback. I encourage all students to participate in science fairs! It is an extremely rewarding experience.

Awards

Value

Canadian Society for Clinical Chemists Award - Senior Sponsor: Canadian Society for Clinical Chemists	\$1 000
Excellence Award - Senior - Silver Medal Sponsor: Youth Science Canada	\$300
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	\$9 800