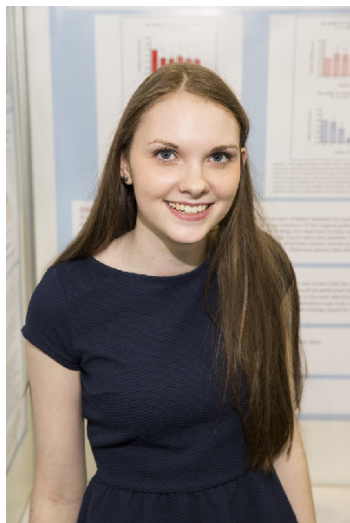


# CWSF 2015 - Fredericton, New Brunswick



## Alyssa Young

### Childhood Cancer Chemotherapy: The promise of non-genotoxic options

**Challenge:** Health

**Category:** Senior

**Region:** Eastern Newfoundland

**City:** St. John's, NL

**School:** Holy Heart High School

**Abstract:** Childhood cancers are treated with chemotherapeutic regimens that may incorporate DNA-damaging, or genotoxic, drugs. To shift away from genotoxic options, I examined the efficacy of a growth factor receptor inhibitor, lapatinib, in a juvenile-onset ovarian cancer cell line (COV434) versus the DNA-damaging agent cisplatin. COV434 cells were sensitive to growth inhibition with lapatinib treatment, suggesting growth factor signaling is an alternative target for effective therapy.

#### Biography

My name is Alyssa Young and I'm currently enrolled in 11th grade at Holy Heart High School, completing the IB program. Aside from academics, I am involved in many extracurricular activities at school revolving around STEM topics as well as social justice and arts, such as the Green Leaf club and Choir. I have a high interest in science, and have been accepted into the Da Vinci Engineering Enrichment Program's summer academy for July 2015. In University I plan on studying various sciences and continuing with medical research, eventually specializing in oncological research. This is where the inspiration for my project began. As I have always had an interest in cancer research, I knew I wanted to explore beneficial treatments for cancer. The results of my experiment were positive but the opportunities to expand on this knowledge are endless, including a survey of all rare childhood cancers that still have genotoxic chemotherapy as their current standard of care in clinic, and pursuit of the options for other targeted therapies. I recommend to anyone planning on doing a project that they do something they are truly interested in as it makes the research very enjoyable and personal.

#### Awards

#### Value

Excellence Award - Senior - Bronze Medal Sponsor: Youth Science Canada	
University of Ottawa Entrance Scholarship Senior Bronze Medallist - \$1000 Entrance Scholarship Sponsor: University of Ottawa	\$1 000
Western University Scholarship Bronze Medallist - \$1000 Entrance Scholarship Sponsor: Western University	\$1 000
<b>Total</b>	<b>\$2 000</b>