

# CWSF 2013 - Lethbridge, Alberta



## Anam Rizvi

### Automating the Diagnosis of Heart Conditions

**Challenge:** Innovation

**Category:** Senior

**Region:** Wood Buffalo

**City:** Fort McMurray, AB

**School:** Westwood Community High School

**Abstract:** This project investigates an alternate method of determining abnormalities in the electrical impulses of the heart. Instead of using an ECG which maps the electrical impulses as a function of time, I look at how the different frequencies present can represent different abnormalities. I then take the patterns I have found and input them into MATLAB in order to automate the diagnosis.

#### Biography

I am an AP and top honours student at Westwood High School. I am President of the Robotics club at my school and am also the captain of the team which made it to the Vex Robotics World Championships, representing Alberta. During this past year our club has won 6 awards: Excellence Award, Tournament Championship, Design Award, Build Award, Skills Award and Programming Award, at the Alberta tournament. 4 of these were won by my team. I also worked on the programming and building of the robot. I was a participant in the 2012 Summer WISEST program which allowed me to work as a lab assistant for the Physics Department in the University of Alberta. The inspiration for my project came to me during my time at the University of Alberta when I got to see the prospective blue prints for different biomedical machines. It inspired me to use engineering to resolve medical problems.

#### Awards

#### Value

Excellence Award - Senior - Silver Medal Sponsor: Youth Science Canada	\$300
Dalhousie University Faculty of Science Entrance Scholarship Senior Silver Medallist - \$2500 Entrance Scholarship Sponsor: Dalhousie University, Faculty of Science	\$2 500
UBC Science (Vancouver) Entrance Award Senior Silver Medallist - \$2000 Entrance Scholarship Sponsor: The University of British Columbia (Vancouver)	\$2 000
University of Ottawa Entrance Scholarship Senior Silver Medallist - \$2000 Entrance Scholarship Sponsor: University of Ottawa	\$2 000
Western University Scholarship Silver Medallist - \$2000 Entrance Scholarship Sponsor: Western University	\$2 000
<b>Total</b>	<b>\$8 800</b>