

# CWSF 2017 - Regina, Saskatchewan



## Phyllis Lesnikov

### Phytoremediation of Zinc Contaminated Mines Using Novel Transgenic A.Thaliana

**Challenge:** Environment

**Category:** Senior

**Region:** Greater Vancouver

**City:** Burnaby, BC

**School:** Stratford Hall

**Abstract:** Soil is vital to most living organisms. However, mining has resulted in many ecosystems being contaminated with highly toxic heavy metals. This experiment creates a genetically-modified version of the plant Arabidopsis Thaliana, using Agrobacterium-mediated transfer of the gene AtZIP2, used for the phytoremediation of zinc-contaminated mine sites. Preliminary results suggest that the transgenic plants are approximately 25% more effective than unmodified plants.

#### Biography

Phyllis Lesnikov is a grade 11 student at Stratford Hall IB World School in Vancouver, BC. She is an aspiring scientist and an avid lover of public speaking. She has been involved with various forms of public speaking for close to 5 years, and in past accomplishments, has received a bronze, silver, and gold medals at the Provincial French Public Speaking Competition of BC (Concours D'Art Oratoire). Additionally, she is on the executive team of a number of non-profit organizations, and understands the importance of youth leadership. She believes in the contribution that young adult's perspective may have to solving the issues that are a part of today's world; it was this belief that led her to an experiment related to environmental topics, specifically the remediation of vastly contaminated mine sites. Phyllis has a strong interest in genetics, and in the future, aspires to continue investigating the role of genetics in the remediation of contaminated mine sites.

#### Awards

#### Value

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