



## CWSF 2014 - Windsor, Ontario



## Biography

My name is Max Yuan and I am from Thunder Bay Ontario, attending St. Ignatius High School in grade 11. I am very interested in science and love to travel. I have traveled throughout Europe, Asia, Africa, and North America. In the future I am planning on attending University, and am interested in a career in the sciences. My inspiration for this project came from the need for new and more efficient modes of transportation. I am very happy to have done well at the Northwestern Regional Science Fair and am very excited for nationals.

## Max Yuan

## Investigating the Leidenfrost Effect on the Hydrodynamic Efficiency of a Ship

Challenge:	Innovation
Category:	Senior
Region:	Northwestern Ontario
City:	thunder bay, ON
School:	St. Ignatius S.S.
Abstract:	The Leidenfrost effect was tested on a ship's hull to examine increased hydrodynamic efficiency. A testing apparatus with a model ship was constructed and water flow was measured with the Leidenfrost effect. The results showed that the Leidenfrost effect significantly increased hydrodynamic efficiency by 12%. With higher efficiency, ships could use less fuel and save considerable money, thus reducing shipping costs and lowering greenhouse emissions.

Awards	Value
Excellence Award - Senior - Bronze Medal	\$100
Sponsor: Nuclear Waste Management Organization	
University of Ottawa Entrance Scholarship	\$1 000
Senior Bronze Medallist - \$1000 Entrance Scholarship	
Sponsor: University of Ottawa	
Western University Scholarship	\$1 000
Bronze Medallist - \$1000 Entrance Scholarship	
Sponsor: Western University	
Total	\$2 100



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