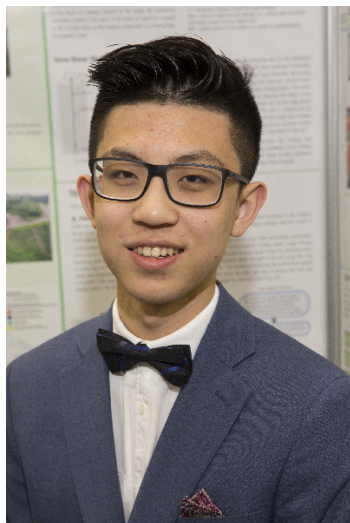


CWSF 2019 - Fredericton, New Brunswick



Fuyang Deng

Nipigon River Landslides: A Study of Soil Moisture on the Risk of Slope Failure

Challenge: Environment

Category: Senior

Region: Northwestern Ontario

City: Thunder Bay, ON

School: Superior C.V.I.

Abstract: This investigation aims to develop a better understanding of the water-induced mechanisms involved in landslides. Under various water content levels, the in-situ geotechnical vane-shear test will be employed to obtain the undrained shear strength of undisturbed soils, which will determine the potential risk of slope failure leading to landslides. Such understanding will significantly enhance landslide research for avoidance, prevention, control, and early warning.

Biography

Fuyang Deng is a grade 11 student currently enrolled in the International Baccalaureate programme at Superior CVI in Thunder Bay, Ontario. His favourite areas of study are geography, mathematics and the natural sciences. He has consistently placed first in both his school and region for mathematics and science competitions. This past summer, Fuyang had the pleasure of attending the SHAD programme at the University of Calgary. Outside of academics, Fuyang played on his school basketball team, finishing top three in their league (SSSAA) last season, in addition to also playing the saxophone as part of a jazz band. He also is an avid chess player, finishing the 2019 Ontario Chess Challenge in fourth place. Fuyang participates actively in his community, as both an instructor of Mandarin at his local Chinese school and a regular volunteer at his local shelter house. Fuyang was inspired by his observations during a trip to the Nipigon River conservation area to investigate the water-induced mechanics of the frequently occurring landslides in the area. In the future, he aims to continue research into the causes of slope failure, investigating other factors such as erosion, seismic activity, and vegetation.

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