

CWSF 2018 - Ottawa, Ontario



Kailas Chari

Freezing Point Depression of Salt Solutions: Finding the best De-icing Compound

Challenge: Environment

Category: Junior

Region: Bay Area

City: Oakville, ON

School: Maple Grove Public School

Abstract: The effectiveness of various compounds, alone and in combination, at de-icing was assessed to identify an alternative to the widely used sodium chloride that would be less harmful to the environment. Total ion concentration of a solution was a determining factor in depressing freezing point, as was ion species. A solid blend of calcium chloride and magnesium chloride applied with beet juice is recommended.

Biography

Kailas Chari is a bilingual student in Grade 8 at Maple Grove Public School in Oakville. He is a decorated competitive swimmer and a talented piano player. He has received numerous awards, including Most Promising Young Musician from the Kiwanis Festival and placed third at the 2016 Ontario Music Festival Finals. He is an avid reader, who loves math and science. Kailas was inspired to find an environmentally-friendly alternative to road salt when he learned of the extent of the damage it causes to aquatic life, soil and infrastructure. Kailas plans to further explore the effects of different salt solutions on plants, organisms, and concrete. He urges science students to consider practical applications for their experiments. Kailas is very excited to attend Canada Wide Science Fair for the second time.

Awards

Value

Excellence Award - Junior - Gold Medal Sponsor: Youth Science Canada	
Challenge Award - Environment - Junior Sponsor: Youth Science Canada	
Western University Scholarship Gold Medallist - \$4000 Entrance Scholarship Sponsor: Western University	\$4 000
Total	\$4 000