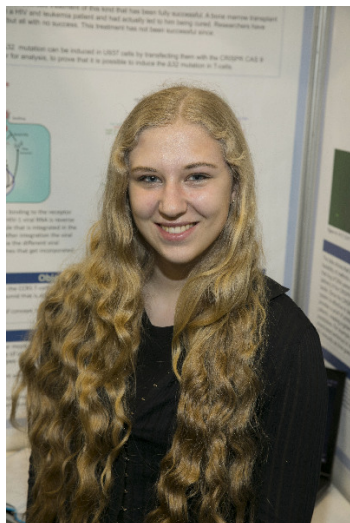


# CWSF 2017 - Regina, Saskatchewan



## Emily Gubski

### Inducing Delta 32 mutation in CCR5 T-cells to develop HIV immunity in patients

**Challenge:** Health

**Category:** Senior

**Region:** Calgary Youth

**City:** Calgary, AB

**School:** Sir Winston Churchill High School

**Abstract:** There exists a mutation in 1% (homozygous) of the Caucasian population (called the delta 32 mutations) which causes people to be resistant to HIV. This experiment is a proof of concept to show that through inducing a deletion in the patient's T-cells, it is possible to induce this mutation in HIV patients to result in a building resistance to HIV.

#### Biography

Emily Gubski is a 17-year-old grade 12 student in the IB program and has been accepted into the Faculty of Science at the University of British Columbia. Her passion for science has led her to successfully participate and win awards in various science fairs including the 2015 CWSF. This year Emily has been working on her HIV gene therapy project where she is developing an immunity in HIV patients through inducing a mutation in their T-cells. When she was 14 years old Emily co-founded a robotics company with her younger brother called JunioTech Kids Academy which teaches children 7-14 years old all about programming, robotics, 3D printing, and prototyping and she is currently an instructor at. On top of that, she also runs her own (free) community dance studio, volunteers at the Canadian Blood Services, leads clubs at her school, participates in Model UN and debate tournaments, and maintains the High Honour Roll throughout her entire high school career. Emily prefers biology to physics but is a passionate fanatic for anything science and technology related and is proud of it.

#### Awards

#### Value

Weizmann Canada Award for Scientific Achievement - Senior Sponsor: Weizmann Canada	\$4 700
Excellence Award - Senior - Silver Medal Sponsor: Youth Science Canada	
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>\$13 200</b>