



## CWSF 2015 - Fredericton, New Brunswick



## **Faris Fizal**

## Effect of Hypoxia on Learning and Memory

**Challenge:** Environment

Category: Junior

**Region:** Calgary Youth **City:** Calgary, AB

School: Westmount Charter School

Abstract: Oxygen plays an important role in general physiological processes including

memory formation; therefore hypoxia might impact the latter. The objective of this study was to identify the hypoxic effects on memory in the pond snail, Lymnaea stagnalis by conditioning them under normoxic or hypoxic conditions using a non-aversive appetitive learning model. The study revealed that hypoxia improves learning and long-term memory, probably

by inducing stress.

## **Biography**

I am Faris Fizal, currently in grade eight at Westmount Charter School. I am originally from India, and came to Canada in 2006. I have always been fascinated with science and math, but mainly astronomy. I did my first science fair project on wind turbines in grade four. In grade six, I did an experimental science fair project on airfoils and in grade seven, I experimented on whether or not intelligence is inherited. In grade seven, I also won a science award in school. This year I did experimentation on learning and was selected as one of the finalists to represent Team Calgary and be part of the Canada Wide Science Fair! I am very passionate about science and hope to become an Astrophysicist. I was inspired to do my experiment on learning because of the scarcity of oxygen in our current environment due to carbon emissions. I tested how hypoxia affects learning to see how this affects our society. In future, I would like to find out which other factors affect learning. Lastly, I would like to advise all science fair participants to have a mentor to receive guidance and support.

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





