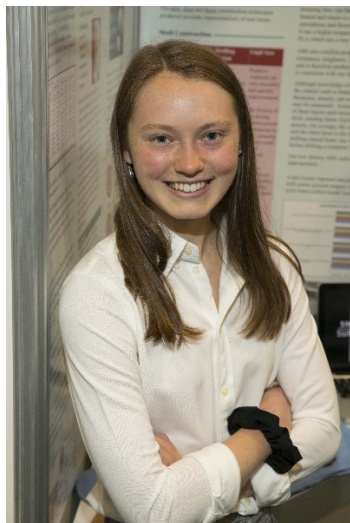


# CWSF 2017 - Regina, Saskatchewan



## Nora Boone

### It's only Brain Surgery! 3D Printing: Developing a Craniotomy Simulation Tool

**Challenge:** Innovation

**Category:** Senior

**Region:** Eastern Newfoundland

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

**School:** Holy Heart High School

**Abstract:** Utilizing 3D printing technology, we successfully developed a simulation tool to train Non-Neurosurgeons (General surgeons), living in rural communities, to perform emergency craniotomies when life threatening intracranial hematomas do not allow transfer time to neurosurgical care. Outcome from serious head injuries requiring operative intervention is highly dependent on timely intervention. We believe education programs utilizing our device can improve head injury outcomes in rural

#### Biography

I am a level 2 student at Holy Heart High School, St. John's, Newfoundland and Labrador. I am an active member of my school and my community. I serve on the student council, and am a member of various bands and sports teams including the Senior Girls Volleyball team and the Ultimate Frisbee team. I also run a knitting group at a local retirement home and help coach the Special Olympic Snowshoeing Team. I love travelling and taking part in unique educational experiences. Last summer I completed a Leadership in Training program in Ontario and embarked on a 10 day canoe and portage trip which was incredible! This summer I am very excited to take part in the Students on Ice Arctic Expedition! I also enjoy running, yoga and reading. I am interested in Science and Medicine and hope to pursue a career in Medicine. I am also interested in global issues and giving back to my community. The idea behind our project stemmed from an interest in Medicine as well as solving a local issue in our community. We hope to further refine our model. Hopefully it can be incorporated into the surgical resident training program at Memorial University.

#### Awards

#### Value

Youth Can Innovate Awards - Senior Sponsor: The Gwyn Morgan and Patricia Trottier Foundation	\$1 000
Challenge Award - Innovation - Senior Sponsor: Youth Science Canada	
Excellence Award - Senior - Gold Medal Sponsor: Youth Science Canada	\$250
Dalhousie University Faculty of Science Entrance Scholarship Senior Gold Medallist - \$5000 Entrance Scholarship Sponsor: Dalhousie University, Faculty of Science	\$5 000
UBC Science (Vancouver) Entrance Award Senior Gold Medallist - \$4000 Entrance Scholarship Sponsor: The University of British Columbia (Vancouver)	\$4 000
University of Manitoba Entrance Scholarship Senior Gold Medallist - \$5000 Entrance Scholarship Sponsor: University of Manitoba	\$5 000
University of Ottawa Entrance Scholarship Senior Gold Medallist - \$4,000 Entrance Scholarship Sponsor: University of Ottawa	\$4 000
Western University Scholarship Gold Medallist - \$4000 Entrance Scholarship Sponsor: Western University	\$4 000
<b>Total</b>	<b>\$23 250</b>

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