

Award Recipients

Canada-Wide Science Fair 2024

Ottawa, Ontario



The Actuarial Foundation of Canada Award

Junior

Sponsor: The Actuarial Foundation of Canada
\$500 cash and certificate

Abereham Moges – Western Manitoba – MB

Mood Foods: Testing the Impact of Nutrients on Cognitive Function and Reversing Neurodegeneration

The Actuarial Foundation of Canada Award

Intermediate

Sponsor: The Actuarial Foundation of Canada
\$750 cash and certificate

Kaitlyn Chan – Vancouver Island – BC

Predicting Surgical Patient Outcomes

The Actuarial Foundation of Canada Award

Senior

Sponsor: The Actuarial Foundation of Canada
\$1,000 cash and certificate

Artash Nath – Toronto – ON

Deep Learning for Marine Mammal Conservation: Multi-Species Detection and Underwater Noise Assessment

The Beaty Centre for Species Discovery Award

Junior

Sponsor: Canadian Museum of Nature
\$500 cash, certificate and one-year Canadian Museum of Nature family membership

Nara Harvey – Greater Vancouver – BC

Using Deep Learning to Understand Endangered Orca Pregnancies

The Beaty Centre for Species Discovery Award

Intermediate

Sponsor: Canadian Museum of Nature
\$750 cash, certificate and one-year Canadian Museum of Nature family membership

Sarah Murimboh – Annapolis Valley – NS

Friend or Foe: Evaluating the Toxicity of Natural Pesticides on Springtails

The Beaty Centre for Species Discovery Award

Senior

Sponsor: Canadian Museum of Nature
\$1,000 cash, certificate and one-year Canadian Museum of Nature family membership

Jonathan Leung – Greater Vancouver – BC

Comparing Spider Diversity between 2 Farming Communities & Assessing Alpha, Beta & Gamma Diversities

Canadian Acoustical Association Award

Senior

Sponsor: Canadian Acoustical Association
\$1,000 cash and certificate plus subscription to the Canadian Acoustical Association's quarterly journal

Artash Nath – Toronto – ON

Deep Learning for Marine Mammal Conservation: Multi-Species Detection and Underwater Noise Assessment

Award Recipients

Canada-Wide Science Fair 2024

Ottawa, Ontario



Canadian Artificial Intelligence Association Award

Junior

Sponsor: Canadian Artificial Intelligence Association
\$500 cash and certificate

Evan Budz – Bay Area – ON

Virtual Lifeguard: A Novel AI Approach to Drowning Prevention

Canadian Society of Clinical Chemists Award

Senior

Sponsor: Canadian Society of Clinical Chemists
\$1,000 cash and certificate

Ann Wang – Greater Vancouver – BC

Eradicating Cystic Fibrosis Biofilms by a Novel Non-Toxic, Multi-Pathway Salicylate Therapy

Canadian Stockholm Junior Water Prize

Senior

Sponsor: Canadian WEF Member Associations, the Canadian Water and Wastewater Association, and Jacobs Stockholm Junior Water Prize Competition Event, August 19-23, 2023, winning project to represent Canada at the International Stockholm Junior Water Prize Competition. The two runner-up projects will each receive a \$300 cash prize.

Noah Bryan – Canadian Black Scientists Network Youth – CA

Is the water safe to drink? The rapid test is the missing link!

Veronica Guo – Greater Vancouver – BC

A Novel, Cost-Effective Biological Photovoltaic for Wastewater Treatment

Ava Haynes – Saskatchewan First Nations – SK

Observing and Culturing Cyanobacteria

CAP Physics Prize

Senior

Sponsor: Canadian Association of Physicists
\$1,000 cash and certificate

Victor Xu – Toronto – ON

Hysteresis Inhibition for Performance Improvement via Halide Engineering in Perovskite Solar Cells

deutraMed Chemistry and Innovation Award

Junior

Sponsor: deutraMed Inc.
\$500 cash and certificate

Justin Guo – Greater Vancouver – BC

Plastic degradation through a novel Thermal Electro-Fenton System

Engineering Innovation Award

Senior

Sponsor: Engineering Institute of Canada and Canadian Society for Senior Engineers
\$1,000 cash and certificate

Joti Gokaraju – Saskatoon – SK

TouchTalk: A Novel Braille Communication Platform for the Deafblind

Award Recipients

Canada-Wide Science Fair 2024

Ottawa, Ontario



Excellence in Astronomy Award

Junior

Sponsor: Royal Astronomical Society of Canada
Telescope and certificate plus a one year RASC membership

Aalyzha Ferrer – North-West New Brunswick – NB

Plants in Space: Investigating How Microgravity Influences Plant Growth

Excellence in Astronomy Award

Intermediate

Sponsor: Royal Astronomical Society of Canada
Telescope and certificate plus a one year RASC membership

Bram St. Peters – Halifax – NS

How human biosolids can be used in lunar soils to optimize food production on the moon

First Nations University of Canada Award

Junior

Sponsor: First Nations University of Canada
\$500 cash and certificate

Dexter Rocky Roy Mentuck – MFNERC Schools – MB

Testing the Hydrating Power of Bear Grease Bath Bombs

CWT Harvey's Travel Award

Intermediate

Sponsor: CWT Harvey's Travel
\$750 cash and certificate

Ben Kawa – Sudbury – ON

Driver Wake Up 2.0: A Compact Standalone Device

Hydrogen Optimized Green Energy Award

Senior

Sponsor: Hydrogen Optimized
\$1,000 cash and certificate

Veronica Guo – Greater Vancouver – BC

A Novel, Cost-Effective Biological Photovoltaic for Wastewater Treatment

Intact Climate Change Resilience Award

Junior

Sponsor: Intact Financial Corporation
\$500 cash and certificate

Matt Fong, William Zhou – Toronto – ON

Extending Mileage on EV and Hybrid Vehicles using a Ratchet and Flywheel Regenerative Shock Absorber

Intact Climate Change Resilience Award

Intermediate

Sponsor: Intact Financial Corporation
\$750 cash and certificate

Tanvir Mundra – Greater Vancouver – BC

Reviving Resources: Harnessing Soap Nut Greywater for Sustainable Plant Growth

Award Recipients

Canada-Wide Science Fair 2024

Ottawa, Ontario



Intact Climate Change Resilience Award

Senior

Sponsor: Intact Financial Corporation

\$1,000 cash and certificate and a virtual tour of the University of Waterloo and the Intact Centre on Climate Adaptation, Canada's leading research centre on climate change resilience, in Waterloo, Ontario.

Zachary Dostie, Mickael Plante – Réseau Technoscience – QC

Les algues sauvent les élèves!

Nanotechnology for Sustainable Society Award

Junior

Sponsor: Waterloo Institute for Nanotechnology

\$500 cash and certificate

Madhav Saravanan – Peel – ON

Fantastic Bioplastics

Nanotechnology for Sustainable Society Award

Intermediate

Sponsor: Waterloo Institute for Nanotechnology

\$750 cash and certificate

Sophia Zhang – Eastern Newfoundland – NL

Optimization of Novel Triboelectric Nanogenerators for Wind Energy Harvesting at Low Speeds

Nanotechnology for Sustainable Society Award

Senior

Sponsor: Waterloo Institute for Nanotechnology

\$1,000 cash and certificate and must attend and present a poster at WIN Research Celebration at the University of Waterloo in the year the award is given.

Isabella Bu – Thames Valley – ON

A SEND-Based Imaging Approach to Track mRNA Delivery for Gene Therapy

Nutrients for Life Foundation Award

Junior

Sponsor: Nutrients for Life Foundation Canada

\$500 cash and certificate

Charlotte Campbell, Leila Djelouah – Prince Edward Island – PE

The Root of the Problem

Renewable Energy Award

Junior

Sponsor: Ontario Power Generation

\$500 cash and certificate

Matt Fong, William Zhou – Toronto – ON

Extending Mileage on EV and Hybrid Vehicles using a Ratchet and Flywheel Regenerative Shock Absorber

Renewable Energy Award

Intermediate

Sponsor: Ontario Power Generation

\$750 cash and certificate

Sophia Zhang – Eastern Newfoundland – NL

Optimization of Novel Triboelectric Nanogenerators for Wind Energy Harvesting at Low Speeds

Award Recipients

Canada-Wide Science Fair 2024

Ottawa, Ontario



Renewable Energy Award

Senior

Sponsor: Ontario Power Generation
\$1,000 cash and certificate

Veronica Guo – Greater Vancouver – BC

A Novel, Cost-Effective Biological Photovoltaic for Wastewater Treatment

S.M. Blair Family Foundation Award

Junior

Sponsor: S.M. Blair Family Foundation
\$500 cash and certificate

Evan Budz – Bay Area – ON

Virtual Lifeguard: A Novel AI Approach to Drowning Prevention

S.M. Blair Family Foundation Award

Intermediate

Sponsor: S.M. Blair Family Foundation
\$750 cash and certificate

Joy Akinkunmi – Canadian Black Scientists Network Youth – CA

Pill Smart 2.0

S.M. Blair Family Foundation Award

Senior

Sponsor: S.M. Blair Family Foundation
\$1,000 cash and certificate

Casper Dong – Waterloo-Wellington – ON

“Solving A Water Crisis” A Novel Device For Water Generation and Utilization in Desert Solar Arrays

Shad Canada Scholarship Awards

Intermediate

Sponsor: Shad Canada

Certificate. A \$1,000 scholarship towards the program fee to attend Shad in July 2025. To be eligible for the scholarship, the finalist must apply and be admitted to the program during the Shad 2024 application cycle.

Joy Akinkunmi – Canadian Black Scientists Network Youth – CA

Pill Smart 2.0

Annaliese Froehler – East Kootenay – BC

Hands-On Healing: Exploring Sustainable Rehabilitation Possibilities Using VR Hand Tracking

Thông Quách – Saskatoon – SK

Project PolyQuant: Quantifying Genomic DNA from Biofilms on Polyethylene in an Urban River Ecosystem

Riley Saha Halder – Wood Buffalo – AB

Enhancing Bioplastic Performance Using Eggshell Waste and Chitosan

Katelynn Standell – Southeast Alberta – AB

Is Your Happiness Killing You?

Dexter Wrigley – Northwestern Ontario – ON

The effect of barrel length on a projectile

Award Recipients

Canada-Wide Science Fair 2024

Ottawa, Ontario



Statistical Society of Canada Award

Intermediate

Sponsor: Statistical Society of Canada
\$750 cash and certificate

Nico Pacifici – Bay Area – ON

The PrepStep: A Mobile Health Platform to Detect Ventricular Cardiomyopathy in Athletes Using AI

Statistical Society of Canada Award

Senior

Sponsor: Statistical Society of Canada
\$1,000 cash and certificate

Angela Cao – Greater Vancouver – BC

S2S: AI-Powered Translation Between Sign and Spoken Languages

University of Ottawa Undergraduate Research Scholarship Award

Senior

Sponsor: University of Ottawa, Faculty of Science
\$11,500 research scholarship and certificate

Donae Houle, Gunner Malcolm-Spence – Manitoba Indigenous – MB

Accessible Computer Mouse For People With Upper Limb Disabilities

Excellence Award - Bronze

Junior

Sponsor: Youth Science Canada
Medal and certificate

Eden Abols – Sudbury – ON

Metallurgical Mushrooms

Imran Allarakhia, Mithru Narayan Naidu – Bay Area – ON

LiquiViz: Adaptive AI for 3D Object Detection and Semantic Segmentation in Vision Impairment Devices

Muhammad Mustafa Arif – Lambton County – ON

Thoughts-To-Text: A Novel Approach To BCIs

Aaron Bai – Greater Vancouver – BC

ChromaSight: Traffic Signal Assistant - A novel machine learning model to detect traffic signals

Charlotte Campbell, Leila Djelouah – Prince Edward Island – PE

The Root of the Problem

Kayley Carter Phillips – Peterborough – ON

The Addition of Triz-EDTA to Topical Antibiotics

Aadhi Chandrasekaran – Manitoba Schools Science Symposium – MB

A Novel Approach to Optimize the Concentration of Flocculants in Water Purification

Mohammad Chaudhry – Toronto – ON

MobiMate: Low-Cost Intelligent Collision-Avoidance and Auto-Steering for Mobility Devices

Story Fitzgerald – Mi'kmaq Schools – NS

Teen Mental Health due to the COVID Lockdown

Claire Friesen – Central Alberta Rotary – AB

Preventing Flow Separation Using Known and Novel Methods

Award Recipients

Canada-Wide Science Fair 2024

Ottawa, Ontario



Genevieve Gagnon – Pacific Northwest – BC

To Glide or Not to Glide

Isabella Guan – Quinte – ON

The Sound Catcher 2.0: A new and improved innovative device harvesting energy from sound

Kanav Gulati – Regina – SK

B.I.D.S. (Black Ice Detection System) - A system to detect an invisible threat - Black Ice!

Yui Jennings – Tri-County – NS

The Ideal Locker

Gunnar Koehn – Cariboo Mainline – BC

Exploring Thermal Paste Alternatives

Yuewen Li, Siqi Tan – Bay Area – ON

CRISPR-Mediated Knockout to Improve PDAC Prognosis through TME Disruption

Chloe MacLeod, Briyanna Wilberforce – Rideau-St. Lawrence – ON

Stick It To The Bacteria

Dexter Rocky Roy Mentuck – MFNERC Schools – MB

Testing the Hydrating Power of Bear Grease Bath Bombs

Abereham Moges – Western Manitoba – MB

Mood Foods: Testing the Impact of Nutrients on Cognitive Function and Reversing Neurodegeneration

Felix Naghi – Sudbury – ON

Plastic Purge: Marine Debris Eliminator

Ryan Noel – Lakeland – AB

Vaping in Youth: Why are kids starting to vape?

Jack O'Connell – Sudbury – ON

Are Adults Dirtier Than Kids?

Aditi Ramanarayan – Edmonton – AB

Separation of Pigments from Spinach Leaves and Kiwi Fruit by Thin Layer Chromatography

Zavier Simard – Sudbury – ON

VAWT to WATT: Capturing Wind Energy on Cars

Kristina Tannert – Central Interior BC – BC

From Oil Spills to Algae Thrills

Suhandan Thangadurai – Calgary Youth – AB

Now You See Me Too

Saanvi Vishwakarma – Strait – NS

Microscopic Investigation of Indigenous Food Preservation Technique

Wesley Wilding – Niagara – ON

Lettuce Compost Together: Exploring Alternatives to Hydroponics Pots

Makenna Wilson – Bluewater – ON

Body Temperature

Award Recipients

Canada-Wide Science Fair 2024

Ottawa, Ontario



Sylvan Zheng – Calgary Youth – AB

Soaring With the Birds: Biomimicking the Avian Wing to Improve the Performance of Modern Aircraft

Excellence Award - Bronze

Intermediate

Sponsor: Youth Science Canada

Medal and certificate

Finn Adamson – Vancouver Island – BC

Pain Science and the Peak-End Rule

Joel Amaldas – Calgary Youth – AB

The Skin Screener: an AI Detector for Melanoma Skin Cancer

Shayan Awan – Wood Buffalo – AB

NeuroSpectrum: A Brainwave-Powered Vision Enhancement Device

Kaitlyn Chan – Vancouver Island – BC

Predicting Surgical Patient Outcomes

Brian Chang – Saskatoon – SK

Conversion of Food Waste to Energy: Scaled Up from Saskatoon to Canada

Lyla Chiasson – Rideau-St. Lawrence – ON

Seep and Destroy

Kevin Cornell – South-East New Brunswick – NB

Carbon-Negative Electricity: Generating Electricity from the Combustion of Scrap Metal

Kylie Dysart, Claire Linklater – Frontier Schools – MB

Human Impacts on the South Indian Lake Ecosystem

Shanika-Skye Einish-Nattawappio, Alyson Einish-Tooma – Aboriginal Québec Autochtone – QC

The Effect of Consuming Nicotine Vapes on Human Health and Lifestyle: An Investigative Study

Annaliese Froehler – East Kootenay – BC

Hands-On Healing: Exploring Sustainable Rehabilitation Possibilities Using VR Hand Tracking

Malek Hammoud – Thames Valley – ON

GreenGuardian: Automated Weed Detection and Elimination

Sammy Hawari – Waterloo-Wellington – ON

Sign Vocalizer: Elevating Non-Verbal Communication

Ben Kawa – Sudbury – ON

Driver Wake Up 2.0: A Compact Standalone Device

Visisht Kodali – South Fraser – BC

WoundSense

Solomon Kogan – Simcoe County – ON

Effect of a Cryohelmet on Memory and Attention

Alina Kotchetkov – Simcoe County – ON

Omega-3: the Building Blocks for Brain Health

Sreya Kurup – South Fraser – BC

Investigating the impact of natural antibiotics on bacteria

Award Recipients

Canada-Wide Science Fair 2024

Ottawa, Ontario



Avalon Lively – Halifax – NS

Mycorrhizal Medicine: Do Mutualistic Fungi Enrich Forest Health?

Persephone Mills – Northwestern Ontario – ON

The Effectiveness of Honey and Bee Propolis as an Antibacterial Agent

Isabella Pozniak – Peace Country – AB

Do seed treatments matter?

Reuel Ramalingam – Durham – ON

Turmeric; the solution to CTE?: Reducing the production of amyloid plaques in the brain after TBIs

Melia Roberts – Cape Breton – NS

The Mould War: Chemical vs. Natural Mould Inhibitors

Raneem Salah – Ottawa – ON

The Eye Spy Scanner; The Window to Your Health

Rakshan Saravanan – Bay Area – ON

The Electrocorpulgraph: Can AI change auscultation?

Jiya Savsani – North Bay – ON

Highway Harvest: Determining Efficient Ways to Harness Renewable Energy on Highways

Seol So – Quinte – ON

The Third Eye - the new approach for Visually Impaired People to Navigate Websites

Katelynn Standell – Southeast Alberta – AB

Is Your Happiness Killing You?

Maiara Costa Telmer – Vancouver Island – BC

The Future of Composites

Daniil Tyurin – Calgary Youth – AB

On The Use of Micro-Scale Piezoelectric Crystals and Their Ultrasound Wave Backscatter in BCIs

Kavishi Udumullage – Manitoba Schools Science Symposium – MB

Battling the Beast: Biocontrol interventions against Fusarium graminearum to control FHB Disease

Excellence Award - Bronze

Senior

Sponsor: Youth Science Canada

Medal and certificate

Aahil Ansari – Edmonton – AB

CD36, Sex Differences, Microgravity, and Osteoarthritis

Braden Baumann, Tessa Todd – Saskatchewan Chinook – SK

Learning About Learning

Amani Kaur Bhullar – Ottawa – ON

Analysis of Toroidal Propeller Sound Characteristics & Efficiency

Kamryn Binns – Cape Breton – NS

Nutrient Solutions in Hydroponic Gardens

Anna Chen – Waterloo-Wellington – ON

Graphene Quantum Dots for Dendrite-Free Zinc-Ion Batteries

Award Recipients

Canada-Wide Science Fair 2024

Ottawa, Ontario



Jason Cheng – Vancouver Island – BC

Cleaner Sponges, Greener Planet

Cooper Choi – Calgary Youth – AB

Effect of Repeated Concussions on Complement Protein Expression in Adolescent Brains

Dennis Golubev, Justin Yu – Fraser Valley – BC

A Novel Approach to Wastewater Treatment

Anqi Guan – Winnipeg Schools – MB

Can IL-17A help Maintain the Immune Privilege of Mesenchymal Stem Cells under Hypoxia?

Ava Haynes – Saskatchewan First Nations – SK

Observing and Culturing Cyanobacteria

Nuttanon Jarnpho, Chavapon Rungrittpanyo – Thailand – IN

Biodegradable Printed Circuit Board from Rice Straw Binding with Hyphae from Grey Oyster Mushroom

Tanya Jivani, Lalithya Raavi – Wood Buffalo – AB

Fuelling the Future: Investigating Cost Efficient Methods of Hydrogen Production

Khaleel Khaki, Mohammadmahdi Shahhaidari – York – ON

AutoShield 2.0: The Dual-Defense System For All Vehicles

Chia Yi Lee, Pei Jung Sung – Taiwan, R.O.C. – IN

Pollutant ThReader: Ramie Thread-based Microfluidic Reader of Common Pollutant Concentration

Richard Lee – Vancouver Island – BC

Is Bigger Better?

Jonathan Leung – Greater Vancouver – BC

Comparing Spider Diversity between 2 Farming Communities & Assessing Alpha, Beta & Gamma Diversities

Karys Littlejohns – Simcoe County – ON

Investigating trace drug prevalence in public recreational spaces using ion mobility spectrometry

Vincent Liu – Calgary Youth – AB

Can Bacteriophages Isolated from Municipal Wastewater Lyse Multi-drug Resistant E. coli ST131

Jialin Luo – Frontenac, Lennox & Addington – ON

Bioplastics: The Strength of Calcium Alginate

Mapalo Mushoriwa – Saskatchewan Chinook – SK

The Effect of Climate Conditions and Cadmium Uptake in Wheat

Hadiya Omer – Winnipeg Schools – MB

Examining Apical Area Dynamics in Distal Cell Development: Drosophila Model Approach

Stephanie Palma – Manitoba Schools Science Symposium – MB

Loss of SKP2 Induces Chromosome Instability in Tubo-Ovarian Context

Saeko Sakuraba – Ottawa – ON

Effects of low oxygen conditions during embryogenesis on growth in zebrafish

Award Recipients

Canada-Wide Science Fair 2024

Ottawa, Ontario



Stoyan Sendov – Thames Valley – ON

Real-time American Sign Language Alphabet Interpreter

Parth Sheth – Calgary Youth – AB

From Pixels to Diagnosis: Neural Network-Based Malaria Detection

Cyrus Shobeir – Simcoe County – ON

A Smarter TV: Promoting Independent Living for Seniors Using Technology

Ella Strachan – Winnipeg Schools – MB

Dementia - Calculating Your Risk

Alexia Tomasello – Districts francophones du N.-B. – NB

Biomimétisme à la rescousse des océans, une filtration innovante inspirée du requin-pèlerin

Clare Wang, Bella Wang – Greater Vancouver – BC

A Substitute for Absorbent Layers in Menstrual Pads: Cocos Nucifera & Cannabis sativa L. Fiber

Flora Wang – Greater Vancouver – BC

Mass Spectrometry Imaging Metabolomics Reveals the Metabolic Spatial Heterogeneity in Gastric Cancer

Charlotte Woodhouse – Bluewater – ON

Dairy Dilemma: The Fertility Fallout of Inbreeding in Holsteins

Victor Xu – Toronto – ON

Hysteresis Inhibition for Performance Improvement via Halide Engineering in Perovskite Solar Cells

Excellence Award - Silver

Junior

Sponsor: Youth Science Canada

Medal and certificate

Yohann Abraham-Erhart – Réseau Technoscience – QC

Detecting Color-Blindness using Brain Signals

Ananth Arunkumar – Waterloo-Wellington – ON

RipeNet: Using Machine Learning to Help the Colourblind

Anne Bowman – Simcoe County – ON

The Battle for Our Lakes: Phosphorus vs. Activated Charcoal

Emmersyn da Mata, Hailee Marshall – Frontier Schools – MB

Weighting On Your Menstrual Cycle

Isaac Di Cresce – Winnipeg Schools – MB

Asparagus Pee Genetically

Riley Edmunds – Lambton County – ON

Breaking The Ice: Measuring the Environmental Impacts of Road Ice Removal Substances

Justin Guo – Greater Vancouver – BC

Plastic degradation through a novel Thermal Electro-Fenton System

Lilou Lefebvre, Olive Passmore – Yukon Stikine – YT

Faro Mine Disaster

Sourav Mandal – Manitoba Schools Science Symposium – MB

The Effects of the Repeated Exposure of Antibiotics on Microbial Resistance

Award Recipients

Canada-Wide Science Fair 2024

Ottawa, Ontario



Ariel Mason, Ella McFarland – Calgary Youth – AB
Optimizing Crop Growth with Agrivoltaics

Emily Mineault – Northern British Columbia – BC
Can teachers differentiate AI writing from student writing?

Emma Murimboh – Annapolis Valley – NS
Dangerous Dust?

Amelia Pletsch – Waterloo-Wellington – ON
Life on Mars: Germinating Edible Plants in Mars Regolith

Daniyal Qazi, Zayn Qazi – Bay Area – ON
From Pixels to Predictions: A Deep Learning Method to Detect Pneumonia in Chest X-Ray Images

Cyndi Rayson – Lambton County – ON
Washing Away The Environment: An Environmental Analysis on Laundry Detergent

Annika Saini – Calgary Youth – AB
Outdoor respiratory protection “pod” equipped with Stationary & Mobile powered-air purifiers

Madhav Saravanan – Peel – ON
Fantastic Bioplastics

Brenden Sener – Thames Valley – ON
Effect of Common Beverages on Artificial Kidney Stone Growth and Hardness

Sehar Sidhu – Windsor – ON
Delving Deep Into SARS-CoV-2

Kate Thiessen-Clark, Kiah Thiessen-Clark – Central Interior BC – BC
Soap as a Moisture Loss Barrier

Excellence Award - Silver

Intermediate

Sponsor: Youth Science Canada

Medal and certificate

Ayesha Abubakr – Waterloo-Wellington – ON
AnaLung: A Novel Approach to Lung Cancer Diagnosis

Abdul Majeed Al Riahi – Windsor – ON
SmartSightStick

Bahaa Al Deen Alsaadi, Zena Alsaadi – Bay Area – ON
Bits to Bedside: An Ingenious Exploration of Machine Learning in Triage Assessments

Karen Attri – Calgary Youth – AB
The Gelatine Solution: An Environmentally Friendly Alternative to Surface Electrode Pads in ECGs

Abigail Chan – Waterloo-Wellington – ON
ThinkNet: Decoding Brain Waves using an Electroencephalogram controlled BCI

Audrey Cowen – Toronto – ON
Microbes and Molecules: The Key to Abolishing Drug Resistance

Aaron Dias, Esam Taher – Edmonton – AB
Wave to the Future: Sustainable Seawater to Freshwater

Award Recipients

Canada-Wide Science Fair 2024

Ottawa, Ontario



Lianna Kruger – Thames Valley – ON
The Sound of Pathology

Dewey Liang – Greater Vancouver – BC
Gene Expression-Based Prediction of Chemotherapy Response with Machine Learning

Sarah Murimboh – Annapolis Valley – NS
Friend or Foe: Evaluating the Toxicity of Natural Pesticides on Springtails

Harry Nickerson – Halifax – NS
Screening for Retinitis Pigmentosa in the Blink of an AI

Nico Pacifici – Bay Area – ON
The PrepStep: A Mobile Health Platform to Detect Ventricular Cardiomyopathy in Athletes Using AI

Anerie Patel – Ottawa – ON
Posture Perfect: Leveraging Machine Learning to Enhance Posture Awareness and Correction

Alpita Patro – Eastern Newfoundland – NL
Neem: A Novel Approach to Optimize Treatment for Psoriasis Through Bioinformatics

Jacklyn Saddler – Niagara – ON
The Effect of Keracyanin in Attenuating the Multifactorial Pathogenesis of Ulcerative Colitis

Mohamed Saleh – Windsor – ON
Pumpkin Waste to Vegan Chic: A Sustainable Journey In Cellulose Infused Bio-Based Films For Fashion

Ella Sehn – Peterborough – ON
Right On The Nose: Using a Super-Absorbent Polymer to Improve Treatment of Chronic Sinusitis

Zane Stewart – Vancouver Island – BC
Optimization of an Ionic Thruster

Misha van Anders – Frontenac, Lennox & Addington – ON
BioWing: Biomimetic Engineering Gets a Lift

Lillian Zhang – Calgary Youth – AB
Lower Limb Auxiliary Exoskeleton with Gait Management Feedback

Excellence Award - Silver

Senior

Sponsor: Youth Science Canada
Medal and certificate

Nikita Artsimonia – Calgary Youth – AB
The "Helping Hand" Project

Ziya Bhayani – Calgary Youth – AB
Temporamental: The relationship between music tempo and calmness

Aliyan Boodhwani – Ottawa – ON
Greenifying Wastewater Treatment

Isabella Bu – Thames Valley – ON
A SEND-Based Imaging Approach to Track mRNA Delivery for Gene Therapy

Award Recipients

Canada-Wide Science Fair 2024

Ottawa, Ontario



Jiayao Chen – York – ON

Research on Inchworm Robot Based on Folding PVC Structure

Jack D'Entremont, Onkit Saha – North-West New Brunswick – NB

Stratosync

Zachary Dostie, Mickael Plante – Réseau Technoscience – QC

Les algues sauvent les élèves!

Maya LeBlanc – Bay Area – ON

Analysis of CD16+, CD16- and CD4+ T Cells to Identify Novel Gene Signatures and Diagnostics for SLE

Jordan Montague – Labrador, Western and Central NL – NL

The Effects of Fidgeting on Neurotypical Versus Neurodivergent People

Kibo Nagasaki – Bay Area – ON

Bye-Bye Haber-Bosch

Artash Nath – Toronto – ON

Deep Learning for Marine Mammal Conservation: Multi-Species Detection and Underwater Noise Assessment

Justin Peng – Greater Vancouver – BC

Low-Cost AR-Enabled Eyewear for Dynamic 3D Spatial Speech Captioning for the Hearing-Impaired

Baljot Rai – Bison – MB

MopMussels: Development of a Carpet Mussel Shell-based Biosorbent for Phosphorus

Sohila Sidhu – Windsor – ON

From Liquid To Life: Reprogramming Urinary Stem Cells Into Beta Pancreatic Cells

Cordelia Simmons – Bay Area – ON

Hydroplaning Detection and Prevention Using an AI Neural Network

Arjun Virk – Peel – ON

Using Machine Learning to Quantify Pan-Cancer Immunotherapy Response and Optimizing Treatments

Danielle Vrignon – Western Manitoba – MB

Buzzicompteur

Errita Xu – Toronto – ON

An Evaluation of the Ice-Melting Capacity, Ecotoxicity, and Corrosivity of Agro-Based Deicers

Tara Zhan – Greater Vancouver – BC

Design of a Hemiplegic Exoskeleton with an Automatic Control Strategy

Sam Zhang – Bay Area – ON

A Two-Modal Robot for Adaptability in Diverse Environments With Rolling Locomotion and Walking Gait

Excellence Award - Gold

Junior

Sponsor: Youth Science Canada

Medal and certificate

Evan Budz – Bay Area – ON

Virtual Lifeguard: A Novel AI Approach to Drowning Prevention

Award Recipients

Canada-Wide Science Fair 2024

Ottawa, Ontario



Sarah Bykewich – Edmonton – AB
Electroculture

Daisy Dong – Niagara – ON
DONKEY: A solution framework for Analysis Paralysis

Matt Fong, William Zhou – Toronto – ON
Extending Mileage on EV and Hybrid Vehicles using a Ratchet and Flywheel Regenerative Shock Absorber

Nara Harvey – Greater Vancouver – BC
Using Deep Learning to Understand Endangered Orca Pregnancies

Melrose Kinney – Annapolis Valley – NS
Screen Time Strain - The Potential Impact on Our Eyes

John Neilson – South-East New Brunswick – NB
Amelioration of Memory Through Musical Sensory Tagging

Aryan Sharma – Calgary Youth – AB
The MicroGuard Microplastic Collector

Abraham Tassi – Thames Valley – ON
The Dark Side of Energy Drinks

Oscar Weerasinghe – Bluewater – ON
Breakfast on the Brain

Excellence Award - Gold Intermediate

Sponsor: Youth Science Canada
Medal and certificate

Joy Akinkunmi – Canadian Black Scientists Network Youth – CA
Pill Smart 2.0

Tristan Butcher – Waterloo-Wellington – ON
ExoSeer: A Comprehensive Algorithm For Exoplanet Analysis

Caroline Chan – Toronto – ON
UTI-Alert: Harnessing AI Technology for Rapid Urinary Tract Infection Detection

Kathy Han – Saskatoon – SK
Designing Biomimetic Nanovesicles for Cancer Treatment

Tanvir Mundra – Greater Vancouver – BC
Reviving Resources: Harnessing Soap Nut Greywater for Sustainable Plant Growth

Jora Singh Nahal – Greater Vancouver – BC
DeviceABLE: A Novel Hands-Free Computing App for People with Disabilities

Thông Quách – Saskatoon – SK
Project PolyQuant: Quantifying Genomic DNA from Biofilms on Polyethylene in an Urban River Ecosystem

Bram St. Peters – Halifax – NS
How human biosolids can be used in lunar soils to optimize food production on the moon

Zhuola Sun – Vancouver Island – BC
Designing a More Efficient Wind Turbine

Award Recipients

Canada-Wide Science Fair 2024

Ottawa, Ontario



Sophia Zhang – Eastern Newfoundland – NL

Optimization of Novel Triboelectric Nanogenerators for Wind Energy Harvesting at Low Speeds

Excellence Award - Gold

Senior

Sponsor: Youth Science Canada

Medal and certificate

Saras Agrawal, Rateb Ajamieh – Edmonton – AB

HeartHear: A Machine Learning Powered Ear-Wearable for Cardiovascular Disease Detection & Prediction

Noah Bryan – Canadian Black Scientists Network Youth – CA

Is the water safe to drink? The rapid test is the missing link!

Angela Cao – Greater Vancouver – BC

S2S: AI-Powered Translation Between Sign and Spoken Languages

Casper Dong – Waterloo-Wellington – ON

"Solving A Water Crisis" A Novel Device For Water Generation and Utilization in Desert Solar Arrays

Joti Gokaraju – Saskatoon – SK

TouchTalk: A Novel Braille Communication Platform for the Deafblind

Veronica Guo – Greater Vancouver – BC

A Novel, Cost-Effective Biological Photovoltaic for Wastewater Treatment

Dolev Klein Harari – United Counties – ON

The Schizophrenia Software Solution

Jonathan Li – Frontenac, Lennox & Addington – ON

Can We Trust AI Text Detectors? Exposing Limitations and Proposing Fixes

Roocha Shukla – Waterloo-Wellington – ON

Green-Armour: A Novel Plant Biostimulant

Ann Wang – Greater Vancouver – BC

Eradicating Cystic Fibrosis Biofilms by a Novel Non-Toxic, Multi-Pathway Salicylate Therapy

Challenge Award - Aerospace

Junior

Sponsor: Youth Science Canada

Certificate

Amelia Pletsch – Waterloo-Wellington – ON

Life on Mars: Germinating Edible Plants in Mars Regolith

Challenge Award - Aerospace

Intermediate

Sponsor: Youth Science Canada

Certificate

Bram St. Peters – Halifax – NS

How human biosolids can be used in lunar soils to optimize food production on the moon

Award Recipients

Canada-Wide Science Fair 2024

Ottawa, Ontario



Challenge Award - Aerospace

Senior

Sponsor: Youth Science Canada

Certificate

Jack D'Entremont, Onkit Saha – North-West New Brunswick – NB

Stratosync

Challenge Award - Agriculture, Fisheries and Food

Junior

Sponsor: Youth Science Canada

Certificate

Sarah Bykewich – Edmonton – AB

Electroculture

Challenge Award - Agriculture, Fisheries and Food

Intermediate

Sponsor: Youth Science Canada

Certificate

Isabella Pozniak – Peace Country – AB

Do seed treatments matter?

Challenge Award - Agriculture, Fisheries and Food

Senior

Sponsor: Youth Science Canada

Certificate

Roocha Shukla – Waterloo-Wellington – ON

Green-Armour: A Novel Plant Biostimulant

Challenge Award - Curiosity and Ingenuity

Junior

Sponsor: Youth Science Canada

Daisy Dong – Niagara – ON

DONKEY: A solution framework for Analysis Paralysis

Challenge Award - Curiosity and Ingenuity

Intermediate

Sponsor: Youth Science Canada

Thông Quách – Saskatoon – SK

Project PolyQuant: Quantifying Genomic DNA from Biofilms on Polyethylene in an Urban River Ecosystem

Challenge Award - Curiosity and Ingenuity

Senior

Sponsor: Youth Science Canada

Nikita Artsimonia – Calgary Youth – AB

The "Helping Hand" Project

Challenge Award - Digital Technology

Junior

Sponsor: Youth Science Canada

Evan Budz – Bay Area – ON

Virtual Lifeguard: A Novel AI Approach to Drowning Prevention

Award Recipients

Canada-Wide Science Fair 2024

Ottawa, Ontario



Challenge Award - Digital Technology

Intermediate

Sponsor: Youth Science Canada

Jora Singh Nahal – Greater Vancouver – BC

DeviceABLE: A Novel Hands-Free Computing App for People with Disabilities

Challenge Award - Digital Technology

Senior

Sponsor: Youth Science Canada

Angela Cao – Greater Vancouver – BC

S2S: AI-Powered Translation Between Sign and Spoken Languages

Challenge Award - Disease and Illness

Junior

Sponsor: Youth Science Canada

Sehar Sidhu – Windsor – ON

Delving Deep Into SARS-CoV-2

Challenge Award - Disease and Illness

Intermediate

Sponsor: Youth Science Canada

Kathy Han – Saskatoon – SK

Designing Biomimetic Nanovesicles for Cancer Treatment

Challenge Award - Disease and Illness

Senior

Sponsor: Youth Science Canada

Ann Wang – Greater Vancouver – BC

Eradicating Cystic Fibrosis Biofilms by a Novel Non-Toxic, Multi-Pathway Salicylate Therapy

Challenge Award - Energy

Junior

Sponsor: Youth Science Canada

Matt Fong, William Zhou – Toronto – ON

Extending Mileage on EV and Hybrid Vehicles using a Ratchet and Flywheel Regenerative Shock Absorber

Challenge Award - Energy

Intermediate

Sponsor: Youth Science Canada

Zhuola Sun – Vancouver Island – BC

Designing a More Efficient Wind Turbine

Challenge Award - Energy

Senior

Sponsor: Youth Science Canada

Veronica Guo – Greater Vancouver – BC

A Novel, Cost-Effective Biological Photovoltaic for Wastewater Treatment

Award Recipients

Canada-Wide Science Fair 2024

Ottawa, Ontario



Challenge Award - Environment and Climate Change

Junior

Sponsor: Youth Science Canada

Aryan Sharma – Calgary Youth – AB
The MicroGuard Microplastic Collector

Challenge Award - Environment and Climate Change

Intermediate

Sponsor: Youth Science Canada

Sarah Murimboh – Annapolis Valley – NS
Friend or Foe: Evaluating the Toxicity of Natural Pesticides on Springtails

Challenge Award - Environment and Climate Change

Senior

Sponsor: Youth Science Canada

Noah Bryan – Canadian Black Scientists Network Youth – CA
Is the water safe to drink? The rapid test is the missing link!

Challenge Award - Health and Wellness

Junior

Sponsor: Youth Science Canada

Oscar Weerasinghe – Bluewater – ON
Breakfast on the Brain

Challenge Award - Health and Wellness

Intermediate

Sponsor: Youth Science Canada

Joy Akinkunmi – Canadian Black Scientists Network Youth – CA
Pill Smart 2.0

Challenge Award - Health and Wellness

Senior

Sponsor: Youth Science Canada

Joti Gokaraju – Saskatoon – SK
TouchTalk: A Novel Braille Communication Platform for the Deafblind

Challenge Award - Natural Resources

Junior

Sponsor: Youth Science Canada

Justin Guo – Greater Vancouver – BC
Plastic degradation through a novel Thermal Electro-Fenton System

Challenge Award - Natural Resources

Intermediate

Sponsor: Youth Science Canada

Tanvir Mundra – Greater Vancouver – BC
Reviving Resources: Harnessing Soap Nut Greywater for Sustainable Plant Growth

Award Recipients

Canada-Wide Science Fair 2024

Ottawa, Ontario



Challenge Award - Natural Resources

Senior

Sponsor: Youth Science Canada

Casper Dong – Waterloo-Wellington – ON

“Solving A Water Crisis” A Novel Device For Water Generation and Utilization in Desert Solar Arrays

Sanofi Biogenius Canada Award

Junior

Sponsor: Sanofi Canada

Three projects each receive a \$500 cash award and certificate

Sarah Bykewich – Edmonton – AB

Electroculture

Sehar Sidhu – Windsor – ON

Delving Deep Into SARS-CoV-2

Kristina Tannert – Central Interior BC – BC

From Oil Spills to Algae Thrills

Sanofi Biogenius Canada Award

Intermediate

Sponsor: Sanofi Canada

Three projects each receive a \$750 cash award and certificate

Audrey Cowen – Toronto – ON

Microbes and Molecules: The Key to Abolishing Drug Resistance

Jacklyn Saddler – Niagara – ON

The Effect of Keracyanin in Attenuating the Multifactorial Pathogenesis of Ulcerative Colitis

Ella Sehn – Peterborough – ON

Right On The Nose: Using a Super-Absorbent Polymer to Improve Treatment of Chronic Sinusitis

Sanofi Biogenius Canada Award

Senior

Sponsor: Sanofi Canada

Three projects each receive a \$1,000 cash award and certificate

Noah Bryan – Canadian Black Scientists Network Youth – CA

Is the water safe to drink? The rapid test is the missing link!

Baljot Rai – Bison – MB

MopMussels: Development of a Carpet Mussel Shell-based Biosorbent for Phosphorus

Viduni Siriwardana – Greater Vancouver – BC

Novel Nanoparticle Drug Treatment for Adult BCP-ALL Using In-Silico Modeling

Youth Can Innovate Award

Junior

Sponsor: Gwyn Morgan & Patricia Trottier Foundation

\$500 cash, presentation award and certificate

Evan Budz – Bay Area – ON

Virtual Lifeguard: A Novel AI Approach to Drowning Prevention

Award Recipients

Canada-Wide Science Fair 2024

Ottawa, Ontario



Matt Fong, William Zhou – Toronto – ON

Extending Mileage on EV and Hybrid Vehicles using a Ratchet and Flywheel Regenerative Shock Absorber

Isabella Guan – Quinte – ON

The Sound Catcher 2.0: A new and improved innovative device harvesting energy from sound

Aryan Sharma – Calgary Youth – AB

The MicroGuard Microplastic Collector

Youth Can Innovate Award

Intermediate

Sponsor: Gwyn Morgan & Patricia Trottier Foundation
\$750 cash, a presentation award and a certificate

Karen Attri – Calgary Youth – AB

The Gelatine Solution: An Environmentally Friendly Alternative to Surface Electrode Pads in ECGs

Abigail Chan – Waterloo-Wellington – ON

ThinkNet: Decoding Brain Waves using an Electroencephalogram controlled BCI

Jora Singh Nahal – Greater Vancouver – BC

DeviceABLE: A Novel Hands-Free Computing App for People with Disabilities

Thông Quách – Saskatoon – SK

Project PolyQuant: Quantifying Genomic DNA from Biofilms on Polyethylene in an Urban River Ecosystem

Youth Can Innovate Award

Senior

Sponsor: Gwyn Morgan & Patricia Trottier Foundation
\$1,000 cash, a presentation award and a certificate

Saras Agrawal, Rateb Ajamieh – Edmonton – AB

HeartHear: A Machine Learning Powered Ear-Wearable for Cardiovascular Disease Detection & Prediction

Noah Bryan – Canadian Black Scientists Network Youth – CA

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Joti Gokaraju – Saskatoon – SK

TouchTalk: A Novel Braille Communication Platform for the Deafblind

Veronica Guo – Greater Vancouver – BC

A Novel, Cost-Effective Biological Photovoltaic for Wastewater Treatment

Artash Nath – Toronto – ON

Deep Learning for Marine Mammal Conservation: Multi-Species Detection and Underwater Noise Assessment

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Green-Armour: A Novel Plant Biostimulant

Sohila Sidhu – Windsor – ON

From Liquid To Life: Reprogramming Urinary Stem Cells Into Beta Pancreatic Cells

Tara Zhan – Greater Vancouver – BC

Design of a Hemiplegic Exoskeleton with an Automatic Control Strategy

Award Recipients

Canada-Wide Science Fair 2024

Ottawa, Ontario



Youth Can Innovate Award

Senior

Sponsor: Gwyn Morgan & Patricia Trottier Foundation
An additional \$7,000 cash award and certificate

Saras Agrawal, Rateb Ajamieh – Edmonton – AB

HeartHear: A Machine Learning Powered Ear-Wearable for Cardiovascular Disease Detection & Prediction

Noah Bryan – Canadian Black Scientists Network Youth – CA

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Artash Nath – Toronto – ON

Deep Learning for Marine Mammal Conservation: Multi-Species Detection and Underwater Noise Assessment

Roocha Shukla – Waterloo-Wellington – ON

Green-Armour: A Novel Plant Biostimulant

Platinum Award - Discovery

Junior

Sponsor: Youth Science Canada
Crystal award

Sarah Bykewich – Edmonton – AB

Electroculture

Platinum Award - Discovery

Intermediate

Sponsor: Youth Science Canada
Crystal award

Tanvir Mundra – Greater Vancouver – BC

Reviving Resources: Harnessing Soap Nut Greywater for Sustainable Plant Growth

Platinum Award - Innovation

Junior

Sponsor: Youth Science Canada
Crystal award

Evan Budz – Bay Area – ON

Virtual Lifeguard: A Novel AI Approach to Drowning Prevention

Platinum Award - Innovation

Intermediate

Sponsor: Youth Science Canada
Crystal award

Kathy Han – Saskatoon – SK

Designing Biomimetic Nanovesicles for Cancer Treatment

Taiwan International Science Fair

Open

Sponsor: Youth Science Canada

Kathy Han – Saskatoon – SK

Designing Biomimetic Nanovesicles for Cancer Treatment

Tanvir Mundra – Greater Vancouver – BC

Reviving Resources: Harnessing Soap Nut Greywater for Sustainable Plant Growth

Award Recipients

Canada-Wide Science Fair 2024

Ottawa, Ontario



Best Project Award - Discovery

Open

Sponsor: Youth Science Canada and Gwyn Morgan & Patricia Trottier Foundation
Crystal award

Ann Wang – Greater Vancouver – BC

Eradicating Cystic Fibrosis Biofilms by a Novel Non-Toxic, Multi-Pathway Salicylate Therapy

Best Project Award - Innovation

Open

Sponsor: Youth Science Canada and Gwyn Morgan & Patricia Trottier Foundation
Crystal award

Angela Cao – Greater Vancouver – BC

S2S: AI-Powered Translation Between Sign and Spoken Languages

Carleton University Entrance Scholarship

Senior

Sponsor: Carleton University - Faculty of Engineering and Design, Faculty of Science
Senior Gold Medallist - \$5,000 Entrance Scholarship

Saras Agrawal, Rateb Ajamieh – Edmonton – AB

HeartHear: A Machine Learning Powered Ear-Wearable for Cardiovascular Disease Detection & Prediction

Noah Bryan – Canadian Black Scientists Network Youth – CA

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Casper Dong – Waterloo-Wellington – ON

“Solving A Water Crisis” A Novel Device For Water Generation and Utilization in Desert Solar Arrays

Joti Gokaraju – Saskatoon – SK

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Veronica Guo – Greater Vancouver – BC

A Novel, Cost-Effective Biological Photovoltaic for Wastewater Treatment

Dolev Klein Harari – United Counties – ON

The Schizophrenia Software Solution

Jonathan Li – Frontenac, Lennox & Addington – ON

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Roocha Shukla – Waterloo-Wellington – ON

Green-Armour: A Novel Plant Biostimulant

Ann Wang – Greater Vancouver – BC

Eradicating Cystic Fibrosis Biofilms by a Novel Non-Toxic, Multi-Pathway Salicylate Therapy

Carleton University Entrance Scholarship

Senior

Sponsor: Carleton University - Faculty of Engineering and Design, Faculty of Science
Senior Silver Medallist - \$2500 Entrance Scholarship

Nikita Artsimonia – Calgary Youth – AB

The “Helping Hand” Project

Award Recipients

Canada-Wide Science Fair 2024

Ottawa, Ontario



Ziya Bhayani – Calgary Youth – AB

Temporamental: The relationship between music tempo and calmness

Aliyan Boodhwani – Ottawa – ON

Greenifying Wastewater Treatment

Isabella Bu – Thames Valley – ON

A SEND-Based Imaging Approach to Track mRNA Delivery for Gene Therapy

Jiayao Chen – York – ON

Research on Inchworm Robot Based on Folding PVC Structure

Jack D'Entremont, Onkit Saha – North-West New Brunswick – NB

Stratosync

Zachary Dostie, Mickael Plante – Réseau Technoscience – QC

Les algues sauvent les élèves!

Maya LeBlanc – Bay Area – ON

Analysis of CD16+, CD16- and CD4+ T Cells to Identify Novel Gene Signatures and Diagnostics for SLE

Jordan Montague – Labrador, Western and Central NL – NL

The Effects of Fidgeting on Neurotypical Versus Neurodivergent People

Kibo Nagasaki – Bay Area – ON

Bye-Bye Haber-Bosch

Artash Nath – Toronto – ON

Deep Learning for Marine Mammal Conservation: Multi-Species Detection and Underwater Noise Assessment

Justin Peng – Greater Vancouver – BC

Low-Cost AR-Enabled Eyewear for Dynamic 3D Spatial Speech Captioning for the Hearing-Impaired

Baljot Rai – Bison – MB

MopMussels: Development of a Carpet Mussel Shell-based Biosorbent for Phosphorus

Sohila Sidhu – Windsor – ON

From Liquid To Life: Reprogramming Urinary Stem Cells Into Beta Pancreatic Cells

Cordelia Simmons – Bay Area – ON

Hydroplaning Detection and Prevention Using an AI Neural Network

Arjun Virk – Peel – ON

Using Machine Learning to Quantify Pan-Cancer Immunotherapy Response and Optimizing Treatments

Danielle Vrignon – Western Manitoba – MB

Buzzicompteur

Errita Xu – Toronto – ON

An Evaluation of the Ice-Melting Capacity, Ecotoxicity, and Corrosivity of Agro-Based Deicers

Tara Zhan – Greater Vancouver – BC

Design of a Hemiplegic Exoskeleton with an Automatic Control Strategy

Sam Zhang – Bay Area – ON

A Two-Modal Robot for Adaptability in Diverse Environments With Rolling Locomotion and Walking Gait

Award Recipients

Canada-Wide Science Fair 2024

Ottawa, Ontario



Carleton University Entrance Scholarship

Senior

Sponsor: Carleton University - Faculty of Engineering and Design, Faculty of Science
Senior Bronze Medallist - \$1500 Entrance Scholarship

Aahil Ansari – Edmonton – AB

CD36, Sex Differences, Microgravity, and Osteoarthritis

Braden Baumann, Tessa Todd – Saskatchewan Chinook – SK

Learning About Learning

Amani Kaur Bhullar – Ottawa – ON

Analysis of Toroidal Propeller Sound Characteristics & Efficiency

Kamryn Binns – Cape Breton – NS

Nutrient Solutions in Hydroponic Gardens

Anna Chen – Waterloo-Wellington – ON

Graphene Quantum Dots for Dendrite-Free Zinc-Ion Batteries

Jason Cheng – Vancouver Island – BC

Cleaner Sponges, Greener Planet

Cooper Choi – Calgary Youth – AB

Effect of Repeated Concussions on Complement Protein Expression in Adolescent Brains

Dennis Golubev, Justin Yu – Fraser Valley – BC

A Novel Approach to Wastewater Treatment

Anqi Guan – Winnipeg Schools – MB

Can IL-17A help Maintain the Immune Privilege of Mesenchymal Stem Cells under Hypoxia?

Ava Haynes – Saskatchewan First Nations – SK

Observing and Culturing Cyanobacteria

Tanya Jivani, Lalithya Raavi – Wood Buffalo – AB

Fuelling the Future: Investigating Cost Efficient Methods of Hydrogen Production

Khaleel Khaki, Mohammadmahdi Shahhaidari – York – ON

AutoShield 2.0: The Dual-Defense System For All Vehicles

Richard Lee – Vancouver Island – BC

Is Bigger Better?

Jonathan Leung – Greater Vancouver – BC

Comparing Spider Diversity between 2 Farming Communities & Assessing Alpha, Beta & Gamma Diversities

Karys Littlejohns – Simcoe County – ON

Investigating trace drug prevalence in public recreational spaces using ion mobility spectrometry

Vincent Liu – Calgary Youth – AB

Can Bacteriophages Isolated from Municipal Wastewater Lyse Multi-drug Resistant E. coli ST131

Jialin Luo – Frontenac, Lennox & Addington – ON

Bioplastics: The Strength of Calcium Alginate

Mapalo Mushoriwa – Saskatchewan Chinook – SK

The Effect of Climate Conditions and Cadmium Uptake in Wheat

Award Recipients

Canada-Wide Science Fair 2024

Ottawa, Ontario



Hadiya Omer – Winnipeg Schools – MB

Examining Apical Area Dynamics in Distal Cell Development: Drosophila Model Approach

Stephanie Palma – Manitoba Schools Science Symposium – MB

Loss of SKP2 Induces Chromosome Instability in Tubo-Ovarian Context

Saeko Sakuraba – Ottawa – ON

Effects of low oxygen conditions during embryogenesis on growth in zebrafish

Stoyan Sendov – Thames Valley – ON

Real-time American Sign Language Alphabet Interpreter

Parth Sheth – Calgary Youth – AB

From Pixels to Diagnosis: Neural Network-Based Malaria Detection

Cyrus Shobeir – Simcoe County – ON

A Smarter TV: Promoting Independent Living for Seniors Using Technology

Ella Strachan – Winnipeg Schools – MB

Dementia - Calculating Your Risk

Alexia Tomasello – Districts francophones du N.-B. – NB

Biomimétisme à la rescousse des océans, une filtration innovante inspirée du requin-pèlerin

Clare Wang, Bella Wang – Greater Vancouver – BC

A Substitute for Absorbent Layers in Menstrual Pads: Cocos Nucifera & Cannabis sativa L. Fiber

Flora Wang – Greater Vancouver – BC

Mass Spectrometry Imaging Metabolomics Reveals the Metabolic Spatial Heterogeneity in Gastric Cancer

Charlotte Woodhouse – Bluewater – ON

Dairy Dilemma: The Fertility Fallout of Inbreeding in Holsteins

Victor Xu – Toronto – ON

Hysteresis Inhibition for Performance Improvement via Halide Engineering in Perovskite Solar Cells

Dalhousie University Faculty of Science Entrance Scholarship

Senior

Sponsor: Dalhousie University, Faculty of Science

Senior Gold Medallist - \$5000 Entrance Scholarship

Saras Agrawal, Rateb Ajamieh – Edmonton – AB

HeartHear: A Machine Learning Powered Ear-Wearable for Cardiovascular Disease Detection & Prediction

Noah Bryan – Canadian Black Scientists Network Youth – CA

Is the water safe to drink? The rapid test is the missing link!

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S2S: AI-Powered Translation Between Sign and Spoken Languages

Casper Dong – Waterloo-Wellington – ON

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TouchTalk: A Novel Braille Communication Platform for the Deafblind

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Canada-Wide Science Fair 2024

Ottawa, Ontario



Veronica Guo – Greater Vancouver – BC
A Novel, Cost-Effective Biological Photovoltaic for Wastewater Treatment

Dolev Klein Harari – United Counties – ON
The Schizophrenia Software Solution

Jonathan Li – Frontenac, Lennox & Addington – ON
Can We Trust AI Text Detectors? Exposing Limitations and Proposing Fixes

Roocha Shukla – Waterloo-Wellington – ON
Green-Armour: A Novel Plant Biostimulant

Ann Wang – Greater Vancouver – BC
Eradicating Cystic Fibrosis Biofilms by a Novel Non-Toxic, Multi-Pathway Salicylate Therapy

Dalhousie University Faculty of Science Entrance Scholarship

Senior

Sponsor: Dalhousie University, Faculty of Science
Senior Silver Medallist - \$2500 Entrance Scholarship

Nikita Artsimonia – Calgary Youth – AB
The “Helping Hand” Project

Ziya Bhayani – Calgary Youth – AB
Temporamental: The relationship between music tempo and calmness

Aliyan Boodhwani – Ottawa – ON
Greenifying Wastewater Treatment

Isabella Bu – Thames Valley – ON
A SEND-Based Imaging Approach to Track mRNA Delivery for Gene Therapy

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Research on Inchworm Robot Based on Folding PVC Structure

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Stratosync

Zachary Dostie, Mickael Plante – Réseau Technoscience – QC
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Analysis of CD16+, CD16- and CD4+ T Cells to Identify Novel Gene Signatures and Diagnostics for SLE

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Kibo Nagasaki – Bay Area – ON
Bye-Bye Haber-Bosch

Artash Nath – Toronto – ON
Deep Learning for Marine Mammal Conservation: Multi-Species Detection and Underwater Noise Assessment

Justin Peng – Greater Vancouver – BC
Low-Cost AR-Enabled Eyewear for Dynamic 3D Spatial Speech Captioning for the Hearing-Impaired

Baljot Rai – Bison – MB
MopMussels: Development of a Carpet Mussel Shell-based Biosorbent for Phosphorus

Award Recipients

Canada-Wide Science Fair 2024

Ottawa, Ontario



Sohila Sidhu – Windsor – ON

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Cordelia Simmons – Bay Area – ON

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Arjun Virk – Peel – ON

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Buzzicompteur

Errita Xu – Toronto – ON

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Tara Zhan – Greater Vancouver – BC

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Sam Zhang – Bay Area – ON

A Two-Modal Robot for Adaptability in Diverse Environments With Rolling Locomotion and Walking Gait

Mount Allison University Entrance Scholarship

Open

Sponsor: Mount Allison University

Gold Medallist - \$5,000 Entrance Scholarship

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HearHear: A Machine Learning Powered Ear-Wearable for Cardiovascular Disease Detection & Prediction

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Pill Smart 2.0

Noah Bryan – Canadian Black Scientists Network Youth – CA

Is the water safe to drink? The rapid test is the missing link!

Tristan Butcher – Waterloo-Wellington – ON

ExoSeer: A Comprehensive Algorithm For Exoplanet Analysis

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Caroline Chan – Toronto – ON

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Ottawa, Ontario



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Reviving Resources: Harnessing Soap Nut Greywater for Sustainable Plant Growth

Jora Singh Nahal – Greater Vancouver – BC

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Thông Quách – Saskatoon – SK

Project PolyQuant: Quantifying Genomic DNA from Biofilms on Polyethylene in an Urban River Ecosystem

Roocha Shukla – Waterloo-Wellington – ON

Green-Armour: A Novel Plant Biostimulant

Bram St. Peters – Halifax – NS

How human biosolids can be used in lunar soils to optimize food production on the moon

Zhuola Sun – Vancouver Island – BC

Designing a More Efficient Wind Turbine

Ann Wang – Greater Vancouver – BC

Eradicating Cystic Fibrosis Biofilms by a Novel Non-Toxic, Multi-Pathway Salicylate Therapy

Sophia Zhang – Eastern Newfoundland – NL

Optimization of Novel Triboelectric Nanogenerators for Wind Energy Harvesting at Low Speeds

Mount Allison University Entrance Scholarship

Open

Sponsor: Mount Allison University

Silver Medallist - \$4,000 Entrance Scholarship

Ayesha Abubakr – Waterloo-Wellington – ON

AnaLung: A Novel Approach to Lung Cancer Diagnosis

Abdul Majeed Al Riahi – Windsor – ON

SmartSightStick

Bahaa Al Deen Alsaadi, Zena Alsaadi – Bay Area – ON

Bits to Bedside: An Ingenious Exploration of Machine Learning in Triage Assessments

Nikita Artsimonia – Calgary Youth – AB

The "Helping Hand" Project

Karen Attri – Calgary Youth – AB

The Gelatine Solution: An Environmentally Friendly Alternative to Surface Electrode Pads in ECGs

Ziya Bhayani – Calgary Youth – AB

Temporamental: The relationship between music tempo and calmness

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ThinkNet: Decoding Brain Waves using an Electroencephalogram controlled BCI

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Audrey Cowen – Toronto – ON

Microbes and Molecules: The Key to Abolishing Drug Resistance

Jack D'Entremont, Onkit Saha – North-West New Brunswick – NB

Stratosync

Aaron Dias, Esam Taher – Edmonton – AB

Wave to the Future: Sustainable Seawater to Freshwater

Zachary Dostie, Mickael Plante – Réseau Technoscience – QC

Les algues sauvent les élèves!

Lianna Kruger – Thames Valley – ON

The Sound of Pathology

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Jordan Montague – Labrador, Western and Central NL – NL

The Effects of Fidgeting on Neurotypical Versus Neurodivergent People

Sarah Murimboh – Annapolis Valley – NS

Friend or Foe: Evaluating the Toxicity of Natural Pesticides on Springtails

Kibo Nagasaki – Bay Area – ON

Bye-Bye Haber-Bosch

Artash Nath – Toronto – ON

Deep Learning for Marine Mammal Conservation: Multi-Species Detection and Underwater Noise Assessment

Harry Nickerson – Halifax – NS

Screening for Retinitis Pigmentosa in the Blink of an AI

Nico Pacifici – Bay Area – ON

The PrepStep: A Mobile Health Platform to Detect Ventricular Cardiomyopathy in Athletes Using AI

Anerie Patel – Ottawa – ON

Posture Perfect: Leveraging Machine Learning to Enhance Posture Awareness and Correction

Alpita Patro – Eastern Newfoundland – NL

Neem: A Novel Approach to Optimize Treatment for Psoriasis Through Bioinformatics

Justin Peng – Greater Vancouver – BC

Low-Cost AR-Enabled Eyewear for Dynamic 3D Spatial Speech Captioning for the Hearing-Impaired

Baljot Rai – Bison – MB

MopMussels: Development of a Carpet Mussel Shell-based Biosorbent for Phosphorus

Award Recipients

Canada-Wide Science Fair 2024

Ottawa, Ontario



Jacklyn Saddler – Niagara – ON

The Effect of Keracyanin in Attenuating the Multifactorial Pathogenesis of Ulcerative Colitis

Mohamed Saleh – Windsor – ON

Pumpkin Waste to Vegan Chic: A Sustainable Journey In Cellulose Infused Bio-Based Films For Fashion

Ella Sehn – Peterborough – ON

Right On The Nose: Using a Super-Absorbent Polymer to Improve Treatment of Chronic Sinusitis

Sohila Sidhu – Windsor – ON

From Liquid To Life: Reprogramming Urinary Stem Cells Into Beta Pancreatic Cells

Cordelia Simmons – Bay Area – ON

Hydroplaning Detection and Prevention Using an AI Neural Network

Zane Stewart – Vancouver Island – BC

Optimization of an Ionic Thruster

Misha van Anders – Frontenac, Lennox & Addington – ON

BioWing: Biomimetic Engineering Gets a Lift

Arjun Virk – Peel – ON

Using Machine Learning to Quantify Pan-Cancer Immunotherapy Response and Optimizing Treatments

Danielle Vrignon – Western Manitoba – MB

Buzzicompteur

Errita Xu – Toronto – ON

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Tara Zhan – Greater Vancouver – BC

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Lillian Zhang – Calgary Youth – AB

Lower Limb Auxiliary Exoskeleton with Gait Management Feedback

Sam Zhang – Bay Area – ON

A Two-Modal Robot for Adaptability in Diverse Environments With Rolling Locomotion and Walking Gait

Mount Allison University Entrance Scholarship

Open

Sponsor: Mount Allison University

Bronze Medallist - \$3,000 Entrance Scholarship

Finn Adamson – Vancouver Island – BC

Pain Science and the Peak-End Rule

Joel Amaldas – Calgary Youth – AB

The Skin Screener: an AI Detector for Melanoma Skin Cancer

Aahil Ansari – Edmonton – AB

CD36, Sex Differences, Microgravity, and Osteoarthritis

Shayan Awan – Wood Buffalo – AB

NeuroSpectrum: A Brainwave-Powered Vision Enhancement Device

Award Recipients

Canada-Wide Science Fair 2024

Ottawa, Ontario



Braden Baumann, Tessa Todd – Saskatchewan Chinook – SK
Learning About Learning

Amani Kaur Bhullar – Ottawa – ON
Analysis of Toroidal Propeller Sound Characteristics & Efficiency

Kamryn Binns – Cape Breton – NS
Nutrient Solutions in Hydroponic Gardens

Kaitlyn Chan – Vancouver Island – BC
Predicting Surgical Patient Outcomes

Brian Chang – Saskatoon – SK
Conversion of Food Waste to Energy: Scaled Up from Saskatoon to Canada

Anna Chen – Waterloo-Wellington – ON
Graphene Quantum Dots for Dendrite-Free Zinc-Ion Batteries

Jason Cheng – Vancouver Island – BC
Cleaner Sponges, Greener Planet

Lyla Chiasson – Rideau-St. Lawrence – ON
Seep and Destroy

Cooper Choi – Calgary Youth – AB
Effect of Repeated Concussions on Complement Protein Expression in Adolescent Brains

Kevin Cornell – South-East New Brunswick – NB
Carbon-Negative Electricity: Generating Electricity from the Combustion of Scrap Metal

Kylie Dysart, Claire Linklater – Frontier Schools – MB
Human Impacts on the South Indian Lake Ecosystem

Shanika-Skye Einish-Nattawappio, Alyson Einish-Tooma – Aboriginal Québec Autochtone – QC
The Effect of Consuming Nicotine Vapes on Human Health and Lifestyle: An Investigative Study

Annaliese Froehler – East Kootenay – BC
Hands-On Healing: Exploring Sustainable Rehabilitation Possibilities Using VR Hand Tracking

Dennis Golubev, Justin Yu – Fraser Valley – BC
A Novel Approach to Wastewater Treatment

Anqi Guan – Winnipeg Schools – MB
Can IL-17A help Maintain the Immune Privilege of Mesenchymal Stem Cells under Hypoxia?

Malek Hammoud – Thames Valley – ON
GreenGuardian: Automated Weed Detection and Elimination

Sammy Hawari – Waterloo-Wellington – ON
Sign Vocalizer: Elevating Non-Verbal Communication

Ava Haynes – Saskatchewan First Nations – SK
Observing and Culturing Cyanobacteria

Tanya Jivani, Lalithya Raavi – Wood Buffalo – AB
Fuelling the Future: Investigating Cost Efficient Methods of Hydrogen Production

Award Recipients

Canada-Wide Science Fair 2024

Ottawa, Ontario



Ben Kawa – Sudbury – ON

Driver Wake Up 2.0: A Compact Standalone Device

Khaleel Khaki, Mohammadmahdi Shahhaidari – York – ON

AutoShield 2.0: The Dual-Defense System For All Vehicles

Visisht Kodali – South Fraser – BC

WoundSense

Solomon Kogan – Simcoe County – ON

Effect of a Cryohelmet on Memory and Attention

Alina Kotchetkov – Simcoe County – ON

Omega-3: the Building Blocks for Brain Health

Sreya Kurup – South Fraser – BC

Investigating the impact of natural antibiotics on bacteria

Richard Lee – Vancouver Island – BC

Is Bigger Better?

Jonathan Leung – Greater Vancouver – BC

Comparing Spider Diversity between 2 Farming Communities & Assessing Alpha, Beta & Gamma Diversities

Karys Littlejohns – Simcoe County – ON

Investigating trace drug prevalence in public recreational spaces using ion mobility spectrometry

Vincent Liu – Calgary Youth – AB

Can Bacteriophages Isolated from Municipal Wastewater Lyse Multi-drug Resistant E. coli ST131

Avalon Lively – Halifax – NS

Mycorrhizal Medicine: Do Mutualistic Fungi Enrich Forest Health?

Jialin Luo – Frontenac, Lennox & Addington – ON

Bioplastics: The Strength of Calcium Alginate

Persephone Mills – Northwestern Ontario – ON

The Effectiveness of Honey and Bee Propolis as an Antibacterial Agent

Mapalo Mushoriwa – Saskatchewan Chinook – SK

The Effect of Climate Conditions and Cadmium Uptake in Wheat

Hadiya Omer – Winnipeg Schools – MB

Examining Apical Area Dynamics in Distal Cell Development: Drosophila Model Approach

Stephanie Palma – Manitoba Schools Science Symposium – MB

Loss of SKP2 Induces Chromosome Instability in Tubo-Ovarian Context

Isabella Pozniak – Peace Country – AB

Do seed treatments matter?

Reuel Ramalingam – Durham – ON

Turmeric; the solution to CTE?: Reducing the production of amyloid plaques in the brain after TBIs

Melia Roberts – Cape Breton – NS

The Mould War: Chemical vs. Natural Mould Inhibitors

Award Recipients

Canada-Wide Science Fair 2024

Ottawa, Ontario



Saeko Sakuraba – Ottawa – ON

Effects of low oxygen conditions during embryogenesis on growth in zebrafish

Raneem Salah – Ottawa – ON

The Eye Spy Scanner; The Window to Your Health

Rakshan Saravanan – Bay Area – ON

The Electrocorpulgraph: Can AI change auscultation?

Jiya Savsani – North Bay – ON

Highway Harvest: Determining Efficient Ways to Harness Renewable Energy on Highways

Stoyan Sendov – Thames Valley – ON

Real-time American Sign Language Alphabet Interpreter

Parth Sheth – Calgary Youth – AB

From Pixels to Diagnosis: Neural Network-Based Malaria Detection

Cyrus Shobeir – Simcoe County – ON

A Smarter TV: Promoting Independent Living for Seniors Using Technology

Seol So – Quinte – ON

The Third Eye - the new approach for Visually Impaired People to Navigate Websites

Katelynn Standell – Southeast Alberta – AB

Is Your Happiness Killing You?

Ella Strachan – Winnipeg Schools – MB

Dementia - Calculating Your Risk

Maiara Costa Telmer – Vancouver Island – BC

The Future of Composites

Alexia Tomasello – Districts francophones du N.-B. – NB

Biomimétisme à la rescousse des océans, une filtration innovante inspirée du requin-pèlerin

Daniil Tyurin – Calgary Youth – AB

On The Use of Micro-Scale Piezoelectric Crystals and Their Ultrasound Wave Backscatter in BCIs

Kavishi Udumullage – Manitoba Schools Science Symposium – MB

Battling the Beast: Biocontrol interventions against Fusarium graminearum to control FHB Disease

Clare Wang, Bella Wang – Greater Vancouver – BC

A Substitute for Absorbent Layers in Menstrual Pads: Cocos Nucifera & Cannabis sativa L. Fiber

Flora Wang – Greater Vancouver – BC

Mass Spectrometry Imaging Metabolomics Reveals the Metabolic Spatial Heterogeneity in Gastric Cancer

Charlotte Woodhouse – Bluewater – ON

Dairy Dilemma: The Fertility Fallout of Inbreeding in Holsteins

Victor Xu – Toronto – ON

Hysteresis Inhibition for Performance Improvement via Halide Engineering in Perovskite Solar Cells

Award Recipients

Canada-Wide Science Fair 2024

Ottawa, Ontario



UBC Science (Vancouver) Entrance Award

Senior

Sponsor: University of British Columbia (Vancouver)
Senior Gold Medallist - \$4000 Entrance Award

Saras Agrawal, Rateb Ajamieh – Edmonton – AB

HeartHear: A Machine Learning Powered Ear-Wearable for Cardiovascular Disease Detection & Prediction

Noah Bryan – Canadian Black Scientists Network Youth – CA

Is the water safe to drink? The rapid test is the missing link!

Angela Cao – Greater Vancouver – BC

S2S: AI-Powered Translation Between Sign and Spoken Languages

Casper Dong – Waterloo-Wellington – ON

“Solving A Water Crisis” A Novel Device For Water Generation and Utilization in Desert Solar Arrays

Joti Gokaraju – Saskatoon – SK

TouchTalk: A Novel Braille Communication Platform for the Deafblind

Veronica Guo – Greater Vancouver – BC

A Novel, Cost-Effective Biological Photovoltaic for Wastewater Treatment

Dolev Klein Harari – United Counties – ON

The Schizophrenia Software Solution

Jonathan Li – Frontenac, Lennox & Addington – ON

Can We Trust AI Text Detectors? Exposing Limitations and Proposing Fixes

Roocha Shukla – Waterloo-Wellington – ON

Green-Armour: A Novel Plant Biostimulant

Ann Wang – Greater Vancouver – BC

Eradicating Cystic Fibrosis Biofilms by a Novel Non-Toxic, Multi-Pathway Salicylate Therapy

University of Manitoba Entrance Scholarship

Senior

Sponsor: University of Manitoba
Senior Gold Medallist - \$5000 Entrance Scholarship

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Canada-Wide Science Fair 2024

Ottawa, Ontario



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University of New Brunswick Canada-Wide Science Fair Scholarship

Senior

Sponsor: University of New Brunswick
Senior Silver Medallist - \$2500 Entrance Scholarship

Nikita Artsimonia – Calgary Youth – AB
The “Helping Hand” Project

Ziya Bhayani – Calgary Youth – AB
Temporamental: The relationship between music tempo and calmness

Award Recipients

Canada-Wide Science Fair 2024

Ottawa, Ontario



Aliyan Boodhwani – Ottawa – ON
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Stratosync

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Les algues sauvent les élèves!

Maya LeBlanc – Bay Area – ON
Analysis of CD16+, CD16- and CD4+ T Cells to Identify Novel Gene Signatures and Diagnostics for SLE

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Deep Learning for Marine Mammal Conservation: Multi-Species Detection and Underwater Noise Assessment

Justin Peng – Greater Vancouver – BC
Low-Cost AR-Enabled Eyewear for Dynamic 3D Spatial Speech Captioning for the Hearing-Impaired

Baljot Rai – Bison – MB
MopMussels: Development of a Carpet Mussel Shell-based Biosorbent for Phosphorus

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Ottawa, Ontario



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Senior Gold Medallist - \$4,000 Entrance Scholarship

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A Two-Modal Robot for Adaptability in Diverse Environments With Rolling Locomotion and Walking Gait

University of Ottawa Entrance Scholarship

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Senior Bronze Medallist - \$1000 Entrance Scholarship

Aahil Ansari – Edmonton – AB

CD36, Sex Differences, Microgravity, and Osteoarthritis

Braden Baumann, Tessa Todd – Saskatchewan Chinook – SK

Learning About Learning

Amani Kaur Bhullar – Ottawa – ON

Analysis of Toroidal Propeller Sound Characteristics & Efficiency

Kamryn Binns – Cape Breton – NS

Nutrient Solutions in Hydroponic Gardens

Award Recipients

Canada-Wide Science Fair 2024

Ottawa, Ontario



-
- Anna Chen** – Waterloo-Wellington – ON
Graphene Quantum Dots for Dendrite-Free Zinc-Ion Batteries
-
- Jason Cheng** – Vancouver Island – BC
Cleaner Sponges, Greener Planet
-
- Cooper Choi** – Calgary Youth – AB
Effect of Repeated Concussions on Complement Protein Expression in Adolescent Brains
-
- Dennis Golubev, Justin Yu** – Fraser Valley – BC
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- Anqi Guan** – Winnipeg Schools – MB
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-
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-
- Tanya Jivani, Lalithya Raavi** – Wood Buffalo – AB
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AutoShield 2.0: The Dual-Defense System For All Vehicles
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- Richard Lee** – Vancouver Island – BC
Is Bigger Better?
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- Jonathan Leung** – Greater Vancouver – BC
Comparing Spider Diversity between 2 Farming Communities & Assessing Alpha, Beta & Gamma Diversities
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- Karys Littlejohns** – Simcoe County – ON
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-
- Vincent Liu** – Calgary Youth – AB
Can Bacteriophages Isolated from Municipal Wastewater Lyse Multi-drug Resistant E. coli ST131
-
- Jialin Luo** – Frontenac, Lennox & Addington – ON
Bioplastics: The Strength of Calcium Alginate
-
- Mapalo Mushoriwa** – Saskatchewan Chinook – SK
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-
- Hadiya Omer** – Winnipeg Schools – MB
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-
- Stephanie Palma** – Manitoba Schools Science Symposium – MB
Loss of SKP2 Induces Chromosome Instability in Tubo-Ovarian Context
-
- Saeko Sakuraba** – Ottawa – ON
Effects of low oxygen conditions during embryogenesis on growth in zebrafish
-
- Stoyan Sendov** – Thames Valley – ON
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Victor Xu – Toronto – ON

Hysteresis Inhibition for Performance Improvement via Halide Engineering in Perovskite Solar Cells

Western University Entrance Scholarship

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Gold Medallist - \$4000 Entrance Scholarship

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HeartHear: A Machine Learning Powered Ear-Wearable for Cardiovascular Disease Detection & Prediction

Joy Akinkunmi – Canadian Black Scientists Network Youth – CA

Pill Smart 2.0

Noah Bryan – Canadian Black Scientists Network Youth – CA

Is the water safe to drink? The rapid test is the missing link!

Evan Budz – Bay Area – ON

Virtual Lifeguard: A Novel AI Approach to Drowning Prevention

Tristan Butcher – Waterloo-Wellington – ON

ExoSeer: A Comprehensive Algorithm For Exoplanet Analysis

Sarah Bykewich – Edmonton – AB

Electroculture

Angela Cao – Greater Vancouver – BC

S2S: AI-Powered Translation Between Sign and Spoken Languages

Caroline Chan – Toronto – ON

UTI-Alert: Harnessing AI Technology for Rapid Urinary Tract Infection Detection

Casper Dong – Waterloo-Wellington – ON

“Solving A Water Crisis” A Novel Device For Water Generation and Utilization in Desert Solar Arrays

Daisy Dong – Niagara – ON

DONKEY: A solution framework for Analysis Paralysis

Award Recipients

Canada-Wide Science Fair 2024

Ottawa, Ontario



Matt Fong, William Zhou – Toronto – ON

Extending Mileage on EV and Hybrid Vehicles using a Ratchet and Flywheel Regenerative Shock Absorber

Joti Gokaraju – Saskatoon – SK

TouchTalk: A Novel Braille Communication Platform for the Deafblind

Veronica Guo – Greater Vancouver – BC

A Novel, Cost-Effective Biological Photovoltaic for Wastewater Treatment

Kathy Han – Saskatoon – SK

Designing Biomimetic Nanovesicles for Cancer Treatment

Nara Harvey – Greater Vancouver – BC

Using Deep Learning to Understand Endangered Orca Pregnancies

Melrose Kinney – Annapolis Valley – NS

Screen Time Strain - The Potential Impact on Our Eyes

Dolev Klein Harari – United Counties – ON

The Schizophrenia Software Solution

Jonathan Li – Frontenac, Lennox & Addington – ON

Can We Trust AI Text Detectors? Exposing Limitations and Proposing Fixes

Tanvir Mundra – Greater Vancouver – BC

Reviving Resources: Harnessing Soap Nut Greywater for Sustainable Plant Growth

Jora Singh Nahal – Greater Vancouver – BC

DeviceABLE: A Novel Hands-Free Computing App for People with Disabilities

John Neilson – South-East New Brunswick – NB

Amelioration of Memory Through Musical Sensory Tagging

Thông Quách – Saskatoon – SK

Project PolyQuant: Quantifying Genomic DNA from Biofilms on Polyethylene in an Urban River Ecosystem

Aryan Sharma – Calgary Youth – AB

The MicroGuard Microplastic Collector

Roocha Shukla – Waterloo-Wellington – ON

Green-Armour: A Novel Plant Biostimulant

Bram St. Peters – Halifax – NS

How human biosolids can be used in lunar soils to optimize food production on the moon

Zhuola Sun – Vancouver Island – BC

Designing a More Efficient Wind Turbine

Abraham Tassi – Thames Valley – ON

The Dark Side of Energy Drinks

Ann Wang – Greater Vancouver – BC

Eradicating Cystic Fibrosis Biofilms by a Novel Non-Toxic, Multi-Pathway Salicylate Therapy

Oscar Weerasinghe – Bluewater – ON

Breakfast on the Brain

Award Recipients

Canada-Wide Science Fair 2024

Ottawa, Ontario



Sophia Zhang – Eastern Newfoundland – NL

Optimization of Novel Triboelectric Nanogenerators for Wind Energy Harvesting at Low Speeds

Western University Entrance Scholarship

Open

Sponsor: Western University

Silver Medallist - \$2000 Entrance Scholarship

Yohann Abraham-Erhart – Réseau Technoscience – QC

Detecting Color-Blindness using Brain Signals

Ayesha Abubakr – Waterloo-Wellington – ON

AnaLung: A Novel Approach to Lung Cancer Diagnosis

Abdul Majeed Al Riahi – Windsor – ON

SmartSightStick

Bahaa Al Deen Alsaadi, Zena Alsaadi – Bay Area – ON

Bits to Bedside: An Ingenious Exploration of Machine Learning in Triage Assessments

Nikita Artsimonia – Calgary Youth – AB

The "Helping Hand" Project

Ananth Arunkumar – Waterloo-Wellington – ON

RipeNet: Using Machine Learning to Help the Colourblind

Karen Attri – Calgary Youth – AB

The Gelatine Solution: An Environmentally Friendly Alternative to Surface Electrode Pads in ECGs

Ziya Bhayani – Calgary Youth – AB

Temporamental: The relationship between music tempo and calmness

Aliyan Boodhwani – Ottawa – ON

Greenifying Wastewater Treatment

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The Battle for Our Lakes: Phosphorus vs. Activated Charcoal

Isabella Bu – Thames Valley – ON

A SEND-Based Imaging Approach to Track mRNA Delivery for Gene Therapy

Abigail Chan – Waterloo-Wellington – ON

ThinkNet: Decoding Brain Waves using an Electroencephalogram controlled BCI

Jiayao Chen – York – ON

Research on Inchworm Robot Based on Folding PVC Structure

Audrey Cowen – Toronto – ON

Microbes and Molecules: The Key to Abolishing Drug Resistance

Jack D'Entremont, Onkit Saha – North-West New Brunswick – NB

Stratosync

Emmersyn da Mata, Hailee Marshall – Frontier Schools – MB

Weighting On Your Menstrual Cycle

Isaac Di Cresce – Winnipeg Schools – MB

Asparagus Pee Genetically

Aaron Dias, Esam Taher – Edmonton – AB

Wave to the Future: Sustainable Seawater to Freshwater

Award Recipients

Canada-Wide Science Fair 2024

Ottawa, Ontario



Zachary Dostie, Mickael Plante – Réseau Technoscience – QC

Les algues sauvent les élèves!

Riley Edmunds – Lambton County – ON

Breaking The Ice: Measuring the Environmental Impacts of Road Ice Removal Substances

Justin Guo – Greater Vancouver – BC

Plastic degradation through a novel Thermal Electro-Fenton System

Lianna Kruger – Thames Valley – ON

The Sound of Pathology

Maya LeBlanc – Bay Area – ON

Analysis of CD16+, CD16- and CD4+ T Cells to Identify Novel Gene Signatures and Diagnostics for SLE

Lilou Lefebvre, Olive Passmore – Yukon Stikine – YT

Faro Mine Disaster

Dewey Liang – Greater Vancouver – BC

Gene Expression-Based Prediction of Chemotherapy Response with Machine Learning

Sourav Mandal – Manitoba Schools Science Symposium – MB

The Effects of the Repeated Exposure of Antibiotics on Microbial Resistance

Ariel Mason, Ella McFarland – Calgary Youth – AB

Optimizing Crop Growth with Agrivoltaics

Emily Mineault – Northern British Columbia – BC

Can teachers differentiate AI writing from student writing?

Jordan Montague – Labrador, Western and Central NL – NL

The Effects of Fidgeting on Neurotypical Versus Neurodivergent People

Emma Murimboh – Annapolis Valley – NS

Dangerous Dust?

Sarah Murimboh – Annapolis Valley – NS

Friend or Foe: Evaluating the Toxicity of Natural Pesticides on Springtails

Kibo Nagasaki – Bay Area – ON

Bye-Bye Haber-Bosch

Artash Nath – Toronto – ON

Deep Learning for Marine Mammal Conservation: Multi-Species Detection and Underwater Noise Assessment

Harry Nickerson – Halifax – NS

Screening for Retinitis Pigmentosa in the Blink of an AI

Nico Pacifici – Bay Area – ON

The PrepStep: A Mobile Health Platform to Detect Ventricular Cardiomyopathy in Athletes Using AI

Anerie Patel – Ottawa – ON

Posture Perfect: Leveraging Machine Learning to Enhance Posture Awareness and Correction

Alpita Patro – Eastern Newfoundland – NL

Neem: A Novel Approach to Optimize Treatment for Psoriasis Through Bioinformatics

Award Recipients

Canada-Wide Science Fair 2024

Ottawa, Ontario



Justin Peng – Greater Vancouver – BC

Low-Cost AR-Enabled Eyewear for Dynamic 3D Spatial Speech Captioning for the Hearing-Impaired

Amelia Pletsch – Waterloo-Wellington – ON

Life on Mars: Germinating Edible Plants in Mars Regolith

Daniyal Qazi, Zayn Qazi – Bay Area – ON

From Pixels to Predictions: A Deep Learning Method to Detect Pneumonia in Chest X-Ray Images

Baljot Rai – Bison – MB

MopMussels: Development of a Carpet Mussel Shell-based Biosorbent for Phosphorus

Cyndi Rayson – Lambton County – ON

Washing Away The Environment: An Environmental Analysis on Laundry Detergent

Jacklyn Saddler – Niagara – ON

The Effect of Keracyanin in Attenuating the Multifactorial Pathogenesis of Ulcerative Colitis

Annika Saini – Calgary Youth – AB

Outdoor respiratory protection “pod” equipped with Stationary & Mobile powered-air purifiers

Mohamed Saleh – Windsor – ON

Pumpkin Waste to Vegan Chic: A Sustainable Journey In Cellulose Infused Bio-Based Films For Fashion

Madhav Saravanan – Peel – ON

Fantastic Bioplastics

Ella Sehn – Peterborough – ON

Right On The Nose: Using a Super-Absorbent Polymer to Improve Treatment of Chronic Sinusitis

Brenden Sener – Thames Valley – ON

Effect of Common Beverages on Artificial Kidney Stone Growth and Hardness

Sehar Sidhu – Windsor – ON

Delving Deep Into SARS-CoV-2

Sohila Sidhu – Windsor – ON

From Liquid To Life: Reprogramming Urinary Stem Cells Into Beta Pancreatic Cells

Cordelia Simmons – Bay Area – ON

Hydroplaning Detection and Prevention Using an AI Neural Network

Zane Stewart – Vancouver Island – BC

Optimization of an Ionic Thruster

Kate Thiessen-Clark, Kiah Thiessen-Clark – Central Interior BC – BC

Soap as a Moisture Loss Barrier

Misha van Anders – Frontenac, Lennox & Addington – ON

BioWing: Biomimetic Engineering Gets a Lift

Arjun Virk – Peel – ON

Using Machine Learning to Quantify Pan-Cancer Immunotherapy Response and Optimizing Treatments

Award Recipients

Canada-Wide Science Fair 2024

Ottawa, Ontario



Danielle Vrignon – Western Manitoba – MB
Buzzicompteur

Errita Xu – Toronto – ON
An Evaluation of the Ice-Melting Capacity, Ecotoxicity, and Corrosivity of Agro-Based Deicers

Tara Zhan – Greater Vancouver – BC
Design of a Hemiplegic Exoskeleton with an Automatic Control Strategy

Lillian Zhang – Calgary Youth – AB
Lower Limb Auxiliary Exoskeleton with Gait Management Feedback

Sam Zhang – Bay Area – ON
A Two-Modal Robot for Adaptability in Diverse Environments With Rolling Locomotion and Walking Gait

Western University Entrance Scholarship

Open

Sponsor: Western University

Bronze Medallist - \$1000 Entrance Scholarship

Eden Abols – Sudbury – ON
Metallurgical Mushrooms

Finn Adamson – Vancouver Island – BC
Pain Science and the Peak-End Rule

Imran Allarakhia, Mithru Narayan Naidu – Bay Area – ON
LiquiViz: Adaptive AI for 3D Object Detection and Semantic Segmentation in Vision Impairment Devices

Joel Amaldas – Calgary Youth – AB
The Skin Screener: an AI Detector for Melanoma Skin Cancer

Aahil Ansari – Edmonton – AB
CD36, Sex Differences, Microgravity, and Osteoarthritis

Muhammad Mustafa Arif – Lambton County – ON
Thoughts-To-Text: A Novel Approach To BCIs

Shayan Awan – Wood Buffalo – AB
NeuroSpectrum: A Brainwave-Powered Vision Enhancement Device

Aaron Bai – Greater Vancouver – BC
ChromaSight: Traffic Signal Assistant - A novel machine learning model to detect traffic signals

Braden Baumann, Tessa Todd – Saskatchewan Chinook – SK
Learning About Learning

Amani Kaur Bhullar – Ottawa – ON
Analysis of Toroidal Propeller Sound Characteristics & Efficiency

Kamryn Binns – Cape Breton – NS
Nutrient Solutions in Hydroponic Gardens

Charlotte Campbell, Leila Djelouah – Prince Edward Island – PE
The Root of the Problem

Kayley Carter Phillips – Peterborough – ON
The Addition of Triz-EDTA to Topical Antibiotics

Award Recipients

Canada-Wide Science Fair 2024

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Kaitlyn Chan – Vancouver Island – BC

Predicting Surgical Patient Outcomes

Aadhi Chandrasekaran – Manitoba Schools Science Symposium – MB

A Novel Approach to Optimize the Concentration of Flocculants in Water Purification

Brian Chang – Saskatoon – SK

Conversion of Food Waste to Energy: Scaled Up from Saskatoon to Canada

Mohammad Chaudhry – Toronto – ON

MobiMate: Low-Cost Intelligent Collision-Avoidance and Auto-Steering for Mobility Devices

Anna Chen – Waterloo-Wellington – ON

Graphene Quantum Dots for Dendrite-Free Zinc-Ion Batteries

Jason Cheng – Vancouver Island – BC

Cleaner Sponges, Greener Planet

Lyla Chiasson – Rideau-St. Lawrence – ON

Seep and Destroy

Cooper Choi – Calgary Youth – AB

Effect of Repeated Concussions on Complement Protein Expression in Adolescent Brains

Kevin Cornell – South-East New Brunswick – NB

Carbon-Negative Electricity: Generating Electricity from the Combustion of Scrap Metal

Kylie Dysart, Claire Linklater – Frontier Schools – MB

Human Impacts on the South Indian Lake Ecosystem

Shanika-Skye Einish-Nattawappio, Alyson Einish-Tooma – Aboriginal Québec Autochtone – QC

The Effect of Consuming Nicotine Vapes on Human Health and Lifestyle: An Investigative Study

Story Fitzgerald – Mi'kmaq Schools – NS

Teen Mental Health due to the COVID Lockdown

Claire Friesen – Central Alberta Rotary – AB

Preventing Flow Separation Using Known and Novel Methods

Annaliese Froehler – East Kootenay – BC

Hands-On Healing: Exploring Sustainable Rehabilitation Possibilities Using VR Hand Tracking

Genevieve Gagnon – Pacific Northwest – BC

To Glide or Not to Glide

Dennis Golubev, Justin Yu – Fraser Valley – BC

A Novel Approach to Wastewater Treatment

Anqi Guan – Winnipeg Schools – MB

Can IL-17A help Maintain the Immune Privilege of Mesenchymal Stem Cells under Hypoxia?

Isabella Guan – Quinte – ON

The Sound Catcher 2.0: A new and improved innovative device harvesting energy from sound

Award Recipients

Canada-Wide Science Fair 2024

Ottawa, Ontario



Kanav Gulati – Regina – SK

B.I.D.S. (Black Ice Detection System) - A system to detect an invisible threat - Black Ice!

Malek Hammoud – Thames Valley – ON

GreenGuardian: Automated Weed Detection and Elimination

Sammy Hawari – Waterloo-Wellington – ON

Sign Vocalizer: Elevating Non-Verbal Communication

Ava Haynes – Saskatchewan First Nations – SK

Observing and Culturing Cyanobacteria

Yui Jennings – Tri-County – NS

The Ideal Locker

Tanya Jivani, Lalithya Raavi – Wood Buffalo – AB

Fuelling the Future: Investigating Cost Efficient Methods of Hydrogen Production

Ben Kawa – Sudbury – ON

Driver Wake Up 2.0: A Compact Standalone Device

Khaleel Khaki, Mohammadmahdi Shahhaidari – York – ON

AutoShield 2.0: The Dual-Defense System For All Vehicles

Visisht Kodali – South Fraser – BC

WoundSense

Gunnar Koehn – Cariboo Mainline – BC

Exploring Thermal Paste Alternatives

Solomon Kogan – Simcoe County – ON

Effect of a Cryohelmet on Memory and Attention

Alina Kotchetkov – Simcoe County – ON

Omega-3: the Building Blocks for Brain Health

Sreya Kurup – South Fraser – BC

Investigating the impact of natural antibiotics on bacteria

Richard Lee – Vancouver Island – BC

Is Bigger Better?

Jonathan Leung – Greater Vancouver – BC

Comparing Spider Diversity between 2 Farming Communities & Assessing Alpha, Beta & Gamma Diversities

Yuewen Li, Siqi Tan – Bay Area – ON

CRISPR-Mediated Knockout to Improve PDAC Prognosis through TME Disruption

Karys Littlejohns – Simcoe County – ON

Investigating trace drug prevalence in public recreational spaces using ion mobility spectrometry

Vincent Liu – Calgary Youth – AB

Can Bacteriophages Isolated from Municipal Wastewater Lyse Multi-drug Resistant E. coli ST131

Avalon Lively – Halifax – NS

Mycorrhizal Medicine: Do Mutualistic Fungi Enrich Forest Health?

Jialin Luo – Frontenac, Lennox & Addington – ON

Bioplastics: The Strength of Calcium Alginate

Award Recipients

Canada-Wide Science Fair 2024

Ottawa, Ontario



Chloe MacLeod, Briyanna Wilberforce – Rideau-St. Lawrence – ON
Stick It To The Bacteria

Dexter Rocky Roy Mentuck – MFNERC Schools – MB
Testing the Hydrating Power of Bear Grease Bath Bombs

Persephone Mills – Northwestern Ontario – ON
The Effectiveness of Honey and Bee Propolis as an Antibacterial Agent

Abereham Moges – Western Manitoba – MB
Mood Foods: Testing the Impact of Nutrients on Cognitive Function and Reversing Neurodegeneration

Mapalo Mushoriwa – Saskatchewan Chinook – SK
The Effect of Climate Conditions and Cadmium Uptake in Wheat

Felix Naghi – Sudbury – ON
Plastic Purge: Marine Debris Eliminator

Ryan Noel – Lakeland – AB
Vaping in Youth: Why are kids starting to vape?

Jack O'Connell – Sudbury – ON
Are Adults Dirtier Than Kids?

Hadiya Omer – Winnipeg Schools – MB
Examining Apical Area Dynamics in Distal Cell Development: Drosophila Model Approach

Stephanie Palma – Manitoba Schools Science Symposium – MB
Loss of SKP2 Induces Chromosome Instability in Tubo-Ovarian Context

Isabella Pozniak – Peace Country – AB
Do seed treatments matter?

Reuel Ramalingam – Durham – ON
Turmeric; the solution to CTE?: Reducing the production of amyloid plaques in the brain after TBIs

Aditi Ramanarayan – Edmonton – AB
Separation of Pigments from Spinach Leaves and Kiwi Fruit by Thin Layer Chromatography

Melia Roberts – Cape Breton – NS
The Mould War: Chemical vs. Natural Mould Inhibitors

Saeko Sakuraba – Ottawa – ON
Effects of low oxygen conditions during embryogenesis on growth in zebrafish

Raneem Salah – Ottawa – ON
The Eye Spy Scanner; The Window to Your Health

Rakshan Saravanan – Bay Area – ON
The Electrocorpulgraph: Can AI change auscultation?

Jiya Savsani – North Bay – ON
Highway Harvest: Determining Efficient Ways to Harness Renewable Energy on Highways

Stoyan Sendov – Thames Valley – ON
Real-time American Sign Language Alphabet Interpreter

Award Recipients

Canada-Wide Science Fair 2024

Ottawa, Ontario



Parth Sheth – Calgary Youth – AB

From Pixels to Diagnosis: Neural Network-Based Malaria Detection

Cyrus Shobeir – Simcoe County – ON

A Smarter TV: Promoting Independent Living for Seniors Using Technology

Zavier Simard – Sudbury – ON

VAWT to WATT: Capturing Wind Energy on Cars

Seol So – Quinte – ON

The Third Eye - the new approach for Visually Impaired People to Navigate Websites

Katelynn Standell – Southeast Alberta – AB

Is Your Happiness Killing You?

Ella Strachan – Winnipeg Schools – MB

Dementia - Calculating Your Risk

Kristina Tannert – Central Interior BC – BC

From Oil Spills to Algae Thrills

Maiara Costa Telmer – Vancouver Island – BC

The Future of Composites

Suhandan Thangadurai – Calgary Youth – AB

Now You See Me Too

Alexia Tomasello – Districts francophones du N.-B. – NB

Biomimétisme à la rescousse des océans, une filtration innovante inspirée du requin-pèlerin

Daniil Tyurin – Calgary Youth – AB

On The Use of Micro-Scale Piezoelectric Crystals and Their Ultrasound Wave Backscatter in BCIs

Kavishi Udumullage – Manitoba Schools Science Symposium – MB

Battling the Beast: Biocontrol interventions against Fusarium graminearum to control FHB Disease

Saanvi Vishwakarma – Strait – NS

Microscopic Investigation of Indigenous Food Preservation Technique

Clare Wang, Bella Wang – Greater Vancouver – BC

A Substitute for Absorbent Layers in Menstrual Pads: Cocos Nucifera & Cannabis sativa L. Fiber

Flora Wang – Greater Vancouver – BC

Mass Spectrometry Imaging Metabolomics Reveals the Metabolic Spatial Heterogeneity in Gastric Cancer

Wesley Wilding – Niagara – ON

Lettuce Compost Together: Exploring Alternatives to Hydroponics Pots

Makenna Wilson – Bluewater – ON

Body Temperature

Charlotte Woodhouse – Bluewater – ON

Dairy Dilemma: The Fertility Fallout of Inbreeding in Holsteins

Victor Xu – Toronto – ON

Hysteresis Inhibition for Performance Improvement via Halide Engineering in Perovskite Solar Cells

Award Recipients

Canada-Wide Science Fair 2024

Ottawa, Ontario



Sylvan Zheng – Calgary Youth – AB

Soaring With the Birds: Biomimicking the Avian Wing to Improve the Performance of Modern Aircraft