

# CWSF 2013 - Lethbridge, Alberta



## Amit Scheer

### Overproduction of Reactive Oxygen Species: A Principal Cause of Cancer

**Challenge:** Health

**Category:** Intermediate

**Region:** Ottawa

**City:** Ottawa, ON

**School:** Colonel By S.S.

**Abstract:** Recent studies demonstrate that oxidative stress could play a role in oncogenic transformation and cancer. Internal production of reactive oxygen species (ROS) occurs during the mitochondrial electron transport chain, and may additionally occur during hypoxia to activate HIF-1. By incubating COS7 cells at 21% oxygen, normoxia, and at 1% oxygen, hypoxia, I found that the normoxic cells produced more ROS than those under hypoxic conditions.

#### Biography

My name is Amit Scheer, and I am a Grade 9 student. My interests include music (I play the flute in the school band), writing, and of course, science. In the future, I am planning to go to university to eventually study medicine. Science has been my favourite subject for as long as I can remember, and this passion has driven me to enter science competitions since I was in Grade 6. This year was my third year participating in the Ottawa Regional Science Fair, where I have previously won the award for the Chemical Institute of Canada. In addition to this, I have entered the WHERE Challenge for four years, and in Grade 6 I won an honorable mention for Ontario. In Grade 8 I had the incredible and inspiring opportunity to experience university for one full week in a course about biomedical engineering, which sparked my interest in cellular research and is one of the inspirations for my project.

#### Awards

#### Value

Excellence Award - Intermediate - Bronze Medal Sponsor: Youth Science Canada	\$100
Western University Scholarship Bronze Medallist - \$1000 Entrance Scholarship Sponsor: Western University	\$1 000
Total	\$1 100