



Annual Report 2026

Developing Canada's capacity for high-quality research in science, technology and engineering since 1974

Highlights from 2026

We welcomed 263 exhibitors: 145 juniors, 78 intermediates and 40 seniors. We had great participation from high school students.

Emily Huang, a local young researcher, was selected to represent Canada at the Regeneron International Science and Engineering Fair in Phoenix. You can read about Emily's project inside. Emily's selection was the 34th time one of our exhibitors was selected for Team Canada since Youth Science Canada initiated international participation.

The 2026 Canada-Wide Science Fair was held in Edmonton at the end of May. We took 9 young researchers. See the summaries of their projects inside. Eight of the 9 received awards! Gurnoor Kaur of Waterloo won the Best of Fair for Innovation. She's the 5th WWSEF exhibitor to earn such distinction – out of more than 500,000 youth who do projects each year.

Ron Cherkewski, a judge and donor with WWSEF for more 25 years, and frequent chaperone to the CWSF, was recognized by Youth Science Canada with its Distinguished Service Award. Ron is the 14th WWSEF volunteer so recognized.



All our secondary exhibitors traveled to Laurier University where Science faculty and staff presented a variety of activities in geography, neuroscience and chemistry. Our university visits help our exhibitors consider their future options..

Meanwhile, at Bingemans, the elementary exhibitors enjoyed two presentations: one about birds with live raptors and the other an active presentation on Ontario's energy future presented by the Nuclear Innovation Institute.

Canada-Wide Science Fair 2026 Edmonton

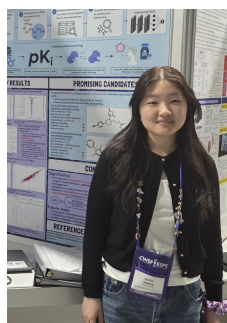


Gurnoor Kaur

Eigenpulse: Eliminating Demographic Bias in Pulse Oximetry and Remote PPG from First Principles

The oximeter is a small clip on a patient's finger to optically measure blood oxygen. It falsely gives normal readings on darker skin which leads to undetected hypoxemia. Gurnoor's research detected a second pulsatile component and proved it the dominant cause of demographic error. She made 3 innovations: remove this signal component, separate coupled vascular signals and a three-wavelength oximetry system reducing bias from 2.3% to 0.15%

Senior Gold Medal, Senior Challenge Award, Health and Wellness, Youth Can Innovate Award (\$8K), Senior Platinum Award Innovation, Best of Fair, Innovation. 6 entrance scholarship offers, totaling \$28K



Emily Huang

Evaluating and Improving In Silico Drug Candidate Prediction for Preventing Toxoplasmic Encephalitis

Emily's project sought to integrate explainable AI tools to identify key chemical features and substructures that influence drug screening model predictions, helping establish biological interpretability. This would improve patient outcomes for vulnerable populations by identifying promising compounds to prevent *Toxoplasma gondii*-induced neurological effects from occurring.

Senior Silver Medal, 5 entrance scholarship offers, totaling \$14K



Vera Golubitsky

Modelling the Light Echo in Active Galaxy BL Lacertae Using High-Cadence Light Curve Data

Vera used data from NASA's TESS telescope, and machine learning models, to estimate features of black hole BL Lacertae. This black hole is supermassive, has an accretion disk and high-energy jets. High-energy X-rays reflect off the disk and are captured by TESS every 20 seconds. Vera estimated light echo length, innermost stable circular orbit and orbital velocities of visible and dark matter.

Senior Silver Medal, 5 entrance scholarship offers, totaling \$14K



Kira Egete

Nutty for Colour

Kira's project tested how squirrels reacted to different colours of feeders which were controlled for scent, size and light reflectance. Kira conducted 50 trials and observed the squirrels' reactions. Squirrels' colour vision is similar to dogs, with preference for blue and yellow.

Intermediate Silver Medal, Intermediate Challenge Award Curiosity, 3 entrance scholarship offer totaling \$9.5K

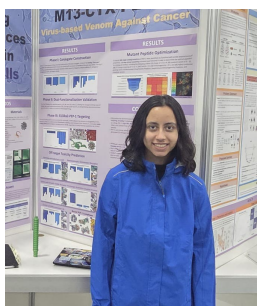


Brinn Wight

Gutterpillar: An Eavestrough Cleaning Robot

Brinn's project was to design, engineer and program a robot to ascend a downspout and then clean eaves trough gutters. The robot could be controlled with a computer or cell phone and included a camera to stream live video. The robot was segmented to allow going around corners and used custom molded silicone wheels. She designed and 3D printed the mechanisms.

Junior Silver Medal, 2 entrance scholarship offers, totaling \$5.5K

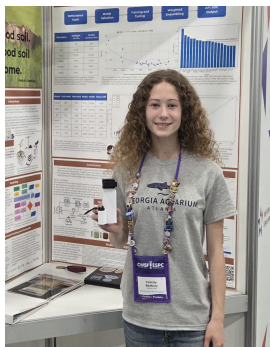


Ayesha Abubakr

Brain-Penetrating Bioconjugate M13-CTX-PEP-1 for Targeted Glioblastoma Therapy In Silico

Ayesha's project on a possible treatment for Glioblastoma aimed to computationally engineer bacteriophage M13 with deathstalker scorpion-derived venom chlorotoxin and synthetic cell-penetrating peptide PEP-1. This would create a phage-based, blood brain barrier-permeable drug. M13-CTX primarily binds to the cancer protein II13Ra2, which is responsible for facilitating tumor metastasis and invasion.

Senior Bronze Medallion, 4 entrance scholarship offers totaling \$7.5K

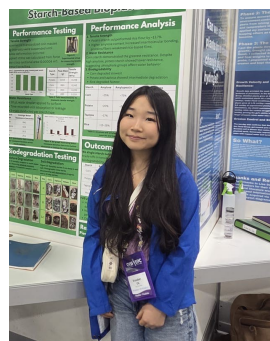


Felicity Banbury

SoilSight: A Systems-Based Approach to Soil Organic Carbon Estimation

Felicity's project was a continuation of 2 previous projects on soil organic carbon. This year, she was developing an in-field-use device that uses reflectance and machine learning to measure soil organic compound for farmers. Eighteen models were designed and tested using 26 soil samples.

Senior Bronze Medal, Senior Challenge Award, Agriculture, Fisheries and Food, 4 entrance scholarship offers, totaling \$7.5K



Erzsabet Oh

Battle of the Bioplastics

Bioplastics show promise for reducing plastic pollution. Are bioplastics versatile enough? Erzsebet's project assessed four starch-based bioplastics – corn, rice, tapioca and potato based for a variety of physical characteristics – tensile strength, water resistance, and biodegradability. The plastics showed striking differences suggesting strategies for specific applications.

Intermediate Bronze Medal. 3 entrance scholarship offers, totaling \$6.5K



Jeevan Sehra

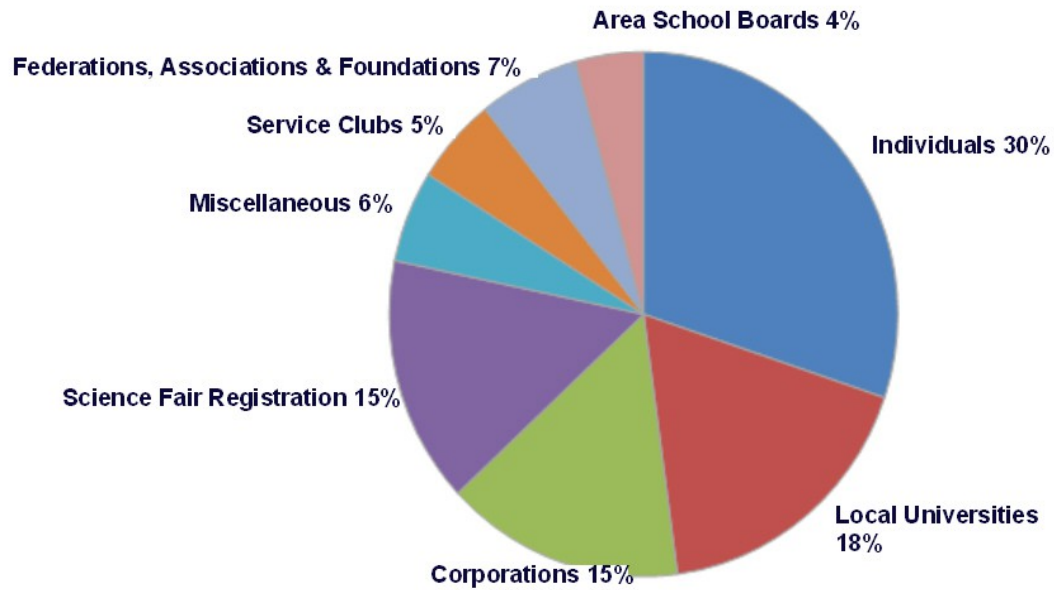
Ciliafy - A Motion Assessment Framework for Primary Ciliary Dyskinesia Diagnosis

Cilia are hair-like structures in our nasal passages that sweep dust and bacteria out of our lungs. Mucus can build up when cilia are impaired leading to respiratory complications. Jeevan's project introduces a system that provides an efficient way to detect problems with cilia. He used high-speed video and computer vision to track motion patterns of individual cilium. He found that cilia move slower in sick patients and have irregular patterns.

1 entrance scholarship offer of \$1K

2026 Financials

2026 REVENUE



2026 EXPENSES

