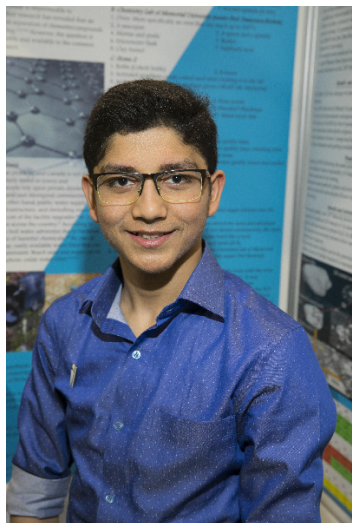


CWSF 2017 - Regina, Saskatchewan



Aaron Sarkar

Evaluating the Effectiveness & Efficiency of a Graphene-Oxide Filtration System

Challenge: Environment

Category: Intermediate

Region: Eastern Newfoundland

City: St. John's, NL

School: MacDonald Drive Junior High School

Abstract: A Graphene-Oxide Filtration System (GOFS) was created to serve rural and Aboriginal areas of Canada. Graphene-Oxide was produced from sand and sugar, then activated by sulfuric acid and heat. The GOFS effectively filtered all major contaminants present in water. However, due to partially varnished Graphene-oxide coated sand, there was leeching of some heavy metals coming from sand particles addressing the major issue of quality assurance.

Biography

Hello my name is Aaron Sarkar and I am a grade 9 student at Macdonald Drive Junior High, St. John's, NL. The inspiration for my project seeded from reading multiple articles on graphene a few years ago. I had always been fascinated by this material since it was a super conductor but at the same time only one atom thick yet still the strongest material in the world. I had always wanted my own graphene but never got it. So, when I read an article on graphene being a potentially great water filter, I jumped at the opportunity to make a graphene filtration system by making it from scratch. My plans for further investigation is to develop a machine that can make activated graphene-oxide coated sand effectively and efficiently for water filtration while being cheap and reliable. I also want to promote it to the Aboriginal communities in Canada and developing countries. If I was to give advice to a student wanting to do a science fair project, I would say remember to always be inspired by something that you love and incorporate it into science and remember to always be original and innovative in anything you do.

Awards

Value

Excellence Award - Intermediate - Silver Medal Sponsor: Youth Science Canada	
Western University Scholarship Silver Medallist - \$2000 Entrance Scholarship Sponsor: Western University	\$2 000
Total	\$2 000

