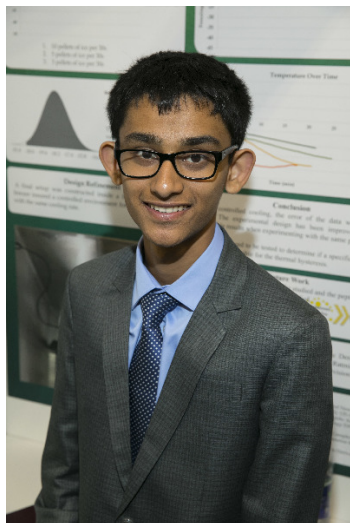


## CWSF 2017 - Regina, Saskatchewan



### Siddhant Gautam

#### Cool Peptides ? A novel approach to cryopreservation of organs

**Challenge:** Discovery

**Category:** Senior

**Region:** Edmonton

**City:** Edmonton, AB

**School:** Harry Ainlay School

**Abstract:** Organ transplantation is very crucial in modern medicine. However, a major challenge is of organ preservation. Current techniques only allow organs to be stored at temperatures of 0-4°C which does not significantly reduce the tissue metabolism and impacts the viability of organs. To overcome this limitation, organs can be stored at subzero temperatures using antifreeze proteins, proteins found in organisms living in subzero temperatures.

#### Biography

Science fairs have been a passion of mine since elementary school, and I am fortunate enough to be attending CWSF for the fourth consecutive year. In the regional science fairs, I have won the IEEE engineering award, the Environment Canada award, and gold and silver medals in my category. I believe there is nothing science cannot provide answers for, even though some might not be very apparent. My favourite subjects are Science and Maths. I am also passionate about sports, I play badminton and soccer, I represented my school team in badminton last term. I am also a qualified life guard. I love travelling and have visited several countries. I began working on this project after I got the opportunity to work as an intern in a research lab and was fascinated by antifreeze proteins, which are proteins found in some marine life. In my project I aim to use these proteins for cryopreservation of organs so that they can be preserved for longer period. I would encourage other students to work on finding solutions for problems like global warming, discovering renewable energy sources and treatment for incurable diseases and cancers.

#### 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
Total	\$2 000

