

## Canada-Wide Science Fair Winners Announced

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Featured Image:



### Introducing Canada's Top Young Scientists Canada-Wide Science Fair Winners Announced

**Ottawa (Ontario),** May 16, 2018 ? This year's winners of the Canada-Wide Science Fair are three young people whose projects impressed the judges with their ingenuity and the innovation behind their projects.

Each of the three Grand Prize Winners received a crystal award, \$1,000 in cash, and a special certificate. The top Intermediate and Senior won a fully funded trip to compete in the 2018 European Union Contest for Young Scientists (EUCYS) in Dublin, Ireland.

The junior winner will be fully funded to accompany Team Canada to the 2019 Intel International Science and Engineering Fair (ISEF) to represent Canada in the Broadcom MASTERS (Math, Applied Science, Technology and Engineering for Rising Stars) International program.

In addition, each of the three winners receives entrance scholarships from up to 6 of the CWSF's university partners for entry into the Faculty of Science or similar program, enabling them to pursue further study:

Carleton University  
Dalhousie University  
UBC  
University of Manitoba  
University of Ottawa  
Western University

#### **Platinum Award - Best Intermediate (Grade 9/10) Project and Best Project Award**

*Development of an Autonomous Vehicle Using Machine Learning*

Brendon Matusch (age 14), Sudbury ON

\$2500

Addressing a problem that is a challenge to the largest tech companies globally, Brendon developed his own method to improve real-world computer vision for self-driving cars. To demonstrate his new method, he built his own self-driving vehicle by modifying a go-kart with sensors and cameras. This allowed him to train a machine learning system using the same frameworks employed by

teams at the leading edge of autonomous driving.

#### **Platinum Award - Best Senior Project**

Nicolas Fedrigo (age 17), Victoria BC

*Spinal Fusions: Redesigning the Pedicle Probe to Prevent Vertebral Breaches*

\$1000

Spinal fusion is used to treat a variety of spinal conditions, but the procedure has a 20% rate of possible complications. Pedicle probes are used to guide screw placement during the surgery, but the lack of feedback in this tool makes it difficult for surgeons to avoid hitting the spinal cord. Nicolas developed an elegant solution to enable the device to distinguish between bone and soft tissue without modifying its structure or use. Inserting a small motor into the probe allows it to vibrate in the surgeon's hand when the probe is close to the bone, providing real-time feedback to the surgeon. This device could increase the accuracy of surgery while minimizing barriers to adoption.

#### **Platinum Award - Best Junior Project**

Mac Dykeman (age 12), Langley BC

*Safer Chick-Ments: An Innovative Solution to Reducing Stress in Chick Shipments*

\$1000

Receiving live chicks via mail order is common across Canada for small-scale chicken farmers. Based on her own experiences, Mac Dykeman became concerned with the rate of mortality for these chicks. Mac designed a new shipping box that minimizes the hazards of high temperatures and structural weakness while addressing poor mobility. The trapezoid shape of her design increases airflow during shipment, while its circular interior minimizes the risk of chick injuries. Mac's design has an estimated production price similar to current models.

"All three winners demonstrated an exceptional level of innovation," said Canada-Wide Science Fair National Judge-in-Chief, Dr. Jeff Hoyle. "The judges were especially impressed by the winners' originality and creativity. The winner of the best project award further exhibited a high level of enthusiasm and attention to detail combined with a willingness to pursue all avenues of investigation to realize his ideas that made his project stand out."

"All of this year's winners developed innovative solutions to real-world problems that affected them directly, at a local level, and yet are all globally significant challenges," said Reni Barlow, Executive Director, Youth Science Canada. "Their innovative thinking and positive solutions generation creates continued hope for our future."

In addition to the three platinum winners, 240 other students were awarded medals, scholarships, special prizes and recognition for their projects.

The full list of all award winners can be found on the Youth Science Canada website ([youthscience.ca](http://youthscience.ca)).

The finalists will display their projects one last time on Friday 9 a.m. until noon.

Media and the public are welcome to meet the three Platinum Award Winners on Friday May 18, 2018 at the Meet the Winners Panel, from 10:30 to 11:00 am.

The Canada-Wide Science Fair is made possible thanks to the generous support of: Intact Financial Corporation, the Natural Sciences and Engineering Research Council of Canada (NSERC), Youth Can Innovate, and numerous private, public and non-profit organizations, agencies and institutions.

#### **About Youth Science Canada**

Since 1962, Youth Science Canada has been Canada's leading organization for engaging and celebrating excellence in science, technology, engineering and mathematics (STEM) among our nation's youth. A national, registered charitable organization, Youth Science Canada provides or partners in programs to increase STEM awareness and involvement of youth and to inspire, mentor and recognize Canada's young scientists. The not-for-profit also engages leading public and private sector organizations in the development of a national STEM network for Canadian youth. For more information, please visit [www.youthscience.ca](http://www.youthscience.ca).

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[Download the list of winners] [1]

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