

CWSF 2011 - Toronto, Ontario



Sujay Nagaraj

Bio-remediation of Naphthenic Acids by the Unicellular Algae *C.reinhardtii*

Challenge: Discovery

Category: Intermediate

Region: Calgary Youth

City: CALGARY, AB

School: Dr. Gordon Higgins Junior High School

Abstract: Naphthenic acids (NAs) are a major contributor to the toxicity of tailings ponds from the oil sands operations. The potential of algae to bio-remediate tailings remains poorly understood. Here I discovered that the algae *C. reinhardtii* is able to tolerate several NAs at levels approximately 5 times higher than that found in tailings and significantly reduce the concentration of NAs by 18% in 2 weeks.

Biography

My name is Sujay Nagaraj I am in Grade 9 and this is my first year participating in the Canada Wide Science Fair. Science has always been a passion of mine and this is my fourth year participating in my regional science fair in Calgary, Alberta. Since grade 6 I have won 2 silver medals and 2 gold medals, The LaFarge Science, Technology and Society award, Grassroots environmental awareness award, and a City of Calgary Water Services award. Apart from science I like to volunteer in my community at various community/cultural events. I am a member of the Woodwind Concert Band as well as our school's Jazz Band, where I am the lead Alto Saxophone player. Outside of school I play the Violin, which I have been playing for 5 years now. I enjoy sports such as Badminton and Skiing. Next year I will be attending the IB program. In the future I hope to pursue a career in science and also will continue the pursuit of my passion through local, national and international science fairs.

Awards

Value

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| Excellence Award - Intermediate - Gold Medal Sponsor: Youth Science Canada | \$1 500 |
| The University of Western Ontario Scholarship Gold Medallist - \$4000 Entrance Scholarship Sponsor: University of Western Ontario | \$4 000 |
| Total | \$5 500 |