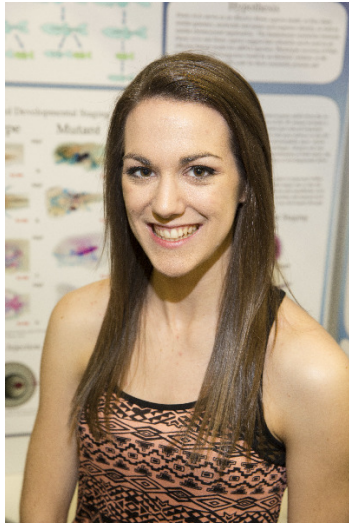


# CWSF 2014 - Windsor, Ontario



## Isabella Morgan

### mRNA Injection for Cleft Palate

**Challenge:** Health

**Category:** Senior

**Region:** Eastern Newfoundland

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

**School:** Gonzaga H.S.

**Abstract:** Mutations, which closely relate to a cleft palate deformity, were examined in *Danio rerio* (zebrafish). Developmental staging was performed with double-staining and in situ hybridization and was used to examine the mutation phenotype and gene expression. The connection between gene expression and phenotypic recovery through mRNA injections was tested to examine their effect on the helicase responsible for this craniofacial deformity.

#### Biography

As a grade 12 student at Gonzaga Regional High School in St. John's, Newfoundland and an active participant throughout my community I am motivated to help others as a leader and as a scientist. This past summer I had the exceptional opportunity to attend the Research Science Institute (RSI) at MIT where I completed research at Tufts Medical School and examined a cleft palate phenotype in Zebrafish. After developing a mRNA injection for cleft palate I have been motivated to work diligently on an honors co-op degree in biomedical engineering at Waterloo to investigate further possibilities for mRNA injections. I have deep aspirations in developing potential solutions for Multiple Sclerosis, a disease that has personally touched my family. I have acted as a mentor for future RSI candidates to build on my successful research. As a Schulich Leader Nominee and an active member of Girl Guides of Canada I have demonstrated my leadership qualities along with my passion for excellence. I enjoy participating in a wide range of athletics as a member of the Provincial Track and Field Team. I encourage other aspiring scientists to pursue their dreams despite any doubts, because you never know the outcome until you try!

#### 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>