

# CWSF 2017 - Regina, Saskatchewan



## Parth Vachharajani, Joy Shah

### Riding the Fluoride

**Challenge:** Energy  
**Category:** Senior  
**Region:** Lambton County  
**City:** Sarnia, ON, Corunna, ON  
**School:** Northern C.I. & V.S., Great Lakes Secondary School  
**Abstract:** The most popular battery in use today is the lithium ion battery. However, these batteries are not able to supply modern society's power needs. A possible alternative for lithium ion batteries are fluoride ion batteries. These batteries are able to offer a theoretical energy density 10 times higher than lithium ion batteries. This project was focused on creating a room-temperature electrolyte for fluoride ion batteries.

### Biographies

Parth - Hi, I'm Parth Vachharajani a grade 12 student at NCIVS secondary school in Sarnia, Ontario. This will be my third year participating in the CWSF. Aside from academics, I enjoy playing a variety of sports such as: badminton, golf, tennis, and swimming. I also volunteer at my local TvCogeco TV station once a week, working on local TV productions such as TvBingo and OHL hockey. For my post secondary education, I'm planning on attending university and studying mechanical or electrical engineering. Last year my partner and I created an alternative method of electricity storage for industrial applications. During this project, we were repeatedly ...

Joy - Hi, I am Joy Shah from Corunna, Ontario. I go to Great Lakes Secondary School (GLSS) and am in grade 12. I love to solve problems and really like math and science. I plan to pursue a post-secondary education in the engineering field. In school, I am part of Key Club and Reach for the Top. I am on the soccer, badminton, and tennis teams. Outside of school, I volunteer as a referee at the local regional First Lego League tournament and at CogecoTV. I have been participating in science fairs since grade 4 and this is the third time I have been to Canada Wide Science Fair. This project deals with improving the energy density of portable batteries...

### Awards

### Value

Excellence Award - Senior - Bronze Medal Sponsor: Youth Science Canada	
University of Ottawa Entrance Scholarship Senior Bronze Medallist - \$1000 Entrance Scholarship Sponsor: University of Ottawa	\$1 000
Western University Scholarship Bronze Medallist - \$1000 Entrance Scholarship Sponsor: Western University	\$1 000
<b>Total</b>	<b>\$2 000</b>