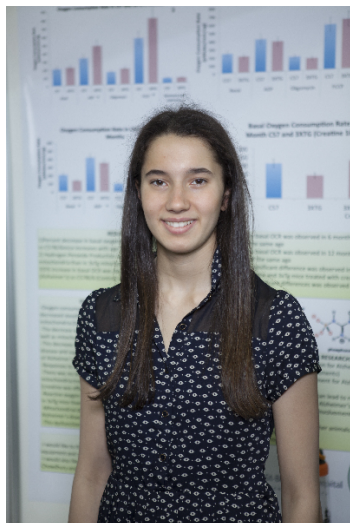


# CWSF 2013 - Lethbridge, Alberta



## Ella Thomson

### Mitochondrial Dysfunction as a Factor in the Progression of Alzheimer's Disease

**Challenge:** Health

**Category:** Senior

**Region:** Manitoba Schools Science Symposium

**City:** Winnipeg, MB

**School:** Balmoral Hall School

**Abstract:** This project investigated the role that mitochondrial dysfunction plays in the progression of Alzheimer's disease. Oxygen consumption rates and Hydrogen Peroxide production were tested in both control and Alzheimer's mice. Creatine, an amino acid based compound, was also tested as a possible treatment to recover mitochondrial function. Mitochondrial function was found to decline in Alzheimer's and creatine was effective at improving mitochondrial function.

#### Biography

My name is Ella Thomson. I am 15 years old and live in Winnipeg, Manitoba. For as long as I can remember I have had a keen interest in science. I began participating in science fairs at the age of 11. Since then, I have entered numerous competitions, such as the Manitoba Schools Science Symposium and the Biotechnology Challenge. I received a scholarship awarded to the student who has contributed the most to the science program. Recently, I discovered my fascination with the field of biotechnology and its applications in sustainability. For the past 3 years I have been working with mentors in the Biotechnology department labs at the University of Manitoba. I have been thoroughly enjoying the experience, and having the opportunity to work with advanced equipment and knowledgeable graduate students and professors. This past summer, I also held a job at the University of Manitoba and worked as a lab assistant in the Microbiology and Biotechnology labs. My goals for the future are to obtain a degree in medicine, and then move on to become a biomedical researcher. Apart from science, I partake in several other activities including debate and public speaking, piano, tennis and highland dance.

#### 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>